



Agenda Report

2725 Judge Fran Jamieson
Way
Viera, FL 32940

New Business - Community Services Group

J.2.

4/6/2021

Subject:

Approval; RE: Final ranking and appointment of EEL Selection and Management Committee (SMC) Members - All Districts.

Fiscal Impact:

There are no fiscal impacts to General Revenue funds. There are no impacts to EEL Program funds.

Dept/Office:

Parks and Recreation/Environmentally Endangered Lands (EEL) Program

Requested Action:

It is requested that the Board review and rank applicants, appoint the three highest ranked applicants and appoint the next highest ranked applicant as an alternate committee member.

Summary Explanation and Background:

On December 8, 2020, the Board reappointed all current science members on the EEL Selection and Management Committee who were able to attend meetings in-person, appointed Mac McLouth as the Tourism Development Council representative, and directed staff to advertise and fill the three remaining science positions with individuals who are able to attend in-person meetings with the opportunity for current members to reapply.

The openings were publicly advertised with all submitted applications reviewed and initially ranked by the Qualifying Committee on February 12, 2021. The list of qualified applicants was reviewed and confirmed by the EEL Procedures Committee on March 5, 2021. Five qualified applicants are now being presented to the Board for final ranking and appointment to fill three open positions and one alternate position.

The list of qualified candidates and their initial ranking scores are as follows:

1. Dr. Paul Schmalzer with 122 points.
2. Dr. Mark Bush with 122 points.
3. James Burney with 117 points.
4. Rio Throm Bonds with 117 points.
5. Jennifer Thompson with 112 points.

Please note that each applicant was asked to confirm their ability to attend in-person meetings. Dr. Paul Schmalzer responded, "When NASA Covid-19 restrictions end". All other applicants responded yes, they were available to attend in-person meetings.

If the Board selects Dr. Paul Schmalzer, the approval must be by **supermajority** as Dr. Schmalzer has served

more than two consecutive terms of four (4) years.

The Board is requested to complete the final ranking process as defined in the EEL Land Acquisition Manual by each Board member assigning a score of 1, 2 or 3, with 3 being the highest score, to each of the qualified applicants. Staff will collect and tabulate the scores. The three applicants with the highest scores will be appointed to the committee. The applicant with the next highest score will be appointed as an alternate committee member.

Clerk to the Board Instructions:

Please return Board Memorandum to the Environmentally Endangered Lands (EEL) Program.

Attachments:

District Final Ranking Sheet

SMC Applicant Packets

Appointment Process Section of EEL Land Acquisition Manual

EEL Procedures Committee Recommendation



Kimberly Powell, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001
Fax: (321) 264-6972
Kimberly.Powell@brevardclerk.us

April 7, 2021

M E M O R A N D U M

TO: Mary Ellen Donner, Parks and Recreation Director

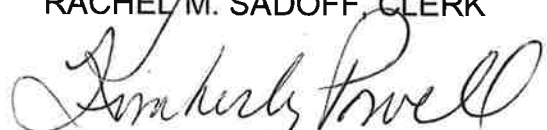
RE: Item J.2., Final Ranking and Appointment of EEL Selection and Management Committee (SMC) Members

The Board of County Commissioners, in regular session on April 6, 2021, reviewed and ranked the applicants; appointed Mark Bush, Jennifer Thompson, and James Burney as the highest ranked applicants for the EEL SMC; and appointed Rio Throm Bonds as the alternate EEL SMC Member.

Your continued cooperation is greatly appreciated.

Sincerely yours,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK


Kimberly Powell, Clerk to the Board

/ds

**Environmentally Endangered Lands Program
Selection and Management Committee Applicant / Nominee Ranking**

APRIL 6, 2021

J.2.

		Initial Ranking by Qualifying Committee						
Qualifications	Minimum Qualifications: Demonstrated knowledge of Brevard ecosystems, habitat types and conservation land management techniques. AND either a post secondary academic degree (Bachelors or equivalent) in biological or environmental sciences or 6 years experience in a closely related field (100 Points)	5 additional points for each graduate academic degree in a closely related field.	2 additional points for each year (up to 6 years) of experience in a closely related field.	Initial Ranking Scores by Qualifying Committee and Procedures Committee		Final Ranking Results		
	Applicant Name	Score	Score	Score	Total Score		Comments	District Commissioner Score Totals
	Paul Schmalzer	100	10	12	122		unable to attend in-person meetings due to employer restrictions related to Covid pandemic. Appointment will require super-majority vote of the Board due to 8-year term limit rule. Education: B.A., M.S., Ph.D. Experience: 38 years.	1
	Mark Bush	100	10	12	122		Past SMC member from 1998 - 2014. Able to attend in-person meetings. Education: B.S., M.S., Ph.D. Experience: 29 years.	11
	James Burney	100	5	12	117		New applicant. Able to attend in-person meetings. Education: B.S., M.S. Experience: 32 years.	9
	Rio Throm Bonds	100	5	12	117		New applicant. Able to attend in-person meetings. Education: B.S., M.S. Experience: 8 years.	7
Jennifer Thompson	100	0	12	112	New applicant. Able to attend in-person meetings. County employee at Natural Resources Management Office. Education: B.S., B.S. Experience: 18 years.	11		

**Environmentally Endangered Lands Program
Selection and Management Committee Applicant / Nominee Ranking**

Qualifications	Initial Ranking by Qualifying Committee					Initial Ranking Scores by Qualifying Committee and Procedures	Comments	District Commissioner Score
	Minimum Qualifications: Demonstrated knowledge of Brevard ecosystems, habitat types and conservation land management techniques. AND either a post secondary academic degree (Bachelors or equivalent) in biological or environmental sciences or 6 years experience in a closely related field (100 Points)	5 additional points for each graduate academic degree in a closely related field.	2 additional points for each year (up to 6 years) of experience in a closely related field.	Score	Score			
Applicant Name	Score	Score	Score	Score	Score	Total Score		
Paul Schmalzer	100	10	12			122	Current SMC member since 1990. Currently unable to attend in-person meetings due to employer restrictions related to Covid pandemic. Appointment will require super-majority vote of the Board due to 8-year term limit rule. Education: B.A., M.S., Ph.D. Experience: 38 years.	
Mark Bush	100	10	12			122	Past SMC member from 1998 - 2014. Able to attend in-person meetings. Education: B.S., M.S., Ph.D. Experience: 29 years.	
James Burney	100	5	12			117	New applicant. Able to attend in-person meetings. Education: B.S., M.S. Experience: 32 years.	
Rio Throm Bonds	100	5	12			117	New applicant. Able to attend in-person meetings. Education: B.S., M.S. Experience: 8 years.	
Jennifer Thompson	100	0	12			112	New applicant. Able to attend in-person meetings. County employee at Natural Resources Management Office. Education: B.S., B.S. Experience: 18 years.	

Final Ranking Instructions:
Assign a score of 1, 2, or 3 to each applicant with 3 representing your most-preferred applicants.



Kimberly Powell, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

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April 7, 2021

James Burney
871 Yorktowne Drive
Rockledge, FL 32955

Dear Mr. Burney:

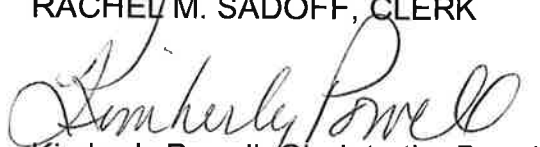
Re: Appointment to Environmentally Endangered Lands Selection and Management Committee

The Board of County Commissioners, in regular session on April 6, 2021, acknowledged your appointment as a citizen volunteer to the Environmentally Endangered Lands Selection Committee. Said term of appointment expires December 31, 2023. Enclosed are memorandums explaining the "Sunshine Law" and Voting Conflict Law for your information.

Your willingness to serve the citizens of Brevard County in this capacity is appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK


Kimberly Powell, Clerk to the Board

/dt

Encls. (2)

cc: EEL Program Manager
Parks and Recreation Director

**Brevard County
Environmentally Endangered Lands (EEL) Program
Selection and Management Committee Volunteer Application**

First Name: Jim Last Name: Burney
Mailing Address: 871 Yorktowne Drive
City: Rockledge State: Fl Zip: 32955
Cell Phone: 5617199484 Alternate Phone: 3213020106
Email: jburney@avcaquatic.com

The EEL Selection and Management Committee serves as an expert volunteer scientific advisory committee to the County Commission on all issues involving the acquisition and management of environmentally endangered lands with the EEL Program protected area network in Brevard County.

*Please complete the following information and **include your resume as an attachment** when submitting this application for consideration as a volunteer member of the Selection and Management Committee.*

Please confirm your willingness to serve on the committee for a minimum term of two (2) years.

I am willing to serve on the committee for two years: yes

Please confirm your ability to attend meetings in-person.

I am available to attend in-person meetings: yes

Please provide a brief overview AND resume of your background and expertise related to the following committee member requirements:

- Four-year postsecondary academic degree (B.S. or equivalent) in biological or environmental sciences or demonstrated professional expertise (minimum of 6 years) in a closely related conservation field such as ecosystem management, natural resources conservation, aquatic biology, field ecology, marine biology, botany, geology, hydrology, fire ecology, natural areas management, human use and recreation in natural areas, science education, or natural area sanctuary design.

Overview:

BS. Biological Sciences. UCF 1987.
MS. Biological Sciences. UCF 1995.
SWS Professional Wetland Scientist Certification. 1997.

36 years of experience with invasive species control, aquatic and upland habitat management, natural resource mapping and inventory, wildlife and fisheries population studies and management, native plant propagation and planting, mitigation and habitat creation, and natural areas restoration.

Please provide an overview of your knowledge of Brevard County ecosystems, habitat types and conservation land management techniques.

32 years of specific experience in Brevard County waters and lands including: T/E wildlife and plant population studies in central County; municipal water discharge water quality monitoring in Indian/Banana Rivers (Cocoa and Cape Canaveral); wetland creation and ecological monitoring for wastewater treatment marsh in Titusville, and; invasive plant management on federal, state, and county conservation lands throughout the County. Active member of East Central Florida Cisma regarding management of public conservation lands and waters, including those in Brevard County.

Email SMC Volunteer Scientist Application

James L. Burney, Jr., PWS
Aquatic Vegetation Control, Inc.
BOD Chairman

EDUCATION

1981-1987. University of Central Florida. B.S. Biological Sciences.
1989-1995. University of Central Florida. M.S. Biological Sciences.
1997. Society of Wetland Scientists. Professional Wetland Scientist, Cert #0001095.

EMPLOYMENT HISTORY

1985-1986. U.S. Fish and Wildlife Service.
Biological Technician. Duties comprised of studying protected wildlife species in central and coastal Maine.

1986-1987. Florida Game and Fresh Water Fish Commission.
Biological Technician. Wildlife Management Area Field Check Station duties included collecting samples and measurements of game species (gray squirrel, whitetail deer, feral hog, and migratory birds), hunter education, and law enforcement support in central Florida.

1987-1993. Post, Buckley, Schuh, & Jernigan, Inc. Environmental Engineering.
Senior Scientist. Duties included: T&E plant and wildlife species field surveys and report preparation, vegetation monitoring and reporting, water quality investigations, seagrass and coral mapping, landfill siting studies, and ecological restoration planning and implementation.

1993-1995. Ecotech Consultants, Inc.
Senior Scientist and Project Manager. Duties included: created wetlands design for wastewater treatment, T&E plant and wildlife species surveys and reporting, water quality investigations, vegetation community mapping, seagrass and coral mapping, TNC prescribed fire burn crew, and ecological restoration planning and implementation.

1995-2018. Aquatic Vegetation Control, Inc.
President and Senior Scientist. Responsibilities comprised of managing company Administration, Operations, Marketing, and Research and Development departments. Company services included: upland, aquatic, and coastal invasive plant management; utilities and ROW vegetation management; native plant nursery operations and native plant installations; biological control cooperation, bacterial augmentation organic sediment reduction programs, research and development of herbicides and selective application methods, and general environmental consulting.

2019-Present. Aquatic Vegetation Control, Inc.

Chairman, Board of Directors. Responsibilities comprised of providing company oversight to current President, involvement with research and development programs, AVC marketing involvement, professional organization participation, and public outreach regarding invasive plant species awareness and safe herbicide use as an IPM option.

SUMMARY OF EXPERIENCE

36 years of experience as an Environmental Consultant and Invasive Plant Management Contractor encompassing upland and aquatic wildlife and vegetation management, water quality enhancement programs, native plant propagation and installation, resource mapping, and ecological restoration planning and implementation.

LICENSES and CERTIFICATIONS

FDACS Core, Aquatic, and Natural Areas Pesticide Applicator.
FGFWFC Wildlife Collection Permit. (past).
FGFWFC License to Possess Venomous Reptiles. (past)
PADI Open Water Diver.
SWS Professional Wetland Scientist.

CURRENT AFFILIATIONS

Florida Invasive Species Council (formerly Florida Exotic Pest Plant Council); 3-Term
Past Chairman and current Nominations Committee Chair.
Florida Invasive Plant Management Association; current President.
Florida Aquatic Plant Management Society.
Florida Association of Environmental Professionals, Central Florida Chapter.
National Association of Environmental Professionals.
Society of Ecological Restoration.
Society of Wetland Scientists.

Please confirm your willingness to serve on the committee for a minimum term of two (2) years.

I am willing to serve on the committee for two years: yes

Please confirm your ability to attend meetings in-person. I am available to attend in-person meetings:
yes

Please provide a brief overview AND resume of your background and expertise related to the following committee member requirements:

In 2007 I graduated from the University of Florida with a B.S. in Wildlife Ecology and Conservation and in 2013 I graduated with an M.S. in Interdisciplinary Ecology. During my time as a student, I worked on a wide array of projects as a field technician, and as such I gained perspective on just about every ecosystem in Florida. After school (and during) I worked for Florida Fish and Wildlife as an alligator researcher, a biologist on a management area, and a waterfowl biologist. In 2015 I moved back to Brevard County with my family and have been a stay-at-home mom since.

Please provide an overview of your knowledge of Brevard County ecosystems, habitat types and conservation land management techniques.

Freshwater wetlands have always been my favorite, and since most of my career was spent in the study of alligators and ducks, I think that is where most of my expertise lies. I have participated in drawdowns, muck removals, burns, toxicology monitoring and nutrient sequestration projects as well as wildlife surveys of all kinds. Most of my flatwoods and scrub management knowledge was gained at Carrabelle Ranch WMA. There I conducted burns, exotic plant removal, mechanical and chemical brush reduction, timber thinning, wiregrass restoration and imperiled species monitoring. Most of my knowledge of coastal ecosystems has been gained through play, though I have participated in oyster, fiddler crab, marsh bird, shorebird, horseshoe crab, and scallop surveys. Additionally, I have all the typical knowledge of shoreline best management practices.



Kimberly Powell, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001

Fax: (321) 264-6972

Kimberly.Powell@brevardclerk.us

April 7, 2021

Mark Busch
2738 School Drive NE
Palm Bay, FL 32905

Dear Mr. Busch:

Re: Appointment to Environmentally Endangered Lands Selection and Management Committee

The Board of County Commissioners, in regular session on April 6, 2021, acknowledged your appointment as a citizen volunteer to the Environmentally Endangered Lands Selection Committee. Said term of appointment expires December 31, 2023. Enclosed are memorandums explaining the "Sunshine Law" and Voting Conflict Law for your information.

Your willingness to serve the citizens of Brevard County in this capacity is appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK

A handwritten signature in cursive script, reading "Kimberly Powell".

Kimberly Powell, Clerk to the board

/dt

Encls. (2)

cc: EEL Program Manager
Parks and Recreation Director

**Brevard County
Environmentally Endangered Lands (EEL) Program
Selection and Management Committee Volunteer Application**

First Name: Mark Last Name: Bush
Mailing Address: 2738 School Dr NE
City: Palm Bay State: FL Zip: 32905
Cell Phone: 321 456 6313 Alternate Phone: 321 674 7166
Email: mbush@fit.edu

The EEL Selection and Management Committee serves as an expert volunteer scientific advisory committee to the County Commission on all issues involving the acquisition and management of environmentally endangered lands with the EEL Program protected area network in Brevard County.

*Please complete the following information and **include your resume as an attachment** when submitting this application for consideration as a volunteer member of the Selection and Management Committee.*

Please confirm your willingness to serve on the committee for a minimum term of two (2) years.

I am willing to serve on the committee for two years: Yes

Please confirm your ability to attend meetings in-person.

I am available to attend in-person meetings: Yes

Please provide a brief overview AND resume of your background and expertise related to the following committee member requirements:

- Four-year postsecondary academic degree (B.S. or equivalent) in biological or environmental sciences or demonstrated professional expertise (minimum of 6 years) in a closely related conservation field such as ecosystem management, natural resources conservation, aquatic biology, field ecology, marine biology, botany, geology, hydrology, fire ecology, natural areas management, human use and recreation in natural areas, science education, or natural area sanctuary design.

I am a Professor of Biology at the Florida Institute of Technology and have an MS in environmental economics, and a Ph.D. in Geography. I have lived in Palm Bay for 25 years. I have taught Conservation Biology and Ecology at Florida Tech for 25 years and at Duke for 4 years before that. I have authored over 150 peer-reviewed papers on ecology. I previously served on the EELs committee from 1998 until 2014.

Please provide an overview of your knowledge of Brevard County ecosystems, habitat types and conservation land management techniques.

I am a keen ornithologist and outdoors person. I visit the EELs sits in southern Brevard regularly. Through my prior experience with EELs I became familiar with many of the issues faced by the land managers and the various stakeholder interests. I have led teams of volunteers on pepper busts on EELs and other protected lands in Brevard.

Email SMC Volunteer Scientist Application

Curriculum Vitae: Mark Bennett Bush

Work address: Department of Biological Sciences, Florida Institute of Technology, Florida 32901.
Tel: (321) 674-7166 Email: mbush@fit.edu

Experience

Interim Head, Department Biological Sciences, Florida Tech	2007-2009.
Professor: Florida Tech	2004-
Associate Professor: Florida Tech	1999-2004.
Chair Ecology Program, Dept. Biological Sciences, Florida Tech	2003-
Assistant Professor: Florida Tech	1996-1999.
Program Director: Duke-in-Australia	1996-1997.
Adjunct Assistant Professor: Duke University	1996-1997.
Assistant Professor in the Practice of Botany: Duke University	1994-1996.
Assoc. Director of Undergraduate Studies: Duke University	1994-1996.
Lecturer: Duke University	1992-1994.
Mellon Fellow: Smithsonian Tropical Research Institute, Panama	1991-1992.
Adjunct Assistant Professor: The Ohio State University	1990-1991.
Research Associate IIB/H: The Ohio State University	1987-1991.
Regional Officer: British Trust for Conservation Volunteers	1980-1982.

University degrees

Masters in Environmental Management, Duke University	1994-1996.
Ph.D. (Geography) University of Hull, U.K.	1982-1986.
Post-Graduate Certificate of Education, University of Hull, U.K.	1985-1986.
B.Sc. (Botany and Geography), University of Hull, U.K.	1976-1979.

Outside Service

Editorial Board of The Holocene	2017-
Board of the American Quaternary Association (elected office)	2013-2015.
Editorial Board Frontiers in Ecology and Evolution	2013-
Editorial Board Journal of Biogeography	2007-
Editor: Journal of Biogeography	2004-2007
Environmentally Endangered Lands Committee, Brevard County,	1998-2012.
Board of Directors: Organization for Tropical Studies	1996.
Sigma Xi Grants-in-aid committee member	1994-1996.
Staff Career Development Award, The Ohio State University	1991.
Editorial Board: Global Ecology and Biogeography Letters	1990-1997.

NSF panel member multiple times for P2C2 and Community and Population Ecology

NSF reviewer (multiple panels)

Reviewer for NERC (UK equivalent to NSF), NWO (Dutch equivalent to NSF), ERS (European Union equivalent), and Chilean Govt.

Journal Reviewer for Nature, Science, Nature Ecology and Evolution, Journal of Ecology, Ecology, Ecological Monographs, Quaternary Science Reviews, Global Change Biology, Quaternary Research, Journal of Biogeography, Frontiers in Ecology and Evolution, The Holocene.

Outside Ph.D. examiner for Oxford University, School of Geography 2010, University of Amsterdam, IBED 2020.

Florida Tech Service since 2011

Faculty Senate 2019-

Senate Ethics Special Committee 2020

Departmental Visioning Committee Chair 2019

College of Engineering and Science Promotions Committee 2018-

Chair Marine Conservation Program 2014-2019

University Research Council 2014- (Chair 2016 and 2017)

Advisor to the Conservation Technology MS students 2011-

Summer Field Programs coordinator for Biology 2010-

Chair Conservation Biology Program 2009-2014

One-week tropical ecology field course taught for Holy Trinity Episcopal Academy (Ages 14-17) each year 2012-2020, Costa Rica or the Galapagos alternating years.

Honors

Excellence in Research Award, Florida Tech 1999.

Excellence in Teaching Award, Florida Tech 1998.

Major Funding (all amounts are Florida Tech share to MBB)

Pending

NSF-DEB Collaborative Research: Are Amazonian and Andean ecosystems close to a tipping point? \$488,000.

NSF-HEGS: Amazonian pre-Columbian populations. \$300,000

Awarded

NASA Smoke on the water: Lake-based calibration of Amazonian fire histories \$220,000 (2020-2023)

NSF-ATM Collaborative Research: P2C2--Unravelling the Signals in Tropical Pacific Lake Archives:

Towards Improved Holocene Hydroclimate Reconstructions. \$79,750 (7/1/2020-6/30/2023)

National Geographic Society- The last millennium of fire in Amazonia. \$28,000 (6/1/2020-5/31/2021)

National Geographic Society - Human impacts on mid-elevational forests. \$32,990 (6/1/2018-5/31/2019)

MITRE - Development of pollen identification and geolocation (PIGLT) Database. \$800,000 (10/1/2016 - 9/30/2018)

NSF - P2C2 Deep Drilling of Lake Junin \$130,000 (5/1/2014-4/2020)

ACOE Everglades Paleoecology Project \$86,085 (2/1/2014-8/1/2014).

NSF - Belmont: Are microrefugia the key to ecosystem sustainability in montane ecosystems under projected climate change? \$450,000 (6/1/16-5/31/21)

NSF - P2C2 Collaborative proposal: Amazonian Megadroughts in the Holocene. \$351,000 (1/1/2014-12/31/2017).

MITRE - Development of pollen identification and geolocation (PIGLT) Database. \$2.4M (8/1/13-9/30/2016)

NSF - The timing and cause of megafaunal population collapse in the Neotropics. \$405,000 (4/1/13-3/30/2016)

NSF - FDSB: Origins of Andean Biodiversity. \$300,000 (4/13-4/18)

NSF - Graduate training award trophic cascades and climate change in Florida wetlands. \$120,000 (8/1/2012-7/31/2015).

NSF - IDBR: Development of an app and web interface for automated anuran recognition and mapping. \$348,000. (3/1/12-2/28/15).

NASA: Detection of Terra Preta soils using hyperspectral imaging: \$64,000. (8/1/10-7/31/13)

National Geographic Society: Expedition grant to investigate the paleoecology of the Chachapoya. \$18,600. June 2010.

NSF - P2C2: Paleoclimatic history of MIS 5e from Central American lake records. \$375,200. (10/1/09-9/30/12).

NSF - Geography: A landscape-scale analysis of paleoclimatic and vegetation change in the Andes applying the concept of shifting baselines. \$298,800. (10/1/09-9/30/12).

NSF - DEB: Collaborative Research: determining the ecological legacy of pre-Columbian human impacts on Amazonian ecosystems. \$458,000 (3/1/08-2/18/11).

NSF - Graduate training award high resolution precipitation and vegetation records from the Andes. \$120,000 (8/1/2007-4/30/2012).

Blue Moon Foundation: Potential of Andean ecosystems for carbon sequestration. \$18,000 (4/1/09-3/31/10).

Gordon And Betty Moore Foundation: Climatic controls on an Andean ecosystem: \$220,000 (3/1/2007-11/15/2009).

NOAA: High-resolution record of the last 2000 years of climate change on the Galapagos Islands. \$120,000 (6/1/07-5/31/09).

NSF - DBI: Acquisition of an ESEM and TEM. \$364,000 (8/1/04-7/31/07).

NSF - Ecology: Collaborative Research: Vegetation and paleoecology of an Amazon-Andean elevational transect \$357,000 (04/01/03-03/31/07)

NSF - ESH: Collaborative Research: Lake Peten-Itza Drilling Project, Guatemala: A terrestrial archive of northern Neotropical climate and environmental change for the last climate cycle. \$22,000. (09/01/05-08/31/06).

NSF - ATM: A 140,000-year history of climate change in the Andean Altiplano. \$281,000 (09/01/03-08/31/06)

NSF - CCLI: Teaching Inquiry-based ecology to undergraduates. \$204,000 (08/01/02-07/31/04).

NSF - ATM: A high-resolution deglacial paleoecological record from Lake Titicaca, Peru/Bolivia. \$135,000. (09/01/02-08/30/04).

NSF - DBI: Design and implementation of a Neotropical pollen database. \$148,700 (03/01/2001-02/28/2003).

NASA: A fire History of the Kennedy Space Center \$20,000 (08/01/99-07/31/00).

National Park Service: Population ecology of the horseshoe crab (*Limulus polyphemus*) in the Indian River Lagoon, Florida. \$40,000 (06/01/ 99 – 05/31/01).

NSF - DBI CAREER Grant: Holocene histories of El Niño events in the Amazon Basin. (03/01/98-02/28/01) \$450,000.

NOAA: An investigation of the modern pollen rains of Central America. 130,000 (06/1/93-05/31/95).

Publications

H-index = 69; I10 index = 165; Citations > 15589 (Google Scholar accessed 6/19/20)

Peer-Reviewed publications authorships highlighted since 2011 (i.e. last 10 years)

Graduate or post-doc members of my lab in red, undergraduate members in blue. * denotes corresponding author if other than first author.

- Åkesson, C.M., McMichael, C.N.H., Raczka, M.F., Huisman, S.N., Palmeira, M., Vogel, J., Neill, D., Veizaj, J. & **Bush, M.B.** 2020. Long-term ecological legacies in western Amazonia. *Journal of Ecology*.
- Bush, M.B.** 2020. New and repeating tipping points: the interplay of fire, climate change and deforestation in Neotropical ecosystems. *Annals of the Missouri Botanical Garden*.
- Bush M. B.**, Correa-Metrio A., van Woesik, R., Collins A., Hanselman, P., Martinez, J.A & McMichael, C.N.H. 2020. Modern pollen assemblages of the Neotropics. *Journal of Biogeography*.
- Cacciapaglia, C., **Bush, M.B.** & van Woesik, R. 2020. Legacies of an ice-age world explain modern biogeographical provinces of corals. *Journal of Biogeography*.
- Nascimento, M., Mosblech, N.A.S., Rackzka, M.F., Baskin, S., Manrique, K.E., Wilger, J., Giosan, L., Benito, X., & **Bush, M.B.** 2020. The adoption of agropastoralism and increase in ENSO frequency in the Andes. *Quaternary Science Reviews*.
- van der Sande, M. T., **M. B. Bush**, D. H. Urrego, M. Silman, W. Farfan-Rios, K. García Cabrera, A. Shenkin, Y. Malhi, C. H. McMichael, & Gosling, W. 2020. Modern pollen rain predicts shifts in plant trait composition but not plant diversity along the Andes-Amazon elevational gradient. *Journal of Vegetation Science*.
- Åkesson, C.M., Matthews-Bird, F., Bitting, M., Fennell, C.J., Church, W.B., Peterson, L.C., Valencia, B.G. & **Bush, M.B.** 2020. 2100 years of human adaption to climate change in the High Andes. *Nature Ecology and Evolution*, 4: 66–74.
- de Oliveira, P.E., Raczka, M., Pinayad, J.L.D., McMichael, C.N.H. & **Bush, M.B.** 2020. Climate change and biogeographic connectivity across the Brazilian cerrado. *Journal of Biogeography*, 47: 396-407.
- Sarmiento, F.O., **Bush, M.B.**, Church, W., VanValkenburgh, P. Oliva, M, Delgado, E., Fernandez, S. & Rojas, N. 2020. Mountain science poised to help ecotourism in Peruvian cloud forests. *PAGES*, 28: 22-24.
- Bush, M.B.**, Whittaker, R.J., & Morley, R. 2019. John Roger Flenley: In memoriam. *Journal of Biogeography* 45: doi.org/10.1111/jbi.13539.
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Books published

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Refereed Conference papers

Daood, A., **Bush, M.B.**, Ribeiro, E. 2016. Pollen Grain Recognition Based on Multi-layer Feature Decomposition. *International Conference of the Florida Artificial Intelligence Research Society*, pp. 26-31.

Daood, A., Ribeiro, E., **Bush, M.B.** 2016. Pollen recognition using a multi-layer hierarchical classifier. *2016 23rd International Conference on Pattern Recognition (ICPR), IEEE*, pp. 3091-3096.

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Filipovych, R., Daood, A., Ribeiro, E., **Bush, M.B.** 2016. Pollen recognition in optical microscopy by matching multifocal image sequences. *2016 23rd International Conference on Pattern Recognition (ICPR) IEEE*, pp. 2127-2132.

Hwang, G.M., K.C. Riley, C.T. Christou, G.M. Jacyna, J.P. Woodard, R.M. Ryan, **Bush, M.B.**, B. G. Valencia, C.H. McMichael, & S.W. Punyasena. 2013. Automated pollen identification system for forensic geo-historical location applications. Pages 297-303 in *Technologies for Homeland Security (HST)*, 2013 IEEE International Conference.

Monograph

Gums, B.L., H. Cyr, K.D. Hollenbach, **M.B. Bush**, C. Akesson, C. McMichael, M. Nascimento, and G.A. Waselkov. 2018. Life at the River's Edge. Archaeological Monograph 14. Center for Archaeological Studies, University of South Alabama, Mobile, Alabama (168 pp).

Book Chapters

Bush, M.B. 2019. A Neotropical Perspective on Past Human-Climate Interactions and Biodiversity. pp 142-153 in T. Lovejoy and L. Hannah Biodiversity and Climate Change. Yale University Press.

Bush, M.B. de Oliveira, P.E., Raczka M.F., Gosling, W.D., Mayle, F.E., McMichael, C.H. & Urrego, D.H. 2014. Paleoclimates of Amazonia: an ice-age view. In *Paleoclimas - Série Paleontologia: Cenários de Vida*, editora Interciência

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- Bush, M.B.** Expect the unexpected: A paleoecological view of rapid climate change. In *Sustainability 2009: The Next Horizon*, G. L. Nelson & I. Hronsky (eds.), pp 7-18. American Institute of Physics, New York.
- Bush, M. B., A. Correa-Metrio, Hodell D.A., M. Brenner, D. Ariztegui, F. S. Anselmetti, A. Gilli, C. Burton, & A. D. Muller.** 2009. The Last Glacial Maximum: Central America. in F. Vimeaux, F. Sylvestre, & M. Khodri, editors. *Past climate variability from the Last Glacial Maximum to the Holocene in South America and surrounding regions*. Springer, Paris.
- Urrego, D., Bush, M.B., Silman, M.A. Correa-Metrio, Ledru, M., Mayle, F. & B. Valencia.** 2009. Millennial-scale ecological changes in tropical South America since the Last Glacial Maximum. in F. Vimeaux, F. Sylvestre, & M. Khodri, (eds.). *Past climate variability from the Last Glacial Maximum to the Holocene in South America and surrounding regions*. Springer, Paris.
- Bush, M.B. & De Oliveira, P.E.** 2008. Amazonian conservation: A long-term cultural and climate change perspective. In *Estratégias de Sustentabilidade, aspectos científicos, sociais e legais*. Contexto Global, visão comparativa, G. Araujo (ed). São Paulo.
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- Kershaw, A.P., Bush, M.B., Hope, G.S., Weiss-K.-F., Goldammer, J.G. & Sanford, R.** 1997. The contribution of humans to past biomass burning in the tropics. In *Sediment Records of Biomass Burning and Global Change*. J.S. Clark, H. Cachier, J.G Goldammer & B. Stocks (eds.) pp. 413-442. NATO ASI Series. Berlin, Springer-Verlag.

- Piperno, D.R., Bush, M.B. & Colinvaux, P.A. 1992. Patterns of articulation and plant culture in prehistoric Panama. In *Archaeology and Environment in Latin America* (O.R. Ortiz-Troncosa & T. van der Hammen eds.) pp. 109 -127. Universiteit van Amsterdam.
- Richardson, C.J., Vaithianathan, P., Qualls, R.G., Bush, M.B., Stow, C.A. & Ho, M. 2008. Water quality, soil chemistry, and ecosystem responses to P dosing. In *The Everglades Experiments*, ed. C.J. Richardson. Pp. 385-416. Springer, Washington.
- Whittaker, R.J. & Bush, M.B. 1993. Dispersal and establishment of tropical forest assemblages, Krakatau, Indonesia. In J. Miles & D. Walton (eds.). *Primary Succession on Land*. (British Ecological Society Symposium Series pp 147-160. Blackwell, Oxford.
- Bush, M.B. & Ellis, S. 1987. A field guide to the sedimentary deposits of Willow Garth, North Humberside. In *East Yorkshire* (S. Ellis ed.) pp. 42-52. Quaternary Research Association Field Guide.

Invited Talks

I have never kept track of these, but here is an incomplete list since 2011

Missouri Botanical Gardens Fall seminar (Oct 2019), Belmont workshop Cuenca, Ecuador Plenary on microrefugia (Mar 2019), NSF-Belmont (Italy) workshop DC (Dec 2018), U. Florida (2018 & 2016), Aquatrop Meeting Quito (July 2018), U. Georgia (2017), DFSC Atlanta (Sep 2014), PAGES workshop Montreal (Aug 2014), DHS pollen workshop Houston (May 2013), DHS pollen forensics conference DC (May 2012), U. Amsterdam (Dec 2011).

Workshops organized

Co-organizer with Rob van Woesik of NSF-funded NimBios workshops on tropical pollen representation. 3 workshops held at U. Tennessee, Knoxville, 2014-2015.

Special Issues organized

Tribute issue (12 papers) to Paul Colinvaux and Dan Livingstone (Quaternary Research 2018)

Tribute issue to John Flenley (Journal of Biogeography In progress)

Conferences

Regular attendee and presenter at AGU, ESA, AMQUA, IBS.

Training provided

Post-Doctoral fellows

Dr. Majoi Nascimento	(2019-)
Dr. Masha van der Sande	(2018-2019)
Dr. Fraser Bird	(2015-2016)
Dr. Bryan Valencia	(2015-2017)
Dr. Aaron Collins	(2014-2015)
Dr. Crystal McMichael	(2013-2015)
Dr. Alex Correa-Metrio	(2010-2011)
Dr. Dunia Urrego	(2008-2009)
Dr. William Gosling	(2004-2005)
Dr. Chengyu Weng	(2000-2003)
Dr. Dunia Urrego	(2007-2009)
Dr. Alex Chepstow-Lusty	(2001-2002)

Training provided (cont.)

Ph.D. students

Gina Paduano (2001)
Jennifer Hanselman (2007)
Dunia Urrego (2006)
Mauro de Toledo (2004)
Alexander Correa-Metrio (2010)
Nicole Sublette (2012)
Crystal McMichael (2012)
Aaron Collins (2013)
Guaria Cardenes-Sandi (2015)
Marco Raczka (2017)
Majoi Nascimento (2019)
Christine Akesson (2019)
Angela Rozas-Davila (2020)

In progress
Jacob Schiferl
Courtney Shadik
Rachel Sales

M.S. students

Alejandra Restrepo (2006)
Bryan Valencia (2006)
Jon Shepherd (2002)
Claudia Listopad (2001)
Diana Raper (2008)
Anne Rockholt (M.S. 2011)
Honey Whitney (M.S. 2011)
Andrea Alfonso Manucci (M.S. 2012)
Angela Rozas-Davila (2013)
Nicolette Zahner (2014)
Michelle Luce (2014)
Rachel Sales (2016)

In progress
Molly Kingston
Meghan OConnor
Keegan Shults

Formal courses taught since 2011

MAR 4410 Community Ecology* 4 cr (every spring)
MAR 4030/5030 Conservation Biology* 3 cr (every Fall)
MAR 4413/5413 Applied GIS for biologists* 4/3 cr (2018, 2019, 2020)
MAR 4420/5420 Pre-Columbian ecosystem impacts (2014, 2016, 2018, 2020)
MAR 4100/5200 Tropical Ecology 3 cr (on-line class summer 2020)
BIO 5034 Paleoecology 3 cr (spring 2011, 2014)
BIO 5328 Biogeography of the southeastern flora* 3 cr (2013, 2015, 2017)

Summer field programs (one class taught every year since 1996 except for 2020)

BIO 4421/5421 Andes-Amazon 3 cr (taught in Manu, Peru or Yasuni, Ecuador)
BIO 4904/5904 Galapagos Ecology 3 cr
BIO 2380 Costa Rica 3 Cr (2002)
Duke-in-Australia Program 1996-1998

I have typically had 2-4 students enrolled for undergraduate research credit Bio 499x each semester.
Biology Forum (1cr) has been provided as needed.

*Course required for a biology major, catalog descriptions switched from BIO to MAR in 2018.



Kimberly Powell, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001

Fax: (321) 264-6972

Kimberly.Powell@brevardclerk.us

April 7, 2021

Rio Throm Bonds
2532 Terri Lane
Cocoa, FL 32926

Dear Mr. Bonds:


Re: Appointment to Environmentally Endangered Lands Selection and Management Committee (Alternate)

The Board of County Commissioners, in regular session on April 6, 2021, acknowledged your appointment as a citizen volunteer (alternate) to the Environmentally Endangered Lands Selection Committee. Said term of appointment expires December 31, 2023. Enclosed are memorandums explaining the "Sunshine Law" and Voting Conflict Law for your information.

Your willingness to serve the citizens of Brevard County in this capacity is appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK


Kimberly Powell, Clerk to the Board

/dt

Encls. (2)

cc: EEL Program Manager
Parks and Recreation Director

Rio Throm Bonds

2532 Terri Lane Cocoa, FL 32926

(321)514-2716

Riot4wd@gmail.com

EDUCATION

Master of Science, University of Florida, December 2013

Interdisciplinary Ecology

Advisors: H. Franklin Percival and Kenneth G. Rice

Thesis: Movements and Habitat Selection of Juvenile Alligators in a Restored Wetland

Bachelor of Science, University of Florida, August 2007

Wildlife Ecology and Conservation

Associate of Arts, Brevard Community College, August 2005

Diploma, Cocoa High School, May 2004

EXPERIENCE

Wildlife Biologist, Florida Fish and Wildlife Conservation Commission

January 2013– January 2014

Waterfowl and Small Game Management Program Tallahassee, FL

Supervisor: Andrew Fanning

Wildlife Biologist, Florida Fish and Wildlife Conservation Commission

December 2011– December 2012

Caravelle Ranch Wildlife Management Area, Palatka, FL

Supervisor: Jason Slater

Teaching Assistant, University of Florida

January 2011- April 2011

Instructor for 'Wildlife of Florida' course lab and 'Wildlife Techniques' lab

Supervisor: Bob McCleery

Biological Scientist, Florida Fish and Wildlife Conservation Commission

May 2007- December 2010

Reptile and Amphibian Research Section, Gainesville, FL

Supervisor: Cameron Carter

Fisheries Technician, Florida Fish and Wildlife Conservation Commission

January 2008– May 2008

Creel Clerk for Freshwater Fisheries Research, Gainesville, FL

Supervisor: Eric Nagid

Biological Field Technician, University of Florida
May 2007– October 2007
Lake Apopka Restoration Project, Gainesville FL
Supervisor: Hardin Waddle

Check Station Operator, Florida Fish and Wildlife Conservation Commission
September 2006- December 2006
Small game program, Gainesville, FL
Supervisor: Kurt Hodges

Biological Field Technician, Florida Fish and Wildlife Conservation Commission
September 2007- January 2008
Shorebird Research, Avian Research Section, Gainesville, FL
Supervisor: Kurt Hodges

Wildlife Instructor, Florida Fish and Wildlife Conservation Commission
May 2007- August 2007
Ocala Youth Camp, Ocala FL
Supervisor: Greg Workman

PUBLICATIONS

Throm, R. W.D. 2013. Movements and Habitat Selection of Juvenile Alligators in a Restored Wetland in Florida. Thesis, University of Florida, Gainesville, USA.

Carter, C.B., R.W.D. Throm, A.R. Woodward. 2010. Alligator and Amphibian monitoring on the Lake Apopka North Shore Restoration Area: Assessing Organochlorine Pesticide Levels and Potential Biomonitoring. Final Report. St. Johns River Water Management District. Special Publication Sj2010-sp8.

PROFESSIONAL SERVICE

Association of Fish and Wildlife Agencies (AFWA) Southeastern Furbearer Working group member 2014.

Volunteer for Levy county Extension; 4-H wild-about-wildlife summer camp, master naturalist program, Bronson FL. Supervisor: Emma Wilcox (UF) 2011.

Developed a bi-annual, wetlands lab for UF undergraduates to gain experience collecting data on wetland flora and fauna while collecting useful information for Florida Fish and Wildlife Conservation Commission. Supervisor: Franklin Percival (UF) 2011.

Developed a bi-annual, wetlands lab for UF undergraduates to gain experience on alligator capture techniques while collecting useful information for Florida Fish and Wildlife Conservation Commission (FWC). Supervisor: Bob McCleery (UF) 2011.

Volunteer for North American Amphibian Monitoring Program, Alachua County, FL. Supervisor: Anna Farmer (FWC) 2010.

Volunteer for FWC landowner assistance workshop, Newberry FL. Supervisor: Courtney Hooker (FWC) 2009.

Volunteer for UF private lands bobwhite quail management workshop, Monticello, FL. Supervisor: Bill Giuliano (UF) 2007.

DIRECT EXPERIENCE AND KNOWLEDGE

- Habitat evaluations
- Multi-agency collaboration
- Prescribed burning
- Endangered species monitoring
- Brevard County ecosystems and their user groups
- Urban planning
- Human-wildland interface issues
- Wildland best management practices
- Wetland restoration

**Brevard County
Environmentally Endangered Lands (EEL) Program
Selection and Management Committee Volunteer Application**

First Name: Jennifer Last Name: Thompson
Mailing Address: 217 Oak Lake Rd.
City: Melbourne State: FL Zip: 32901
Cell Phone: 321-292-9175 Alternate Phone: 321-350-8394
Email: sharkyjones24@hotmail.com

The EEL Selection and Management Committee serves as an expert volunteer scientific advisory committee to the County Commission on all issues involving the acquisition and management of environmentally endangered lands with the EEL Program protected area network in Brevard County.

*Please complete the following information and **include your resume as an attachment** when submitting this application for consideration as a volunteer member of the Selection and Management Committee.*

Please confirm your willingness to serve on the committee for a minimum term of two (2) years.

I am willing to serve on the committee for two years: Yes

Please confirm your ability to attend meetings in-person.

I am available to attend in-person meetings: Yes

Please provide a brief overview AND resume of your background and expertise related to the following committee member requirements:

- Four-year postsecondary academic degree (B.S. or equivalent) in biological or environmental sciences or demonstrated professional expertise (minimum of 6 years) in a closely related conservation field such as ecosystem management, natural resources conservation, aquatic biology, field ecology, marine biology, botany, geology, hydrology, fire ecology, natural areas management, human use and recreation in natural areas, science education, or natural area sanctuary design.

I obtained a BS in Marine Biology and a BS in Ecology from Florida Tech. I have worked in laboratories testing water quality (wastewater, drinking water, surface water and groundwater) for 9 years for 2 municipalities and then came to work for Brevard County's Natural Resources Management Dept. to sample and analyze water quality data for the past 3 years. I currently assess effectiveness of stormwater projects implemented by our department and the SOIRL program as well as inspect all County locations with hazardous waste to help isolate the waste from the stormwater system. Furthermore, I aid the oyster restoration program (conduct seagrass surveys, construct oyster bags, build oyster reefs, etc.), develop sampling protocols for SOIRL field projects, conduct field surveys of gopher tortoises, and investigate illicit discharges across the County.

Please provide an overview of your knowledge of Brevard County ecosystems, habitat types and conservation land management techniques.

Having worked with water quality for the past 18 years, whether through education or through hands-on analysis, I have gained first-hand knowledge of the Indian River Lagoon, its watershed, hotspots for pollution, perspectives of residents, and ways to improve the water quality. For 3 years I have inspected stormwater systems for hundreds of businesses and HOAs across Brevard, allowing insight for how water flows, structures, and human influences. When creating projects, I look at natural flora and fauna of the ecosystem (i.e. aquatic vegetation, invasive plants, nesting birds, entanglement issues for animals), influences from upstream, where the hydrology takes the water and possible impacts downstream, what the pre-existing condition of the system is and the most probable removal rate if alterations are made, and how to best sample the altered site to see if results are as expected. I have walked extensively in the Mims conservation area in search of gopher tortoise burrows, so I am familiar with the vegetation, sugar sand and hydrology of the northern area. I have also conducted numerous seagrass surveys in the lagoon and placed or removed several oyster restoration projects, so I am familiar with the depth and substrate changes in the lagoon and their influences on water quality. I have conducted woodstork rookery surveys and can identify several FL birds and nesting areas. I also have a solid working knowledge of fish and marine mammals in the lagoon and in stormwater ponds/canals. Finally, I have visited almost all the parks in the County, either for work or personal recreation, so I have seen differences between areas with high water tables, low-impact development, green infrastructure, nature trails, etc. and how we are able to integrate humans into natural surroundings (Erma Nixon and Enchanted Forest are my favorites).

Email SMC Volunteer Scientist Application



Kimberly Powell, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001

Fax: (321) 264-6972

Kimberly.Powell@brevardclerk.us

April 7, 2021

Jennifer Thompson
217 Oak Lake Road
Melbourne, FL 32901

Dear Ms. Thompson:

Re: Appointment to Environmentally Endangered Lands Selection and Management Committee

The Board of County Commissioners, in regular session on April 6, 2021 acknowledged your appointment as a citizen volunteer to the Environmentally Endangered Lands Selection Committee. Said term of appointment expires December 31, 2023. Enclosed are memorandums explaining the "Sunshine Law" and Voting Conflict Law for your information.

Your willingness to serve the citizens of Brevard County in this capacity is appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF CLERK


Kimberly Powell, Clerk to the Board

/dt

Encls. (2)

cc: EEL Program Manager
Parks and Recreation Director

Jennifer Thompson
(321) 292-9175
Sharkyjones24@hotmail.com

Objectives

To pursue a career in which I am challenged to utilize my current talents in enhancing and protecting the environment and to further my knowledge and skills through hands-on experience in a positive work environment that rewards motivated, efficient employees.

Experience

5/19 – Current Brevard Co. Natural Resources Melbourne, FL

Environmental Specialist I

- Perform monitoring and sampling on stormwater with automatic samplers, flow meters, rain gages, and HydroLab equipment.
- Perform monitoring and sampling on groundwater with peristaltic pumps and HydroLab equipment
- Collect grab samples and monitor surface water while conducting aquatic vegetation surveys
- Inspect stormwater systems operated by the County for their NPDES requirements
- Conduct NPDES and pollution prevention training for employees across all departments plus the cities of West Melbourne, Malabar and Grant-Valkaria
- Calibrate and maintain monitoring and sampling equipment
- Attend pollution prevention meetings and training
- Maintain, trailer and drive a 19' boat
- Answer and investigate resident inquiries regarding stormwater, including site visits for illicit discharge
- Educate business and homeowners on BMPs to reduce pollutants
- Perform gopher tortoise surveys at the Mims Conservation area
- Help install oyster restoration projects and perform sea grass surveys

1/18 – 5/19 Brevard Co. Natural Resources Melbourne, FL

Associate Environmental Specialist

- Perform monitoring and sampling on stormwater with automatic samplers, flow meters, rain gages, and HydroLab equipment.
- Perform monitoring and sampling on groundwater with peristaltic pumps and HydroLab equipment
- Collect grab samples and monitor surface water while conducting aquatic vegetation surveys
- Inspect stormwater systems throughout the County
- Calibrate and maintain monitoring and sampling equipment
- Attend pollution prevention meetings and training

Deborah Thomas

From: Jennifer Thompson <sharkyjones24@hotmail.com>
Sent: Wednesday, April 14, 2021 6:38 PM
To: Deborah Thomas
Subject: Re: EEL SELECTION COMMITTEE

Jennifer Thompson
217 Oak Lake Rd.
Melbourne, FL 32901
321-292-9175

From: Deborah Thomas <deborah.thomas@brevardclerk.us>
Sent: Wednesday, April 14, 2021 3:36 PM
To: sharkyjones24@hotmail.com <sharkyjones24@hotmail.com>
Subject: EEL SELECTION COMMITTEE

Good afternoon:

You have been appointed as a citizen volunteer on the EEL Selection Committee Advisory Board.

We would like to send you an official Appointment letter.

Please send us your address and a contact number at your earliest convenience.

Thanks in advance.

Deborah Thomas
Administrative Assistant
Clerk to the Board
400 South Street, 2nd Fl.
Titusville, Florida 32780
(321)637-2001

Under Florida law, all correspondence sent to the Clerk's Office, which is not exempt or confidential pursuant to Chapter 119 of the Florida Statutes, is public record. If you do not want the public record contents of your e-mail address to be provided to the public in response to a public records request, please do not send electronic mail to this entity. Instead, contact this office by phone or in writing.

- Maintain, trailer and drive a 19' boat
- Answer and investigate resident inquiries regarding stormwater, including site visits for illicit discharge
- Educate business and home owners on BMPs to reduce pollutants
- Identify Gopher Tortoise burrows
- Help monitor oyster mats and bags by measuring live oysters, install and remove oyster mats and bags, and create shell bags

3/11 – 1/18

City of Melbourne

Melbourne, FL

Environmental Programs Coordinator

- Plan, develop and present interactive media and PowerPoint presentations
- Continually update and provide education programs for all residents throughout the water distribution area on recycling, stormwater, water conservation and pollution prevention
- Coordinate events such as Trash Bash, adopt-a-road cleanups, IRL Envirothon, IRL Day, Hands Across the Lagoon, Coastal Cleanup, Exemplary Science Teacher Awards, Research Rules (science fair preparation seminar) and Middle School Science Bowl
- Participate in events such as Paws in the Park, Teacher Open House at the Brevard Zoo, Better Living Expos, Youth Environmental Summit, festivals, Earth Day events/festivals, company events (Northrop Grumman, Rockwell Collins, FIT), career days for middle schools, science fairs, Wonders of Water Nights and HOA meetings
- Create boil water notices and FDEP incident reports
- Enforce irrigation, fertilizer and leak ordinances
- Update CUP and NPDES reports
- Obtain quotes, prepare purchase orders and develop art work for ordering promotional items
- Assist with preparation for distribution and editing of the monthly Public Works & Utilities Connection and quarterly Conservation Newsletter
- Manage toilet and rain barrel rebate programs
- Maintain budget, pay roll and inventory records and supplies
- Monitor and enforce the trash hauling contract for the city
- Work with residents that experience problems with Waste Management
- Assemble new customer welcome packets and records for reporting requirements

5/04 – 3/11

City of Melbourne

Melbourne, FL

Laboratory Analyst / Deputy QA/QC Officer

- NELAC certified for fecal coliform, cBOD and TSS
- Traveled to another water reclamation facility to collect samples and verify pH, turbidity and residual chlorine readings daily
- Daily routine consisted of performing cBOD, membrane filtration for fecal coliforms and TSS, along with making media and reagents

- Monthly routine consisted of performing chlorides, TDS, %TS, MPN, ammonia, total phosphorus, HPC, conductivity, pH, sterility, purity and viability checks and calibrating supporting equipment
- Ran a meeting once a week with the supervisor and analysts
- Sampled and analyzed groundwater quarterly
- Calibrated automatic samplers and thermometers biannually
- In 2006 I was upgraded to deputy technical director (DTD) for the quality control aspects of the lab and kept up with all regulation changes from EPA, NELAC, and DEP
- In 2010 I was upgraded to deputy QA/QC officer, which included all the duties of DTD plus conducting internal audits and making revisions to all SOPs and QC manuals

7/02 – 5/04

City of Titusville

Titusville, FL

Environmental Analyst

- Provided the city and contract clients with analytical services such as fecal and total coliforms (using filtration, MPN and Colilert methods), HPC, fecal streptococcus, chlorides, alkalinity, solids (TS, TS, %TS, VS and TDS) and COD for drinking water, reclaimed water, waste water and sludge
- NELAC certified for the above mentioned tests
- Collected samples daily for fecal coliform and solids
- Collected samples quarterly from wells and interconnects with the City of Cocoa

8/00 – 5/01

Florida Institute of Technology

Melbourne, FL

Molluscan Biology Research Assistant

- Entered research data concerning *Callinectes sapidus* for Dr. Rick Tankersley
- Conducted field research for *C. sapidus* and *Limulus sp.*

5/00 – 7/00

FTN Environmental Consultants

Little Rock, AR

Summer Intern

- Researched environmental factors affecting risk assessments for areas in Arkansas and Tennessee
- Collected groundwater samples for analysis
- Conducted fieldwork determining wetland delineation in Mississippi
- Entered MSDS data
- Completed secretarial duties
- Researched other companies in need of FTN's services by looking through compliance reports

Education

1998 – 2002

Florida Institute of Technology

Melbourne, FL

- B.S., Marine Biology
- B.S., Ecology
- 129.5 credit hours acquired

Training

- NAUI Wreck diving and advanced diving certified
- NOAA Project Design and Evaluation certified
- DEP Field Sampling Courses
- Driving Safety training
- CPR certified
- FDEP Sedimentation and Erosion Control Inspector
- FSA Stormwater Operator Level 2
- 24 Hour HAZWOPER
- FWC Boating Safety Course
- Brevard County's EDP Completion of Phase 1 & 2

Special Interests/Awards

- 2004-Became the Advisory Committee Chairperson for Alpha Phi Omega, a co-ed service fraternity, at Florida Institute of Technology
- 2011-Awarded the Meritorious Award for Large Utilities for Environmental Awareness and Conservation Programs by FSAWWA
- 2012-Became a trustee for Keep Brevard Beautiful (KBB); 2013-became secretary for the South Action Team (SAT); 2014-became treasurer and We Noticed beautification awards chairperson for SAT
- 2012-2018-Member of the Space Coast Science Education Alliance
- 2014-Awarded the Education Award by KBB
- 2017-Awarded the Volunteer Leadership Award by Eastern Florida State College
- 2019-Awarded for Outstanding Service with the Brevard Regional Science Fair

Forest Resources

Identify, acquire, and protect lands to maintain representatives of the various forest or timber types; and to conserve and maintain Brevard County's forests so as to perpetuate their environmental values.

Plants

Identify, acquire, and protect sites which contain endangered, threatened, rare, or species of special concern (as identified and listed by local, state, and federal agencies). Priority should be given to those sites that are critical to the survival of these plant species, or are not critical but contain important assemblages of rare, endangered, or threatened species or those species of special concern.

Animals

Identify, acquire, and protect lands that are: critical to the survival of rare, endangered or threatened species or species of special concern (as identified and listed by local, state, and federal agencies); represent significant colonial bird nesting sites; migratory bird feeding and resting sites; or lands that are necessary to maintain native animal species diversity.

Wetlands and Coastal Resources

Identify, acquire, and protect undeveloped coastal areas to conserve significant natural and aesthetic attributes. Identify, acquire, protect, and manage upland and wetland buffers to preserve significant commercial and recreational saltwater and brackish fisheries designated as State Aquatic Preserves, National Estuarine or Marine Sanctuaries, Special Water Category of Outstanding Florida Water, or Department of Environmental Protection Class II Waters. Identify, acquire, and protect significant wetland areas. Identify, acquire, and protect the functional integrity of the upland-wetland-estuarine linkage.

Geological Features

Identify, acquire, and protect examples of geological exposures, formations, and outcrops that are inadequately represented on public lands or represent the best examples of those features.

Land Acquisition Duties and Responsibilities

Officials listed below are responsible for the functions indicated:

Board of County Commissioners of Brevard County, Florida (Board)

1. Approves land acquisition policies, procedures and priorities based upon recommendations from the EEL Selection and Management Committee and EEL staff as presented in the Land Acquisition Manual.
2. Approves in writing, as a Board response to an agenda item, land acquisition, land sale, and project development proposals made by the EEL Selection and Management Committee. The Board may approve or deny any acquisition contract or acquisition proposal proposed by the EEL Selection and Management Committee; however, the Board may not add or expand projects identified within the acquisition strategy or presented on the acquisition or sale list.
3. Reviews and authorizes the annual budget for the EEL land acquisition program.
4. Authorizes all bond issues, both public and private, for carrying out the purchase of land.
5. Appoints members to the Brevard County EEL Selection and Management Committee. The procedure for appointment to the EEL Selection and Management Committee shall be:
 - a. The qualifications of all applicants or nominees responding to a call by the County Commissioners for EEL Selection and Management Committee volunteers shall be reviewed by a Qualifying Committee consisting of the EEL Program Manager, the Chairman of the Procedures Committee (or their designee), and the Director of Human Resources (or their designee). Staff will present the list of all

applicants/nominees to the Qualifying Committee for review and an initial ranking based on their level of experience and education. Qualifications for EEL Selection and Management Committee members are outlined in this manual (pages 13 & 14).

Applicants/Nominees being recommended by the TDC and EDC will not be reviewed or ranked by the Qualifying Committee or the Procedures Committee, but will be presented to the County Commission for final ranking along with the list of science applicants/nominees.

The method of the initial ranking by the Qualifying Committee is as follows:

1. All applicants who meet the minimum qualifications as approved by the Qualifying Committee will be assigned one hundred (100) points.
2. Five (5) additional points are assigned for each graduate degree (Masters or Doctorate) in ecosystem management, natural resources conservation, aquatic biology, field ecology, marine biology, botany, geology, hydrology, fire ecology, natural areas management, human use and recreation in natural areas, science education, or natural areas sanctuary design.
3. And/or two (2) additional points for each year up to six (6) years for demonstrated professional expertise in biological or environmental sciences OR a closely related conservation field such as ecosystem management, natural resources conservation, aquatic biology, field ecology, marine biology, botany, geology, hydrology, fire ecology, natural areas management, human use and recreation in natural areas, science education, or natural area sanctuary design.

The Qualifying Committee will provide the list of all applicants/nominees to the Procedures Committee including identification of those applicants/nominees that have been determined by the Qualifying Committee to be qualified. The qualified applicants will be identified by their initial ranking.

The Procedures Committee will review the list of applicants presented by the Qualifying Committee and will verify the final list of qualified applicants/nominees through a majority vote. County EEL staff will provide the list of the qualified applicants/nominees in ranked order from highest to lowest to the Board for review and final ranking.

Any Procedures Committee member who is applying for an open seat on the Selection and Management Committee, shall refrain from voting on the final list of qualified applicants or participating as a member of the Qualifying Committee.

- b. The Board shall review the qualifications of the qualified nominees and give each nominee a ranking score from 1-3. The Assistant County Administrator (or designated county staff) shall tabulate the ranking scores. Those nominees with the highest scores shall be appointed to the EEL Selection and Management Committee, those nominees with the second highest scores shall be appointed as alternates to the EEL Selection and Management Committee. In cases of tied scores, the Board Chairperson will choose members or alternates by drawing names of those with tied scores from a box.

The Board will also select one (1) nominee from a list of recommended appointees provided by the TDC and EDC to fill the eighth voting seat on the Committee.

- c. If replacement of EEL Selection and Management Committee members are required, the Board has the option to choose from the existing pool of qualified alternates (as defined by 6.b. above) or the Board can request that staff prepare a public advertisement as a call for qualified citizen volunteers (EEL Selection and Management Committee qualifications are established in the LAM on pages 13 & 14, and will be the basis for identifying qualified applicants). The process outlined in Sections a. and b. above shall be utilized for any new appointments to the EEL Selection and Management Committee.
- d. Reappointments of EEL Selection and Management Committee members can occur at the discretion of the Board without additional review or new rankings. New appointments can be made as outlined in a, b, and c above or by selecting from the most recent (not exceeding two (2) years) pool of qualified

applicants/nominees. Appointment procedures will be consistent with County policies for advisory board appointments, as specified in the Uniform Advisory Board Ordinance, Ordinance 95-31.

6. Approves all land acquisition contracts and documents provided to the Board by EEL staff, as recommended by the EEL Selection and Management Committee.

EEL Procedures Committee

- a. Membership shall consist of eight (8) members appointed by the Selection and Management Committee for a term of two years. Each of the nominees above will be chosen by a majority vote of the Selection and Management Committee.

Each member shall have knowledge of environmentally sensitive lands and have participated in activities to acquire or protect such lands. A Chair and Co-Chair shall be elected by a majority vote of the Procedures Committee. A voting seat will be designated on the Selection and Management Committee for a Procedures Committee member selected by a majority vote of the Procedures Committee for a two-year term.

EEL Procedures Committee Duties and Responsibilities

1. Thoroughly evaluate the Volusia County Land Acquisition Plan for the purchase of environmentally endangered lands. (Task completed – 1990)
2. Modify the Volusia County plan to meet the needs of Brevard County. (Task completed – 1990)
3. Present to the Board for their approval a recommended program for the purchase of environmentally sensitive lands following the Volusia County model. (Task completed – 1990)
4. Establish rules of procedures for the EEL Selection and Management Committee. (Task completed – 1990)
5. Reconvene, at least one time each fiscal year, to review EEL Program compliance to the LAM, discuss procedural issues as they relate to the implementation of the EEL Program, and review modifications to the LAM, as necessary.
6. Advise the EEL Selection and Management Committee and EEL staff regarding opportunities and recommendations for outside funding for acquisition and management of acquired lands.

EEL Selection and Management Committee

Membership shall consist of ten (10) members. Eight (8) members are appointed by the Board for a minimum term of two (2) years. Two additional voting seats are designated for one member of the Procedures Committee and one member of the Recreation and Education Advisory Committee as appointed by a majority vote from each member's committee. The Board of County Commissioners shall strive to maintain a committee membership that possesses a diversity of demonstrated expertise or experience to enhance the land acquisition and management goals of the EEL Program. The Board may appoint members that do not reside in the respective Commissioner's District. A Chair and Vice-Chair shall be elected annually by a majority vote of the EEL Selection and Management Committee.

All EEL Selection and Management Committee members shall:

1. Have a willingness to serve in a voluntary capacity.
2. Be willing to make a long-term commitment to the EEL Selection and Management Committee.

No further qualifications will be required for the member appointed through the TDC, EDC, Procedures Committee or Recreation Education Advisory Committee

All remaining EEL Selection and Management Committee members shall:

3. Have a four-year post-secondary academic degree (B.S. or equivalent) in biological or environmental sciences or demonstrated professional expertise (minimum six (6) years) in a closely related conservation field such as ecosystem management, natural resources conservation, aquatic biology, field ecology, marine biology,

botany, geology, hydrology, fire ecology, natural areas management, human use and recreation in natural areas, science education, or natural area sanctuary design.

4. Have demonstrated knowledge of Brevard County ecosystems and specific knowledge of the habitat types and conservation land management techniques.



EEL Procedures Committee Recommendations

The Procedures Committee (PC) recommends Dr. Paul Schmalzer and Dr. Mark Bush as priority appointments to the Selection and Management Committee (SMC). The committee recommends these two candidates based on their expertise, professional experience, substantial field work, and extensive knowledge of Brevard County ecosystems. They are also highly knowledgeable of land management methods necessary for the ongoing operations of the SMC. The PC views their history and length of service with the EEL Program as a positive. Dr. Schmalzer and Dr. Bush have served the SMC diligently and have contributed extensively during their terms on the SMC. These two candidates have a high level of integrity, are very dedicated, and generously donate their time to the program. In addition to his vast expertise, Dr. Schmalzer is extremely detail oriented. He understands complex data sets, interprets them, and effectively communicates this information to others. He has a vast amount of institutional knowledge and takes the time to read every word of Land Management Plans and other reports. He subsequently provides both scientific and technical guidance. Dr. Schmalzer and Dr. Bush are highly respected experts in Brevard's natural habitat, and each has published extensively in academic literature on this and related topics. For these reasons, the PC recommends Dr. Schmalzer and Dr. Bush as priority appointments to the SMC.

The Procedures Committee would like to recommend James Burney as the third SMC Candidate based on his expertise and professional experience with uplands and wetlands.

The Procedures Committee would like to recommend Rio Throm Bond and Jennifer Thompson as alternates based solely on their professional experience. Ms. Bond's professional experience is prior to 2015 and Ms. Thompson's experience is primarily with storm water.

**Brevard County
Environmentally Endangered Lands (EEL) Program
Selection and Management Committee Volunteer Application**

not
Selected
for
Another
Term

First Name: Paul Last Name: Schmalzer
Mailing Address: 2829 Mourning Dove Way
City: Titusville State: FL Zip: 32780
Cell Phone: 321-446-7580 Alternate Phone: 321-268-5473
Email: schmalzp@digital.net

The EEL Selection and Management Committee serves as an expert volunteer scientific advisory committee to the County Commission on all issues involving the acquisition and management of environmentally endangered lands with the EEL Program protected area network in Brevard County.

*Please complete the following information and **include your resume as an attachment** when submitting this application for consideration as a volunteer member of the Selection and Management Committee.*

Please confirm your willingness to serve on the committee for a minimum term of two (2) years.

I am willing to serve on the committee for two years: Yes

Please confirm your ability to attend meetings in-person.

I am available to attend in-person meetings: When NASA Covid-19 restrictions end.

Please provide a brief overview AND resume of your background and expertise related to the following committee member requirements:

- Four-year postsecondary academic degree (B.S. or equivalent) in biological or environmental sciences or demonstrated professional expertise (minimum of 6 years) in a closely related conservation field such as ecosystem management, natural resources conservation, aquatic biology, field ecology, marine biology, botany, geology, hydrology, fire ecology, natural areas management, human use and recreation in natural areas, science education, or natural area sanctuary design.

Education: B.A. Biology, Western Maryland College, 1976; M.S. Ecology, The University of Tennessee, Knoxville, 1978; Ph.D. Ecology, The University of Tennessee, Knoxville, 1982.

Professional Experience: 1982-Present, Plant Ecologist, Ecological Program, Kennedy Space Center: Studies of scrub vegetation, wetlands vegetation, fire ecology, flora, rare plants, historical vegetation, restoration ecology, and environmental impact analyses.

Please provide an overview of your knowledge of Brevard County ecosystems, habitat types and conservation land management techniques.

I have studied Brevard County ecosystems for > 38 years. I am author or coauthor of 53 published papers, 47 of which derive from studies in Brevard County, 45 technical reports (36 Brevard), and 107 presented papers (95 Brevard). I have worked extensively on the fire management and restoration of scrub vegetation and also on wetland systems. I have been on site visits to nearly all EEL sanctuaries, compiled preliminary plant species lists for many sanctuaries, and conducted public field trips to numerous sanctuaries. See attached for additional information.

Email SMC Volunteer Scientist Application

PAUL A. SCHMALZER

EDUCATION

Western Maryland College, B.A. Biology 1976
The University of Tennessee, M.S. Ecology 1978
The University of Tennessee, Ph.D. Ecology 1982

EXPERIENCE

Thirty-eight years of experience in the design and implementation of ecological research, environmental impact analysis, and biological surveys. Expertise in terrestrial plant ecology, fire ecology, restoration ecology, vascular flora, vegetation sampling, and vegetation data analysis.

HERNDON SOLUTIONS GROUP

Senior Plant Ecologist, Kennedy Space Center, Florida. October 2020-Present
Conduct studies of Kennedy Space Center vegetation, fire ecology, and restoration of scrub and wetlands vegetation. Conduct studies of rare plant distributions and ecology. Provide technical guidance to the Vegetation Studies Group. Maintain KSC Herbarium.

INTEGRATED MISSION SUPPORT SERVICES

Senior Plant Ecologist, Kennedy Space Center, Florida. November 2015-September 2020
Conduct studies of Kennedy Space Center vegetation, fire ecology, and restoration of scrub and wetlands vegetation. Conduct studies of rare plant distributions and ecology. Provide technical guidance to the Vegetation Studies Group. Maintain KSC Herbarium.

UNIVERSITY OF CENTRAL FLORIDA, DEPARTMENT OF BIOLOGY

Courtesy Research Associate, Orlando, Florida. March 2016-Present

INNOVATIVE HEALTH APPLICATIONS/INOMEDIC HEALTH APPLICATIONS

Technical Lead, Plant Ecologist, Kennedy Space Center, Florida. October 2009-October 2015
Conduct studies of Kennedy Space Center vegetation, fire ecology, and restoration of scrub and wetlands vegetation. Conduct studies of rare plant distributions and ecology. Provide technical guidance to the Vegetation Studies Group. Maintain KSC Herbarium.

DYNAMAC CORPORATION

Technical Lead, Plant Ecologist, Kennedy Space Center, Florida. January 1995 - September 2009
Conduct studies of Kennedy Space Center vegetation, fire ecology, and restoration of scrub and wetlands vegetation. Conduct studies of rare plant distributions and ecology. Provide technical guidance to the Vegetation Studies Group. Maintain KSC Herbarium. Monitor scrub restoration efforts on Cape Canaveral Air Force Station. Directed studies of effects of rocket launches on Cape Canaveral Air Station. Directed study of threatened and endangered species on Patrick Air Force Base. Directed study of historical vegetation of the Indian River Lagoon Basin. Conducted studies of the flora and rare plants of Canaveral National Seashore. Conducted studies of the occurrence and distribution of rare scrub plants in Brevard County.

THE BIONETICS CORPORATION

Technical Lead, Plant Ecologist, Kennedy Space Center, Florida. 1993-1994.
Conducted studies of Kennedy Space Center vegetation, fire ecology, and restoration of scrub and wetlands vegetation. Provided technical guidance to the Vegetation Studies Group.

Plant Ecologist, Kennedy Space Center, Florida. 1982-1993.

Conducted studies of the vegetation of Kennedy Space Center in relation to environmental variables, successional patterns, fire effects, and space center operations. Contributed to studies of animal habitat use. Conducted studies of vegetation, exotic plants, and potential environmental impacts and coordinated studies of fire history and soil erosion on Vandenberg Air Force Base, California.

FLORIDA INSTITUTE OF TECHNOLOGY

Research Scientist, Plant Ecologist (part time). Melbourne, Florida. 1993-1995.

Brevard County Scrub Habitat Conservation Plan. Helped develop proposal to conduct study of scrub habitat in Brevard County in relation to Florida Scrub-Jay habitat requirements and other rare or declining scrub species. Specific duties include plant sampling protocol, scrub plant identification, report preparation, and graduate student training.

BREVARD COUNTY

Member, Environmentally Endangered Lands Selection and Management Committee (volunteer). 1990-Present.

Helped develop criteria for determination of environmentally endangered lands and priorities for acquisition. Examined numerous sites, prepared reports, and made recommendations regarding acquisition. Helped prepare proposals to State of Florida Conservation and Recreational Lands (CARL) Program, Florida Forever Program, and the Florida Community Trust. Helped develop management criteria and reviewed management plans. Conducted numerous site visits to examine management activities and requirements.

THE UNIVERSITY OF TENNESSEE

Graduate Research Assistant, Ecology Program, Knoxville, Tennessee, 1979-1982.

National Park Service Obed River Vegetation Project. Conducted vegetation survey, prepared vegetation map, conducted survey for endangered and threatened plants and critical plant habitats, prepared floristic list, and prepared report.

National Park Service contract to H.R. DeSelm: Classification of the Vegetation of the Interior Low Plateau. Helped to gather and synthesize literature on vegetation of the Interior Low Plateau and to prepare report.

National Park Service contract to H.R. DeSelm: Evaluation of Five Potential National Natural Landmarks in Tennessee. Helped to gather field data and available information on topography, geology, soils, and vegetation of five proposed National Natural Landmarks in Tennessee.

Hilton Smith Fellowship, 1978-1979.

Graduate Teaching Assistant, 1977-1978.

Taught general biology, prepared lectures and conducted labs.

Non-Service Fellowship, 1976-1977.

PROJECT HISTORY:

National Aeronautics and Space Administration, Kennedy Space Center, 1982-Present. Principal investigator. Designed and implemented vegetation monitoring program for Kennedy Space Center, Florida including long-term studies of changes after fire. Conduct studies of effects of Space Shuttle launches on terrestrial vegetation and soils and help maintain long-term databases of launch deposition patterns.

National Aeronautics and Space Administration, Kennedy Space Center, 1992-Present. Principal investigator. Collaborate on the design and implementation of a scrub restoration program for Kennedy Space Center. Monitor vegetation changes after combinations of cutting and burning to restore long-unburned scrub habitat. Monitor survival and growth of scrub species planted in former agricultural sites.

National Aeronautics and Space Administration, Kennedy Space Center, and U.S. Fish and Wildlife Service, Merritt Island National Wildlife Refuge. 2010-2011. Principal investigator. Design and implement program monitoring vegetation response to restoration of hardwood swales in scrub and flatwoods landscapes on Kennedy Space Center/Merritt Island National Wildlife Refuge.

U.S. Air Force, 45th Space Wing, 2010-2011. Co-investigator. Compile floristic inventory of selected wetlands areas on Cape Canaveral Air Force Station as part of a comprehensive survey of flora and fauna.

National Park Service, Canaveral National Seashore, 2002-2004. Principal investigator. Compile floristic inventory and survey for threatened and endangered plants on Canaveral National Seashore, Florida.

Brevard County Natural Resources Management Office, 2004-2005. Principal investigator. Conduct surveys for threatened and endangered scrub plants in Brevard County, Florida.

Brevard County Natural Resources Management Office, 2003-2004. Principal investigator. Conduct surveys for selected threatened and endangered plants in Brevard County, Florida.

U.S. Air Force, 45th Space Wing, 1998-2003. Principal investigator. Designed and coordinated the implementation of a scrub restoration program for Cape Canaveral Air Force Station, Florida. Monitored vegetation changes after combinations of cutting and burning to restore long-unburned scrub habitat.

National Aeronautics and Space Administration, Kennedy Space Center, Remediation Program, 1998-2000. Co-principal investigator. Helped to design and implement baseline chemical characterization study for Kennedy Space Center, Florida. Responsible for technical direction of soil and groundwater sections of the study.

U.S. Air Force, 45th Space Wing, 1995-1998. Principal investigator. Coordinated and helped to design program to monitor effects of Delta, Atlas, and Titan rocket launches on the environment of Cape Canaveral Air Force Station, Florida.

U.S. Air Force, 45th Space Wing, 1995-1997. Principal investigator. Coordinated and helped to design threatened and endangered species survey for Patrick Air Force Base, Florida.

St. Johns River Water Management District, 1995-1997. Co-principal investigator. Coordinated and helped to design project to map historical vegetation of the Indian River Lagoon Basin, Florida

GRADUATE STUDENT COMMITTEES:

Shannon Boyle, Florida Institute of Technology, M. S. Biology, December 1996

Theresa K. Burcsu, University of North Carolina Chapel Hill, M. A. Geography, July 1998

Lisa Earnest, University of South Florida, M.S. Marine Science, University of South Florida, December 1998

PROFESSIONAL SERVICE

Ecological Society of America: Member Board of Professional Certification, 2020-
Florida Native Plant Society: Chair, Science Advisory Committee, 2006-Present
Southern Appalachian Botanical Society: Editor, *Castanea*, 2001-2003
Southeastern Chapter, Ecological Society of America: Vice-Chair, 1993-1995; Secretary-
Treasurer, 2000-2002; Chair, 2002-2004

PROFESSIONAL ACTIVITIES

American Association for the Advancement of Science
American Institute of Biological Sciences
Association of Southeastern Biologists
Brevard County Environmentally Endangered Lands Selection and Management Committee.
Ecological Society of America
Florida Academy of Science
Florida Native Plant Society
International Association for Vegetation Science
International Association for Wildland Fire
Natural Areas Association
Society of Wetland Scientists
Southern Appalachian Botanical Society
Tennessee Academy of Science
Torrey Botanical Society

CERTIFICATIONS

Certified Senior Ecologist, Ecological Society of America, 1994-Present

HONORS

NASA Kennedy Space Center Engineer/Scientist of the Year, 2018, Contractor Division
Florida Native Plant Society, Silver Palmetto Award, 2018
Florida Native Plant Society, Silver Palmetto Award, 2009
Florida Native Plant Society, Green Palmetto Award, 2005
The Nature Conservancy, Florida Chapter Conservation Colleague Award, 1995
NASA Manned Flight Awareness Award of Merit, 1989
Phi Kappa Phi, The University of Tennessee, 1982
H.P. Sturdivant Biology Award, Western Maryland College, 1976

PUBLICATIONS/TECHNICAL REPORTS/PRESENTATIONS

Published Papers:

- Schmalzer, P.A., C.R. Hinkle, and H.R. DeSelm. 1978. Discriminant analysis of cove forests of the Cumberland Plateau in Tennessee. p. 62-86. In: P.E. Pope (ed.). Proceedings Central Hardwoods Forest Conference II. Purdue University, West Lafayette, Indiana.
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- Schmalzer, P.A. 1988. Vegetation of the Obed River gorge system, Cumberland Plateau, Tennessee. *Castanea* 53:1-32.
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- Breininger, D.R. and P.A. Schmalzer. 1990. Effects of fire and disturbance on plants and birds in a Florida oak/palmetto scrub community. *American Midland Naturalist* 123:64-74.
- Levine, J.S., W.R. Cofer, III, D.I. Sebacher, R.P. Rhinehart, E.L. Winstead, S. Sebacher, C.R. Hinkle, P.A. Schmalzer, and A.M. Koller, Jr. 1990. The effects of fire on biogenic emissions of methane and nitric oxide from wetlands. *Journal of Geophysical Research* 95:1853-1864.
- Breininger, D.R., P.A. Schmalzer, and C.R. Hinkle. 1991. Estimating occupancy of gopher tortoise (*Gopherus polyphemus*) burrows in coastal scrub and slash pine. *Journal of Herpetology* 25:317-321.
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- Schmalzer, P.A. C.R. Hinkle, and J.L. Mailander. 1991. Changes in community composition and biomass in *Juncus roemerianus* Scheele and *Spartina bakeri* Merr. marshes one year after a fire. *Wetlands* 11:67-86.
- Duncan, B.W. and P.A. Schmalzer. 1992. Using ARC/INFO to monitor Space Shuttle launch effects and validate a spatial predictive model. p. 499-506. In: *Proceedings of the Twelfth Annual ESRI User Conference, Volume 1*. Environmental Systems Research Institute, Inc. Redlands, California.
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- Hinkle, C.R., W. McComb, J.M. Safley, Jr., and P.A. Schmalzer. 1993. Mixed mesophytic forests. p. 203-253. In: W.H. Martin, S.G. Boyce, and A. C. Echternacht (eds.). *Biodiversity of the*

- Southeastern United States: Upland Terrestrial Communities. John Wiley & Sons, Inc., New York.
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- Swain, H., C.R. Hinkle, and P.A. Schmalzer. 1993. Stewardship at the local level: a case study for Brevard County, Florida. p. 452-462. In: W.E. Brown and S.D. Veirs, Jr. (eds.), *Partners in Stewardship: Proceedings of the 7th Conference on Research and Resource Management in Parks and on Public Lands*. George Wright Society. Hancock, Michigan.
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- Duncan, B.W., D.R. Breining, P.A. Schmalzer, and V.L. Larson. 1995. Validating a Florida Scrub Jay habitat suitability model, using demography data on Kennedy Space Center. *Photogrammetric Engineering and Remote Sensing* 61:1361-1370.
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change in the North Indian River Lagoon Watershed, Florida. *Natural Areas Journal* 24:198-215.

Alexis, M.A., D.P. Rasse, C. Rumpel, G. Bardoux, N. Pechot, P. Schmalzer, B. Drake, and A. Mariotti. 2007. Fire impact on C and N losses and charcoal production in a scrub oak ecosystem. *Biogeochemistry* 82(2): 201-216 (online DOI: 10.1007/s10533-006-9063-1).

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Foster, T.E., P.A. Schmalzer, and G.A. Fox. 2014. Timing matters: The seasonal effect of drought on tree growth. *Journal of the Torrey Botanical Society* 141: 225-241.

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Foster, T.E., P.A. Schmalzer, and G. A. Fox. 2015. Seasonal climate and its differential impact on growth of co-occurring species. *European Journal of Forest Research* 134:497-510. DOI 10.1007/s10342-015-0867-1.

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Schmalzer, P.A. and T.E. Foster. 2019. Restoration of scrub vegetation in an old field through 23 years after planting. *Restoration Ecology* 27(2): 320-332. doi: 10.1111/rec.12864.

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Manuscripts in Press:

Manuscripts Submitted:

Foster, T. E., P. A. Schmalzer, and G.A. Fox. 2020. Distribution and physiological function of three co-occurring scrub oaks along a one meter gradient in elevation. Manuscript in revision for *American Journal of Botany*.

Schmalzer, P.A. and T.E. Foster. 2020. Responses of Florida scrub vegetation to water additions from a groundwater treatment project and to hurricane disturbance. Manuscript submitted to *Castanea*.

Technical Reports:

Schmalzer, P.A., C.R. Hinkle, and H.R. DeSelm. 1978. A report on the vegetation of Doe Creek Cove, White County, Tennessee. Processed report prepared for Tennessee State Heritage Program. Graduate Program in Ecology, The University of Tennessee, Knoxville. 19 p.

- Schmalzer, P.A., C.R. Hinkle, and H.R. DeSelm. 1978. A report on the vegetation of Flint Fork Cove, Pickett State Forest, Pickett County, Tennessee. Processed report prepared for Tennessee State Heritage Program. Graduate Program in Ecology, The University of Tennessee, Knoxville. 12 p.
- Schmalzer, P.A., C.R. Hinkle, H.R. DeSelm, and B.E. Perkins. 1981. Guide for a field trip to the Obed Wild and Scenic River. Prepared for the Association of Southeastern Biologists 1981 Meeting. The University of Tennessee, Knoxville. 26 p.
- DeSelm, H.R. and P.A. Schmalzer. 1982. Classification and description of the ecological themes of the Interior Low Plateau. Processed report prepared for National Park Service. Botany Department, The University of Tennessee, Knoxville. 118 p.
- DeSelm, H.R. and P.A. Schmalzer. 1982. Descriptions of five potential Tennessee National Natural Landmarks. Processed report prepared for National Park Service. Botany Department, The University of Tennessee, Knoxville.
- Schmalzer, P.A. and H.R. DeSelm. 1982. Final report - Vegetation, endangered and threatened plants, critical plant habitats, and vascular flora of the Obed Wild and Scenic River. Processed report prepared for National Park Service. Graduate Program in Ecology, The University of Tennessee, Knoxville. 369 p.
- Schmalzer, P.A. and C.R. Hinkle. 1985. A brief overview of plant communities and the status of selected plant species at John F. Kennedy Space Center, Florida. Report submitted to Biomedical Office, Kennedy Space Center, Florida.
- Schmalzer, P.A., C.R. Hinkle, and D. Breininger. 1985. Effects of Space Shuttle launches STS-1 through STS-9 on terrestrial vegetation of John F. Kennedy Space Center, Florida. NASA Technical Memorandum 83103. John F. Kennedy Space Center, Florida. 39 p.
- Provancha, M.J., P.A. Schmalzer, and C.R. Hinkle. 1986. Vegetation types. (Maps) John F. Kennedy Space Center, Biomedical Operations and Research Office. (Maps in Master Planning Map format, digitization by ERDAS, Inc.).
- Schmalzer, P.A., C.R. Hinkle, and T.W. Dreschel. 1986. Far-field deposition from Space Shuttle launches at John F. Kennedy Space Center, Florida. NASA Technical Memorandum 83104. John F. Kennedy Space Center, Florida. 42 p.
- Hall, C.R., D.R. Breininger, P.A. Schmalzer, J.H. Drese, M.J. Provancha, J.A. Provancha, D.B. Bennett, and T.W. Dreschel. 1987. Polygeneration project baseline environmental monitoring program: final report. NASA/KSC Biomedical Operations and Research Office. John F. Kennedy Space Center, Florida.
- Schmalzer, P.A. and C.R. Hinkle. 1987. Effects of fire on composition, biomass and nutrients in oak scrub vegetation on John F. Kennedy Space Center, Florida. NASA Technical Memorandum 100305. John F. Kennedy Space Center, Florida. 146 p.
- Schmalzer, P.A. and C.R. Hinkle. 1987. Monitoring biological impacts of Space Shuttle launches from Vandenberg Air Force Base: establishment of baseline conditions. NASA Technical Memorandum 100982. John F. Kennedy Space Center, Florida. 97 p.
- Schmalzer, P.A. and C.R. Hinkle. 1987. Species biology and potential for controlling four exotic plants (*Ammophila arenaria*, *Carpobrotus edulis*, *Cortaderia jubata*, and *Gasoul crystallinum*)

- on Vandenberg Air Force Base, California. NASA Technical Memorandum 100980. John F. Kennedy Space Center, Florida. 99 p.
- Breining, D.R., P.A. Schmalzer, D.A. Rydene, and C.R. Hinkle. 1988. Burrow and habitat relationships of the gopher tortoise in coastal scrub and slash pine flatwoods on Merritt Island, Florida. Florida Game and Fresh Water Fish Commission, Nongame Wildlife Program. Final Report. 238 p.
- Schmalzer, P.A., D.E. Hickson, and C.R. Hinkle. 1988. Vegetation studies on Vandenberg Air Force Base, California. NASA Technical Memorandum 100985. John F. Kennedy Space Center, Florida. 480 p.
- Schmalzer, P.A. and C.R. Hinkle. 1990. Flora and threatened and endangered plants of John F. Kennedy Space Center, Florida. NASA Technical Memorandum 102791. John F. Kennedy Space Center, Florida. 68 p.
- Schmalzer, P.A. and C.R. Hinkle. 1990. Geology, geohydrology, and soils of Kennedy Space Center: a review. NASA Technical Memorandum 103813. John F. Kennedy Space Center, Florida. 46 p.
- Schmalzer, P.A. and C.R. Hinkle. 1991. Dynamics of vegetation and soils of oak/saw palmetto scrub after fire: observations from permanent transects. NASA Technical Memorandum 103817. Kennedy Space Center, Florida. 149 p.
- Schmalzer, P.A., D.R. Breining, F. Adrian, R. Schaub, and B.W. Duncan. 1994. Development and implementation of a scrub habitat compensation plan for Kennedy Space Center. NASA Technical Memorandum 109202. Kennedy Space Center, Florida. 54 p.
- Provancha, M.J., C.R. Hall, P.A. Schmalzer, R. Reddick and J.R. Jensen. 1994. Evaluation of high spatial resolution multispectral imaging for resource management at John F. Kennedy Space Center, Florida. Visiting Investigator Program Extension Final Report VIPX-001-94. John C. Stennis Space Center, Mississippi. 19 p.
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- Schmalzer, P.A. and D.M. Oddy. 1995. Survey for *Remirea maritima* (Beach star) and *Scaevola plumieri* (Inkberry) at Cape Canaveral Air Station. Prepared for Canaveral Port Authority. Dynamac Corporation. 15 p.
- Swain, H.M., P.A. Schmalzer, D.R. Breining, K. V. Root, S.A. Bergen, S. R. Boyle, and S. MacCaffree. 1995. Appendix B: Biological Consultant's Report. In: Scrub Conservation and Development Plan, Brevard County. Submitted to Natural Resource Management Division, Brevard County, Florida. Florida Institute of Technology, Melbourne.
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- F. Kennedy Space Center/Merritt Island National Wildlife Refuge: an initial scientific basis for recovery. NASA Technical Memorandum 111676. Kennedy Space Center, Florida. 113 p.
- Gimond, M., J.A. Provancha, V.L. Larson, B.W. Duncan, and P.A. Schmalzer. 1996. Summary report for historical aerial photography database for seagrass mapping. Report to St. Johns River Water Management District, Contract No. 95W205. Dynamac Corporation. 12 p.
- Gimond, M., J.A. Provancha, P.A. Schmalzer, V.L. Larson, and B.W. Duncan. 1996. Final report to the St. Johns River Water Management District for historical seagrass mapping in the Indian River Lagoon. Report to St. Johns River Water Management District, Contract No. 95W205. Dynamac Corporation. 11p.
- Larson, V.L., B.W. Duncan, M. Gimond, and P.A. Schmalzer. 1996. Summary report for historical aerial photography and information for land cover mapping. Report to St. Johns River Water Management District, Contract No. 95W205. Dynamac Corporation. 22 p.
- Larson, V.L., B. Duncan, P. Schmalzer, and S. Boyle. 1997. Final report for the historical land cover mapping in the Indian River Lagoon Basin. Report to St. Johns River Water Management District, Contract No. 95W205. Dynamac Corporation. 18 p.
- Oddy, D.M., E.D. Stolen, P.A. Schmalzer, V.L. Larson, P. Hall, and M.A. Hensley. 1997. Threatened and Endangered Species Survey for Patrick Air Force Base, Florida. NASA Technical Memorandum 112880. Kennedy Space Center, Florida. 96 p.
- Schmalzer, P.A., S.R. Boyle, P. Hall, D.M. Oddy, M.A. Hensley, E.D. Stolen, and B.W. Duncan. 1998. Monitoring Direct Effects of Delta, Atlas, and Titan Launches from Cape Canaveral Air Station. NASA Technical Memorandum 1998-207912. John F. Kennedy Space Center, Florida. 59 p.
- Oddy, D.M., E.D. Stolen, P.A. Schmalzer, M.A. Hensley, P. Hall, V.L. Larson, and S. R. Turek. 1999. Environmental conditions and threatened and endangered species populations near the Titan, Atlas, and Delta Launch Complexes, Cape Canaveral Air Station. NASA Technical Memorandum 208553. Kennedy Space Center, Florida. 126 p.
- Schmalzer, P. A., M. A. Hensley, M. Mota, C.R. Hall, and C. A. Dunlevy. 2000. Soil, Groundwater, Surface Water, and Sediments of Kennedy Space Center, Florida: Background Chemical and Physical Characteristics. NASA Technical Memorandum 2000-20853. Kennedy Space Center, Florida. 595 p.
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- Schmalzer, P.A., T. J. Kozusko, and T. E. Foster. 2012. Vegetation Monitoring of the Restoration of Hardwood Swales on Kennedy Space Center/Merritt Island National Wildlife Refuge, 2010-2011. Prepared for Merritt Island National Wildlife Refuge and Kennedy Space Center under NASA Task Order T0012005-2379 and USFWS Agreement No.40181AH012. Innovative Health Applications, Kennedy Space Center, Florida.
- Hall, C.R., P.A. Schmalzer, D. R. Breininger, B.W. Duncan, J. H. Drese, D. A. Scheidt, R. H. Lowers, E. A. Reyier, K. G. Holloway-Adkins, D. M. Oddy, N. Cancro, J. A. Provancha, T. E. Foster, and E. D. Stolen, 2014. Ecological Impacts of the Space Shuttle Program at John F. Kennedy Space Center. NASA/TM-2014-216639. 241 p.

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- Hinkle, R., P. Schmalzer, and H.R. DeSelm. 1978. An ecological survey of Dick Cove, Sewanee, Tennessee. Abstract of presented paper in: Journal of the Tennessee Academy of Science 53:62.
- Hinkle, R., P. Schmalzer, and H.R. DeSelm. 1978. The vegetation of Dick Cove, Sewanee, Tennessee. Abstract of presented paper in: The ASB Bulletin 25:51.
- Schmalzer, P.A., C.R. Hinkle, and H.R. DeSelm. 1979. Structure and dynamics of the plant communities in a section of the Obed River gorge, Cumberland County, Tennessee. Abstract of presented paper in: Fifth Annual Scientific Research Meeting, National Park Service, Southeast Region, Great Smoky Mountains National Park, Gatlinburg, Tennessee. p. 24.
- Schmalzer, P.A., C.R. Hinkle, and H.R. DeSelm. 1979. The vegetation of a section of the Obed River gorge, Cumberland County, Tennessee. Abstract of presented paper in: The ASB Bulletin 26:57.

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