

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

First Name: Paul Last Name: Schmalzer
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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.

Schmalzer, P.A., C.R. Hinkle, and H.R. DeSelm. 1980. Vegetation patterns in a section of the Obed Wild and Scenic River, Cumberland County, Tennessee. p. 256-272. In: H.E. Garrett and G.E. Cox (eds.). Proceedings Central Hardwood Conference III. University of Missouri, Columbia.

- Schmalzer, P.A., T.S. Patrick, and H.R. DeSelm. 1985. Vascular flora of the Obed Wild and Scenic River, Tennessee. *Castanea* 50:71-88.
- Provancha, M.J., P.A. Schmalzer, and C.R. Hall. 1986. Effects of the December 1983 and January 1985 freezing air temperatures on select aquatic poikilotherms and plant species of Merritt Island, Florida. *Florida Scientist* 49:199-212.
- Hinkle, C.R., C.R. Hall, M.J. Provancha, P.A. Schmalzer, A.M. Koller, Jr., and W.M. Knott, III. 1988. The use of remotely sensed environmental data and geographic referenced data management for environmental impact assessments. Chemical Propulsion Information Agency (CPIA) Publication 485.
- Schmalzer, P.A. 1988. Vegetation of the Obed River gorge system, Cumberland Plateau, Tennessee. *Castanea* 53:1-32.
- Schmalzer, P.A. 1989. Vegetation and flora of the Obed River gorge system, Cumberland Plateau, Tennessee. *Journal of the Tennessee Academy of Science* 64:161-168.
- Breining, 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. Sebach, R.P. Rhinehart, E.L. Winstead, S. Sebach, 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.
- Breining, 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.
- Schmalzer, P.A., C.R. Hinkle, and A.M. Koller, Jr. 1991. Changes in marsh soils for six months after a fire. p. 272-286. In: J.S. Levine (ed.). *Global Biomass Burning Atmospheric, Climatic, and Biospheric Implications*. The MIT Press. Cambridge, Massachusetts.
- 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.
- Schmalzer, P.A. and C.R. Hinkle. 1992. Recovery of oak-saw palmetto scrub after fire. *Castanea* 57:158-173.
- Schmalzer, P.A. and C.R. Hinkle. 1992. Soil dynamics following fire in *Juncus* and *Spartina* marshes. *Wetlands* 12:8-21.
- Schmalzer, P.A. and C.R. Hinkle. 1992. Species composition and structure of oak-saw palmetto scrub vegetation. *Castanea* 57:220-251.
- 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.

- Schmalzer, P.A. and C.R. Hinkle. 1993. Effects of fire on nutrient concentrations and standing crops in biomass of *Juncus roemerianus* and *Spartina bakeri* marshes. *Castanea* 58:90-114.
- Schmalzer, P.A., C.R. Hall, C.R. Hinkle, B.W. Duncan, W.M. Knott III, and B.R. Summerfield. 1993. Environmental monitoring of Space Shuttle launches at Kennedy Space Center: the first ten years. American Institute of Aeronautics and Astronautics Conference Paper AIAA93-0303. 16p.
- 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.
- Breining, D.R., P.A. Schmalzer, and C.R. Hinkle. 1994. Gopher tortoise (*Gopherus polyphemus*) densities in coastal scrub and slash pine flatwoods in Florida. *Journal of Herpetology* 28:60-65.
- Duncan, B.W. and P.A. Schmalzer. 1994. Using a geographical information system for monitoring Space Shuttle Launches: determining cumulative distribution of deposition and an empirical test of a spatial model. *Environmental Management* 18:465-474.
- 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.
- Schmalzer, P.A. 1995. Biodiversity of saline and brackish marshes of the Indian River Lagoon: historic and current patterns. *Bulletin of Marine Science* 57:37-48.
- Duncan, B. W., S. Boyle, P. A. Schmalzer and D. R. Breining. 1996. Spatial quantification of historic landscape change within two study sites on John F. Kennedy Space Center. *Proceedings of the Sixteenth Annual ESRI User Conference*. Published on CD-ROM and on the World Wide Web at www.esri.com.
- Schmalzer, P.A. and C.R. Hinkle. 1996. Biomass and nutrients in aboveground vegetation and soils of Florida oak-saw palmetto scrub. *Castanea* 61:168-193.
- Schmalzer, P. A. B. W. Duncan, V. L. Larson, S. Boyle, and M. Gimond. 1996. Reconstructing historic landscapes of the Indian River Lagoon Basin. p. 849-854. In: *Proceedings of Eco-Informa'96: Global Networks for Environmental Information*, Volume 11. Environmental Research Institute of Michigan, Ann Arbor.
- Schmalzer, P. A., and S. R. Boyle. 1998. Restoring long-unburned oak-saw palmetto scrub requires mechanical cutting and prescribed burning (Florida). *Restoration & Management Notes* 16(1):96-97.
- Duncan, B.W., S. Boyle, D.R. Breining, and P.A. Schmalzer. 1999. Coupling past management practice and historic landscape change on John F. Kennedy Space Center. *Landscape Ecology* 14:291-309.
- Schmalzer, P.A., S.R. Boyle, and H.M. Swain. 1999. Scrub ecosystems of Brevard County, Florida: a regional characterization. *Florida Scientist* 62:13-47.

- Duncan, B.W., V.L. Larson, and P.A. Schmalzer. 2000. Modeling historic landcover: an evaluation of two methodologies for producing baseline reference data. *Natural Areas Journal* 20(4):308-316.
- Duncan, B.W. and P.A. Schmalzer. 2001. Modeling past and present fire behavior on Kennedy Space Center, Florida. Proceedings of the Twenty-first Annual ESRI User Conference. Published on CD-ROM and on the World Wide Web at www.esri.com.
- Duncan, B.W. and P.A. Schmalzer. 2001. Spatial fire behavior modeling: simulating past and present fire spread distributions along the east coast of Central Florida. Pp. 8-11 in D. Zattau. (ed.). Proceedings of the Florida Scrub Symposium 2001. U.S. Fish and Wildlife Service. Jacksonville, Florida. 63 pp.
- Schmalzer, P. A. and F. W. Adrian. 2001. Scrub restoration on Kennedy Space Center/Merritt Island National Wildlife Refuge, 1992-2000. Pp. 17-20 in D. Zattau. (ed.). Proceedings of the Florida Scrub Symposium 2001. U.S. Fish and Wildlife Service. Jacksonville, Florida. 63 pp.
- Schmalzer, P. A., M. A. Hensley, and C. A. Dunlevy. 2001. Background characteristics of soils of Kennedy Space Center, Merritt Island, Florida: selected elements and physical properties. *Florida Scientist* 64:161-190.
- Schmalzer, P. A. and M. A. Hensley. 2001. Background characteristics of groundwater in the Surficial Aquifer of Kennedy Space Center, Merritt Island, Florida. *Florida Scientist* 64: 250-273.
- Duncan, B.W., P.A. Schmalzer, and T.E. Foster. 2002. Mapping shuttle launch clouds at KSC. *GeoSpatial Solutions* 12(11): 32-37.
- Schmalzer, P.A., S.R. Turek, T.E. Foster, C.A. Dunlevy, and F.W. Adrian. 2002. Reestablishing Florida scrub in a former agricultural site: Survival and growth of planted species and changes in community composition. *Castanea* 67:146-160.
- Duncan, B.W. and P.A. Schmalzer. 2003. Anthropogenic fuel alteration and changes in spatial fire behavior in a southeastern pyrogenic ecosystem. In: Proceedings of the Second International Wildland Fire Ecology and Fire Management Congress, American Meteorological Society, Published on CDROM and at <http://www.ametsoc.org>.
- Foster, T.E. and P.A. Schmalzer. 2003. The effect of season of fire on the recovery of Florida scrub. In: Proceedings of the Second International Wildland Fire Ecology and Fire Management Congress, American Meteorological Society, Published on CDROM and at <http://www.ametsoc.org>.
- Schmalzer, P.A. 2003. Growth and recovery of oak-saw palmetto scrub through ten years after fire. *Natural Areas Journal* 23:5-13.
- Schmalzer, P.A. T. E. Foster, and F.W. Adrian. 2003. Responses of long-unburned scrub on the Merritt Island/Cape Canaveral barrier island complex to cutting and burning. In: Proceedings of the Second International Wildland Fire Ecology and Fire Management Congress, American Meteorological Society, Published on CDROM and at <http://www.ametsoc.org>.
- Duncan, B.W. and P.A. Schmalzer. 2004. Anthropogenic influences on potential fire spread in a pyrogenic ecosystem of Florida. *Landscape Ecology* 19:153-165.
- Duncan, B.W., V.L. Larson, and P.A. Schmalzer. 2004. Historic landcover and recent landscape

- 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).
- Foster, T.E. and P.A. Schmalzer. 2012. Growth of *Serenoa repens* planted in a former agricultural site. *Southeastern Naturalist* 11(2): 331-336.
- 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.
- Duncan, B.W., P. A. Schmalzer, D. R. Breininger, and E.D. Stolen. 2015. Comparing fuels reduction and patch mosaic fire regimes for reducing fire spread potential: A spatial modeling approach. *Ecological Modelling* 314:90-99.
- 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.
- Schmalzer, P.A. and T.E. Foster. 2016. Flora and threatened and endangered plants of Canaveral National Seashore, Florida. *Castanea* 81(2):91-127.
- Schmalzer, P.A. and T.E. Foster. 2018. Dynamics of gaps created by burning in Florida oak-saw palmetto (*Quercus*, Fagaceae-*Serenoa repens*, Arecaceae) scrub. *Journal of the Torrey Botanical Society* 145(3):250-262.
- 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.
- Schmalzer, P.A. and T.E. Foster. 2020. Variation of Florida scrub vegetation along gradients of soil pH and landscape age on a barrier island complex. *Journal of the Torrey Botanical Society* 147(2): 140-155.

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.
- Schmalzer, P.A. and P. Burke. 1994. Monitoring revegetation and faunal utilization of a wetlands mitigation area, Playalinda Beach, Canaveral National Seashore. Final report to the National Park Service, Contract CX 2001-1-0038. The Bionetics Corporation. Kennedy Space Center, Florida.
- Breining, D.R., B.W. Duncan, V.L. Larson, R. Schaub, and P.A. Schmalzer. 1995. Recommendations for Merritt Island National Wildlife Refuge FY 1996 Prescribed Fire Plan. Dynamac Corporation, Kennedy Space Center, Florida. 29 p.
- 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.
- Breining, D.R., V.L. Larson, R. Schaub, B.W. Duncan, P.A. Schmalzer, D.M. Oddy, R.B. Smith, F. Adrian, and H. Hill, Jr. 1996. A conservation strategy for the Florida Scrub-Jay on John

- 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.
- Schmalzer, P.A., T.E. Foster, and B.W. Duncan. 2002. Revised flora and list of threatened and endangered plants for the John F. Kennedy Space Center Area, Florida. NASA Technical Memorandum NASA/TM-2002-211175. Kennedy Space Center, Florida. 75 p.
- Schmalzer, P.A. and T.E. Foster. 2003. Survey of Brevard County, Florida for three rare plants: *Warea carteri*, *Nolina brittoniana*, and *Polygala lewtonii*. Final report to Brevard County Natural Resources Management Office. Dynamac Corporation, Kennedy Space Center, Florida. 29 p.
- Schmalzer, P.A. and T.E. Foster. 2003. Survey of Brevard County, Florida for *Harrisia fragrans*. Final report to Brevard County Natural Resources Management Office. Dynamac Corporation, Kennedy Space Center, Florida. 29 p.
- Schmalzer, P.A. and T.E. Foster. 2004. Survey of Brevard County, Florida for *Deeringothamnus rugelii* and *Deeringothamnus pulchellus*. Final report to Brevard County Natural Resources Management Office. Dynamac Corporation, Kennedy Space Center, Florida. 31 p.

- Schmalzer, P.A. and T.E. Foster. 2004. Multi-species scrub plant survey in Brevard County, Florida, for occurrence of Federally listed endangered or threatened scrub plant species. Interim report to Brevard County Natural Resources Management Office. Dynamac Corporation, Kennedy Space Center, Florida. 19 p.
- Schmalzer, P.A. and T.E. Foster. 2005. Flora and threatened and endangered plants of Canaveral National Seashore. Final report to National Park Service. Dynamac Corporation, Kennedy Space Center, Florida.
- Schmalzer, P.A. and T.E. Foster. 2005. Flora and threatened and endangered plants of Canaveral National Seashore. Executive summary report to National Park Service. Dynamac Corporation, Kennedy Space Center, Florida.
- Schmalzer, P.A. and T.E. Foster. 2005. Multi-species scrub plant survey in Brevard County, Florida, for occurrence of Federally listed endangered or threatened scrub plant species. Final report to Brevard County Natural Resources Management Office. Dynamac Corporation, Kennedy Space Center, Florida. 79 p.
- Reyier, E. P. Schmalzer, B. Bolt, E. Stolen, D. Scheidt, T. Kozusko, S. Weiss, R. Lowers, and C. Garreau. 2011. A floral and faunal survey of fresh and brackish water habitats of Cape Canaveral Air Force Station, Florida. Final report to U. S. Air Force, 45 CES/CEAN, Patrick Air Force Base, Florida. Innovative Health Applications, Kennedy Space Center, Florida 32899.
- 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.

Abstracts of Presented Papers:

- 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.

- Schmalzer, P.A., C.R. Hinkle, and H.R. DeSelm. 1980. Plant communities of the Obed National Wild and Scenic River, Cumberland and Morgan Counties, Tennessee. Abstract of presented paper in: The ASB Bulletin 27:50.
- Schmalzer, P.A. and H.R. DeSelm. 1980. Plant communities of the Obed Wild and Scenic River - some initial results. Abstract of presented paper in: Sixth Annual Scientific Research Meeting, National Park Service, Southeast Region, Great Smoky Mountains National, Gatlinburg, Tennessee. p. 24
- Schmalzer, P.A. and H.R. DeSelm. 1981. Analysis of the forest vegetation of the Obed Wild and Scenic River, Tennessee. Abstract of presented paper in: Bulletin of the Ecological Society of America 62:168.
- Schmalzer, P.A. and H.R. DeSelm. 1981. Classification and mapping of the vegetation of the Obed Wild and Scenic River. Abstract of presented paper in: Seventh Annual Scientific Research Meeting, National Park Service, Southeast Region, Great Smoky Mountains National Park, Gatlinburg, Tennessee. p. 33
- Schmalzer, P.A. and H.R. DeSelm. 1982. Forest vegetation of the Obed Wild and Scenic River. Abstract of presented paper in: The ASB Bulletin 29:82-83.
- Schmalzer, P.A. and H.R. DeSelm. 1982. Plant communities of the Obed Wild and Scenic River and a map of their distribution. Abstract of presented paper in: Eighth Annual Scientific Research Meeting, National Park Service, Southeast Region, Great Smoky Mountains National Park, Gatlinburg, Tennessee.
- Schmalzer, P.A., T.S. Patrick, and H.R. DeSelm. 1982. Vascular flora, endangered and threatened plants, and critical plant habitats of the Obed Wild and Scenic River. Abstract of presented paper in: Eighth Annual Scientific Research Meeting, National Park Service, Southeast Region, Great Smoky Mountains National Park, Gatlinburg, Tennessee.
- Hinkle, C.R., P.A. Schmalzer, and M.J. Provancha. 1983. Profiles of Merritt Island and Cape Canaveral vegetation. Abstract of presented paper in: Florida Scientist 46 (supplement 1):15.
- Schmalzer, P.A. 1983. An evaluation of binary discriminant analysis. Abstract of presented paper in: Bulletin of the Ecological Society of America 64:56.
- Schmalzer, P.A. and C.R. Hinkle. 1983. Preliminary observations on scrub vegetation at Kennedy Space Center, Merritt Island, Florida. Abstract of presented paper in: Proceedings of the First Florida Scrub Conference cosponsored by The Nature Conservancy and Archbold Biological Station.
- Hinkle, C.R., P.A. Schmalzer, D. Breininger, and W.M. Knott III. 1984. The effects of space shuttle launches from John F. Kennedy Space Center, Florida on barrier island plant communities. Abstract of presented paper in: Bulletin of the Ecological Society of America 65:260.
- Hinkle, C.R., T. Hughes and P.A. Schmalzer. 1985. Effects of fire on soils in coastal strand vegetation of John F. Kennedy Space Center. Poster session presented at the Ecological Society of America meeting June 17-21, 1985.

- Schmalzer, P.A. and C.R. Hinkle. 1985. Effects of fire on composition, biomass, and nutrients in mixed oak scrub on John F. Kennedy Space Center, Florida. Abstract of presented paper in: Bulletin of the Ecological Society of America 66:265.
- Hinkle, C.R., T.L. Hughes, and P.A. Schmalzer. 1986. Evaluation of the effects of acidification on coastal soils. Abstract of poster presentation in: Program of the IV International Congress of Ecology. State University of New York and Syracuse University, Syracuse, New York. p. 179.
- Schmalzer, P.A. and C.R. Hinkle. 1986. Biomass, nutrient concentrations and nutrient standing crops in different age stands of oak scrub vegetation on John F. Kennedy Space Center, Florida. Abstract of presented paper in: The ASB Bulletin 33:81.
- Schmalzer, P.A., M.J. Provancha, and C.R. Hinkle. 1986. Plant community studies and vegetation mapping on Merritt Island, John F. Kennedy Space Center, Florida. Abstract of poster presentation in: Program of the IV International Congress of Ecology. State University of New York and Syracuse University. Syracuse, New York. p. 300-301.
- Hinkle, C.R., M.J. Provancha, P.A. Schmalzer, J.A. Provancha, C.R. Hall, W.M. Knott, and A.M. Koller. 1987. Evaluation of environmental resources at John F. Kennedy Space Center using geographic information data management and remote sensing. Abstract of poster presentation in: Space Life Sciences Symposium. Washington, D.C. p. 3-4.
- Schmalzer, P.A. and C.R. Hinkle. 1987. Effects of fire on nutrient concentrations and standing crops in biomass and soil of oak scrub vegetation. Abstract of presented paper in: Bulletin of the Ecological Society of America 68:409-410.
- Schmalzer, P.A., M.J. Provancha, and C.R. Hinkle. 1987. Vegetation mapping of John F. Kennedy Space Center, Florida. Abstract of presented paper in: The ASB Bulletin 34:100.
- Schmalzer, P.A. and C.R. Hinkle. 1988. Post-fire recovery of oak scrub vegetation on John F. Kennedy Space Center, Florida. Abstract of presented paper in: Supplement to Bulletin of the Ecological Society of America 69(2):287.
- Hinkle, C.R., P.A. Schmalzer, and T.H. Englert. 1989. The effects of fire on coastal soils in Florida. Abstract of presented paper in: Supplement to Bulletin of the Ecological Society of America 70(2):142-143.
- Schmalzer, P.A. and C.R. Hinkle. 1989. Effects of fire on marshes on John F. Kennedy Space Center, Florida. Abstract of presented paper in: Supplement to Bulletin of the Ecological Society of America 70(2):255.
- Schmalzer, P.A. and C.R. Hinkle. 1989. Vegetation and soil changes during two years post-fire in oak scrub vegetation on John F. Kennedy Space Center, Florida. Abstract of presented paper in: The ASB Bulletin 36(2):83-84.
- Levine, J.S., W.R. Cofer, III, R.P. Rhinehart, E.L. Winstead, D.I. Sebach, S. Sebach, C.R. Hinkle, P.A. Schmalzer, and A.M. Koller, Jr. 1990. Enhanced biogenic emission of CH₄, N₂O, and NO following burning. Abstract of presented paper in Program of the Chapman Conference on Global Biomass Burning: Atmospheric, Climatic and Biospheric Implications. March 1990. Williamsburg, Virginia.

- Schmalzer, P.A., C.R. Hinkle, and A.M. Koller, Jr. 1990. Changes in marsh soils for six months after a fire. Abstract of presented paper in Program of the Chapman Conference on Global Biomass Burning: Atmospheric, Climatic and Biospheric Implications. March 1990. Williamsburg, Virginia.
- Schmalzer, P.A., C.R. Hinkle, J.L. Mailander, and A.M. Koller, Jr. 1990. Recovery of *Juncus roemerianus* and *Spartina bakeri* marshes one year after fire. Abstract of presented paper in: The ASB Bulletin 37(2):71.
- Schmalzer, P.A., C.R. Hinkle, J.L. Mailander, and A.M. Koller, Jr. 1990. Dynamics of vegetation and soils in *Juncus roemerianus* and *Spartina bakeri* marshes after fire. Abstract of presented paper in: Supplement to Bulletin of the Ecological Society of America 71(2):317.
- Schmalzer, P.A. and C.R. Hinkle. 1991. Recovery of Florida oak/saw palmetto scrub vegetation through three years after fire. Abstract of presented paper in: The ASB Bulletin 38:102.
- Schmalzer, P.A. and C.R. Hinkle. 1991. Responses of oak scrub vegetation and soils on John F. Kennedy Space Center to intense fire. Abstract of poster presentation in: Proceedings of the 17th Tall Timbers Fire Ecology Conference (1989), p. 417.
- Schmalzer, P.A. and C.R. Hinkle. 1991. Nutrient dynamics in soils and biomass of *Juncus roemerianus* and *Spartina bakeri* marshes for one year after fire. Abstract of presented paper in: Supplement to Bulletin of the Ecological Society of America 72(2):241-242.
- Breining, D.R., P.A. Schmalzer, V.L. Larson, R.B. Smith, M.J. Kehl, and D.M. Oddy. 1992. The spatial distribution of habitat and species of conservation concern in scrub dominated landscapes on Kennedy Space Center and its surroundings. Abstract of presented paper in: Abstracts- History and Ecology of Florida Scrub. Archbold Biological Station, Lake Placid, Florida.
- Hinkle, C.R., P.A. Schmalzer, and T.H. Englert. 1992. Soil nutrient dynamics after fire in coastal strand vegetation occurring on high pH entisols in east central Florida. Abstract of presented paper in: The ASB Bulletin 39(2):94.
- Schmalzer, P.A. and C.R. Hinkle. 1992. Detrended canonical correspondence analysis of oak-saw palmetto scrub vegetation: environmental gradients and time since fire. Abstract of presented paper in: The ASB Bulletin 39(2):83.
- Schmalzer, P.A. and C.R. Hinkle. 1992. Effects of time since fire and environmental gradients on biomass and nutrients in Florida oak-saw palmetto scrub. Abstract of presented paper in: Bulletin of the Ecological Society of America, Supplement 73(2):336-337.
- Schmalzer, P.A. and C.R. Hinkle. 1992. Vegetation recovery after fire along an oak-saw palmetto scrub gradient: five years of data from permanent transects. Abstract of presented paper in: Abstracts- History and Ecology of Florida Scrub. Archbold Biological Station, Lake Placid, Florida.
- Swain, H., C.R. Hinkle, and P.A. Schmalzer. 1992. Protecting biological diversity at the county level - a case study in Brevard County, Florida. Abstract of poster paper in: Bulletin of the Ecological Society of America, Supplement 73(2):361.
- Swain, H., C.R. Hinkle, and P.A. Schmalzer. 1992. Stewardship at the local level: a case study for Brevard County, Florida. Abstract of paper presented at George Wright Society Meeting.

- Schmalzer, P.A. 1993. Characteristics of long unburned stands of oak-saw palmetto scrub. Abstract of presented paper in: Supplement to Bulletin of the Ecological Society of America 74(2):428.
- Schmalzer, P.A. 1993. Composition and structure of long unburned oak-saw palmetto scrub. Abstract of presented paper in: The ASB Bulletin 40(2):145.
- Boyle, S., K. Root, P. Schmalzer, and H. Swain. 1994. Scrub habitat in east central Florida: Assessing habitat quality and its implications for conservation planning. Abstract of presented paper in: Program of the 21st Natural Areas Conference. p. 6.
- Schmalzer, P.A. 1994. Biodiversity of saline and brackish marshes of the Indian River Lagoon: historic and current patterns. Abstract of presented paper in: Biodiversity of the Indian River Lagoon Conference Agenda - Presentations. Harbor Branch Oceanographic Institution, Fort Pierce, Florida. p. 30.
- Schmalzer, P.A. 1994. Fire management strategies related to scrub restoration. Abstract of presented paper in: Program of the 14th Annual Florida Native Plant Society Conference. Also published in: The Palmetto 14(2):13.
- Schmalzer, P.A. 1994. Restoring unburned shrublands: an example using cutting and burning in oak-saw palmetto scrub. Abstract of presented paper in: Supplement to Bulletin of the Ecological Society of America 75(2):206.
- Schmalzer, P.A. 1994. Using mechanical cutting and prescribed burning to restore long-unburned oak-saw palmetto scrub. Abstract of presented paper in: The ASB Bulletin 41(2):125.
- Swain, H.M., D.E. DeFreese, A. Curtin, P. Schmalzer, R. Hinkle, R. Parkinson, K. Friedland, D. Cox, and M. Hames. 1994. The Environmentally Endangered Lands Program in Brevard County, Florida: using biodiversity as a guiding principle for management of a protected area network. Abstract of presented paper in: Program of the 21st Natural Areas Conference. p. 67.
- Boyle, S., P. Schmalzer, S. McCaffree, K. Root, S. Bergen, and H. Swain. 1995. Scrub habitat in east central Florida: assessing habitat quality and its implications for reserve design. Abstract of presented paper in: Program and Abstracts of the 9th Annual Meeting of the Society for Conservation Biology. p. 32.
- Boyle, S.R., P.A. Schmalzer, H. Swain, S. Bergen, K. Root, and S. McCaffree. 1995. How has habitat fragmentation and fire suppression affected scrub habitat for a regional population of Florida Scrub Jays in Brevard County, Florida. Abstract of presented poster in: Supplement to Bulletin of the Ecological Society of America 76(3):305.
- Duncan, B.W., S. Boyle, D.R. Breininger, and P.A. Schmalzer. 1995. Historic landscape change on John F. Kennedy Space Center: understanding the past to better manage the future. Abstract of presented paper in: Supplement to the Bulletin of the Ecological Society of America 76(2):67.
- Schmalzer, P.A. 1995. Reestablishing Florida oak-saw palmetto scrub species in abandoned agricultural land. Abstract of presented paper in: The ASB Bulletin 42(2):160-161.

- Schmalzer, P.A. 1995. Vegetation establishment and development in a restored, nontidal coastal wetland. Abstract of presented paper in: Supplement to the Bulletin of the Ecological Society of America 76(2):239.
- Swain, H., R. Bowman, D. Breininger, P. Schmalzer, K. Root, S. Boyle, S. Bergen, and S. McCaffree. 1995. Out of the pyrogenic frying pan and into the political fire: developing reserve designs for the Florida Scrub Jay. Abstract of presented paper in: Program and Abstracts of the 9th Annual Meeting of the Society for Conservation Biology. p. 79.
- Boyle, S.R., P. Schmalzer, H. Swain, and S. Bergen. 1996. A landscape approach to Florida Scrub Jay habitat use in Brevard County, Florida. Abstract of presented paper in: Supplement to Bulletin of the Ecological Society of America 77(3):49.
- Duncan, B. W., P. A. Schmalzer, and S. Boyle. 1996. Changes in scrub and flatwoods landscapes of Kennedy Space Center (KSC) from 1943 to 1989. Abstract of presented poster in: Supplement to Bulletin of the Ecological Society of America 77(3):122.
- Hinkle, C.R. and P. A. Schmalzer. 1996. The Environmentally Endangered Lands Program in Brevard County, Florida. Abstract of presented paper in: The ASB Bulletin 43(2):107.
- Oddy, D.M., P.A. Schmalzer, E.D. Stolen, V.L. Larson, and B.W. Duncan. 1996. Monitoring effects from Titan, Atlas, and Delta rockets on threatened and endangered species at Cape Canaveral Air Station. Abstract of presented poster in: Supplement to Bulletin of the Ecological Society of America 77(3):331.
- Schmalzer, P.A., S. Boyle, and H. Swain. 1996. Scrub ecosystems of Brevard County, Florida. Abstract of presented paper in: The ASB Bulletin 43(2):157-158.
- Schmalzer, P.A., and S. R. Boyle. 1997. Effects of fire and mechanical treatments on reestablishing openings in Florida oak-saw palmetto scrub. Abstract of presented paper in: Bulletin of the Ecological Society of America 78(4):179.
- Schmalzer, P.A. and S.R. Boyle. 1997. Restoring long-unburned Florida oak-saw palmetto scrub using mechanical cutting and prescribed burning. Abstract of presented paper in: Program of the Society for Restoration Ecology 9th Annual International Conference. p. 108.
- Boyle, S.R., P.A. Schmalzer, and F.W. Adrian. 1998. Methods for restoring long-unburned Florida oak-saw palmetto scrub using mechanical cutting and prescribed burning. Abstract of presented poster in: Program and Abstracts of the 21st Tall Timbers Fire Ecology Conference. p. 33.
- Hinkle, C.R., D. DeFreese, P.A. Schmalzer, D. Cox, R. Parkinson, M. Hames, and A. Birch. 1998. From land acquisition to management, a local conservation program matures. Abstract of presented poster in: The ASB Bulletin 45(2):88.
- Schmalzer, P.A., S.R. Boyle, and H.M. Swain. 1998. A regional characterization of scrub ecosystems in Brevard County, Florida. Abstract of presented poster in: Ecological Society of America 1998 Annual Meeting Abstracts. p. 214.
- Schmalzer, P.A., S.R. Boyle, and C. A. Dunlevy. 1999. Dynamics of openings in Florida oak-saw palmetto scrub created by intense, prolonged burning. Abstract of presented poster in: Ecological Society of America 1999 Annual Meeting Abstracts. p. 304.

- Boyle, S.R., P.A. Schmalzer, and F.W. Adrian. 2000. Methods for restoring long-unburned Florida oak-saw palmetto scrub using mechanical cutting and prescribed burning. Page 190 in W.K. Moser and C.F. Moser (eds.). Fire and forest ecology: innovative silviculture and vegetation management. Tall Timbers Fire Ecology Conference Proceedings, No. 21. Tall Timbers Research Station, Tallahassee, Florida.
- Duncan, B.W., V.L. Larson, and P.A. Schmalzer. 2000. Historic landscape modeling: an evaluation of two methodologies. Abstract of presented paper in: 15th Annual Symposium U.S. Regional Association of the International Association for Landscape Ecology. p. 87.
- Duncan, B. W., P. A. Schmalzer, and C. A. Dunlevy. 2000. A spatial time series: dynamics of openings in oak scrub vegetation. Abstract of presented paper in: Ecological Society of America 2000 Annual Meeting Abstracts. p. 89.
- Hinkle, C.R. P.A. Schmalzer, and D.B. Breininger. 2000. Protection of biodiversity through a local land acquisition and management program. Abstract of presented poster in: Program of the British Ecological Society/Ecological Society of America 2000 Symposium. p. 27.
- Schmalzer, P.A., B. W. Duncan, and C. A. Dunlevy. 2000. Persistent openings in oak-saw palmetto scrub on Kennedy Space Center. Abstract of presented poster in: Program of the British Ecological Society/Ecological Society of America 2000 Symposium. p. 39.
- Schmalzer, P.A., M.A. Hensley, and C.A. Dunlevy. 2000. Soils of Kennedy Space Center, Merritt Island, Florida: baseline chemical and physical characteristics. Abstract of presented poster in: Ecological Society of America 2000 Annual Meeting Abstracts. p. 333-334.
- Datillo-Bain, K.M., C.A. Dunlevy, and P.A. Schmalzer. 2001. Rapid quality assessment for scrub habitat restoration efforts at Cape Canaveral Air Force Station, Florida. Abstract of presented poster in: Program Abstracts of the 28th Annual Natural Areas Association Conference. p. 10-11.
- Duncan, B.W., V.L. Larson, and P.A. Schmalzer. 2001. Land cover alterations and biocomplexity of the Indian River Lagoon. Abstract of presented paper in: Program Abstracts of the 28th Annual Natural Areas Association Conference. p. 13.
- Duncan, B.W. and P.A. Schmalzer. 2001. Modeling past and present fire behavior: Kennedy Space Center, Florida. Abstract submitted for ESRI Conference.
- Duncan, B.W. and P.A. Schmalzer. 2001. Spatial fire behavior modeling: simulating past and present fire spread distributions along the east coast of Florida. Abstract of presented paper in: Program of the Florida Scrub Symposium 2001. p. 4.
- Hinkle, C.R. and P.A. Schmalzer. 2001. Environmentally Endangered Lands Acquisition and Conservation Program in Brevard County, Florida. Abstract of presented poster in: Southeastern Biology 48(2):98.
- Schmalzer, P. A. 2001. Growth of oak-saw palmetto scrub through 10 years after fire. Abstract of presented paper in: Program Abstracts of the 28th Annual Natural Areas Association Conference. p. 36-37.
- Schmalzer, P.A. and F.W. Adrian. 2001. Survival and growth of scrub species planted in a former agricultural site. Abstract of presented paper in: Florida Scientist 64(Suppl. 1):19.

- Schmalzer, P.A. and F.W. Adrian. 2001. Survival and growth of scrub oaks and saw palmetto planted in a former agricultural site. Abstract of presented paper in: Southeastern Biology 48(2):127.
- Schmalzer, P. A. and F. W. Adrian. 2001. Scrub restoration on Kennedy Space Center/Merritt Island National Wildlife Refuge, 1992-2000. Abstract of presented paper in: Program of the Florida Scrub Symposium 2001. p. 9-10.
- Schmalzer, P.A., S.R. Turek, T.E. Foster, C.A. Dunlevy, and F.W. Adrian. 2001. Reestablishing Florida scrub in a former agricultural site: Survival and growth of planted species. Abstract of presented paper in: Ecological Society of America 2001 Annual Meeting Abstracts. p. 200.
- Schmalzer, P.A., T.E. Foster, S.R. Turek and C.A. Dunlevy. 2002. Dynamics of openings in Florida oak-saw palmetto scrub created by intense localized burning. Abstract of presented paper in: Southeastern Biology 49(2):194.
- Schmalzer, P.A., T.E. Foster, and F.W. Adrian. 2002. Restoring long-unburned Florida oak-saw palmetto scrub. Abstract of presented poster in: Ecological Society of America 2002 Annual Meeting Abstracts. p. 421.
- Duncan, B.W. and P.A. Schmalzer. 2003. Fuel fragmentation and spatial fire behavior in a southeastern pyrogenic ecosystem. Abstract of presented paper in: Southeastern Biology 50(2):202.
- Duncan, B.W. and P.A. Schmalzer. 2003. Anthropogenic fuel alteration and changes in spatial fire behavior in a southeastern pyrogenic ecosystem. In: Program of the Second International Wildland Fire Ecology and Fire Management Congress, American Meteorological Society. p. 103.
- Foster, T. E. and P. A. Schmalzer. 2003. The effect of season of fire on the recovery of Florida scrub. Abstract of presented paper in: Ecological Society of America 2003 Annual Meeting Abstracts. p. 111.
- Foster, T.E. and P.A. Schmalzer. 2003. The effect of season of fire on the recovery of Florida scrub. Abstract of presented paper in: Program of the Second International Wildland Fire Ecology and Fire Management Congress, American Meteorological Society. p. 74.
- Schmalzer, P.A. and T.E. Foster. 2003. Characteristics of long-unburned scrub on the Merritt Island/Cape Canaveral barrier island complex before restoration. Abstract of presented paper in: Ecological Society of America 2003 Annual Meeting Abstracts. p. 299.
- Schmalzer, P.A. T. E. Foster, and F.W. Adrian. 2003. Responses of long-unburned scrub on the Merritt Island/Cape Canaveral barrier island complex to cutting and burning. Abstract of presented paper in: Program of the Second International Wildland Fire Ecology and Fire Management Congress, American Meteorological Society. p. 63.
- Schmalzer, P.A., T.E. Foster, and B.W. Duncan. 2003. Rare Plants of Kennedy Space Center, Merritt Island National Wildlife Refuge, Cape Canaveral Air Force Station, and Canaveral National Seashore. Abstract of presented paper in: Florida Scientist 66 (Supplement 1): 50.
- Hinkle, C.R. and P.A. Schmalzer. 2004. Environmentally endangered lands acquisition and conservation program in Brevard County, Florida. Abstract of presented poster in: Ecological Society of America 2004 Annual Meeting Abstracts. p. 221-222.

- Schmalzer, P.A., and T.E. Foster. 2004. Rare plants of Canaveral National Seashore. Abstract of presented paper in: Florida Scientist 67 (Supplement 1): 48-49.
- Schmalzer, P.A., and T.E. Foster. 2004. Flora and rare plants of Canaveral National Seashore. Abstract of presented paper in: Florida Native Plant Society 24th Annual Conference Program, Lake Buena Vista, Florida. p. 5.
- Schmalzer, P.A. and T.E. Foster. 2004. Rare plant diversity and conservation at the local scale: An example from central Florida. Abstract of presented poster in: Ecological Society of America 2004 Annual Meeting Abstracts. p. 454.
- Foster, T.E. and P.A. Schmalzer. 2005. Preliminary characterization of habitat for rare scrub plants in Brevard County, Florida. Abstract of presented poster in: Ecological Society of America 2005 Annual Meeting Abstracts. p. 199.
- Foster, T.E. and P.A. Schmalzer. 2006. The importance of county-acquired lands for the persistence of rare scrub plants in Brevard County, Florida. Abstract of presented paper in: Florida Scientist 69 (Supplement 1): 70-71.
- Schmalzer, P.A. and T.E. Foster. 2007. Responses of Florida oak scrub vegetation to multiple cycles of cutting and burning. Abstract of presented poster. Ecological Society of America/Society for Ecological Restoration International Joint Meeting. Published on CD.
- Foster, T.E., G.A. Fox, and P.A. Schmalzer. 2008. Relationships between height growth and climatic variables for three Florida scrub oaks. Abstract of presented paper. Ecological Society of America Annual Meeting. Published on CD.
- Hinkle, C.R. and P.A. Schmalzer. 2008. Acquisition and management of environmentally endangered lands to protect biodiversity in Brevard County, Florida. Abstract of presented paper. Southeastern Biology 55(3):249.
- Foster, T.E., P.A. Schmalzer, and G. A. Fox. 2010. Correlation between climate and growth for Florida scrub oaks: A dendroecology study. Poster presented at Ecological Society of America Meeting, August 5, 2010, Pittsburgh, Pennsylvania. Abstract available online at <http://www.esa.org>.
- Schmalzer, P.A. and T.E. Foster. 2010. Responses of long-unburned oak-saw palmetto scrub to repeated cutting or burning. Poster presented at Ecological Society of America Meeting, August 5, 2010, Pittsburgh, Pennsylvania. Abstract available online at <http://www.esa.org>.
- Foster, T.E., P.A. Schmalzer, and G.A. Fox. 2011. Site differences in growth response of *Quercus myrtifolia* to climate. Abstract of presented paper. Ecological Society of America Annual Meeting. August 2011, Austin, Texas. Abstract available online at <http://www.esa.org>.
- Foster, T., P.A. Schmalzer, and G.A. Fox. 2013. Climate-growth relationships for slash pine and two dominant oaks in Florida scrub. Abstract of presented paper in Program of the Florida Native Plant Society 33rd Annual Conference. P. 16.
- Schmalzer, P.A. and T.E. Foster. 2016. Development of scrub vegetation in a former agricultural site through 23 years after planting. Paper presented at Ecological Society of America Meeting, August 9, 2016, Ft. Lauderdale, Florida. Abstract available online at <http://www.esa.org>.
- Schmalzer, P.A. and T.E. Foster. 2019. Variation of Florida scrub vegetation along gradients of soil pH and landscape age on a barrier island complex. Paper presented at Ecological

Society of America Meeting, August 15, 2019, Louisville, Kentucky. Abstract available online at <http://www.esa.org>.

Schmalzer, P.A. and T.E. Foster. 2020. Responses of Florida scrub vegetation to water additions from a groundwater treatment project. Paper presented at Ecological Society of America Virtual Meeting, August 3-6, 2020. Abstract available online at <http://www.esa.org>.