

JOHN S. JACOB

Director, Texas Coastal Watershed Program
Texas Agrilife Extension Service and Texas Sea Grant
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PROFESSIONAL INTERESTS

Watershed Management, Sustainable Urban Development, Wetlands, Runoff Pollution, Natural Resource Mapping and Assessment, Soil Science

EMPLOYMENT AND CONSULTING RECORD

- 1997-prsnt Asst. Prof., Assoc. Prof., and Professor (2010) and Extension Environmental Quality and Coastal Community Development Specialist, Texas A&M Sea Grant and Texas Agrilife Extension Service.
- Manages the Texas Coastal Watershed Program. Provides direction and leadership. Supervises staff members. Develops position descriptions and performs annual reviews. Responsible for all products and activities associated with the Program. Actively seeks external funding.
- Develops innovative extension programs for coastal communities in Texas. Establishes working relationships with end users of university information, including other universities; state, regional, and local government entities; non-government organizations, citizen groups, professional organizations, etc. Develops demonstration projects accessible to a broad cross section of users. Develops authoritative (reviewed) publications, including brochures, fact sheets, web sites, etc. Develops national, regional, and local symposia, workshops, etc., addressing issues of critical concern. Develops and delivers formal and informal presentations to end users. Provides direct consultation on a limited basis to selected groups and individuals.
- Engages other extension specialists and research faculty to address and research issues of concern to Texas coastal community residents.
- 1996 Senior Environmental Scientist, FUGRO International, Inc. Houston, Texas.
- 1995 Research Fellow, Environmental Institute of Houston, University of Houston-Clear Lake.
- 1994-1995 Assistant Training Specialist, Texas Engineering Extension Service.
- 1987-1994 Research Associate, Texas A&M University. Supervisor, Soil Characterization Laboratory.
- 1990-prsnt Independent Consultant. Wetlands, soil resources, geoarchaeology.
- 1983-1987 Soil Scientist, USDA-Soil Conservation Service.

EDUCATION

- 1992 **Ph.D.** Pedology, Texas A&M University.
- 1984 **M.S.** Soil Science Texas Tech University.
- 1981 **B.S.** Soil Science, Texas Tech University.

PROFESSIONAL LICENSES AND AFFILIATIONS

Professional Geoscientist, State of Texas License No. 1423; Professional Wetland Scientist, No. 176, Society of Wetland Scientists. Member: Society of Wetland Scientists, American Planning Association, American Water Resources Association, Congress for the New Urbanism, Urban Land Institute.

SELECTED GRANT HISTORY

(career: \$4.1 million)

- 2010 \$275,00. Texas Commission on Environmental Quality. **Highland Bayou Watershed Characterization.**
- 2009 \$14,500. Houston-Galveston Area Council (Federal Highway Administration Project). **Eco-Logical Habitat Map.** Aerial photo mapping of all significant habitat for 8 county region centered on Houston.
- 2008 \$300,000. Texas Commission on Environmental Quality. **Dickinson Bayou Watershed Nonpoint Source Strategies.**
- 2008 \$75,000. Houston Endowment. **Watersmart Landscaping.**
- 2007 \$277,500. Galveston Bay Estuary Program. **Dickinson Bayou Watershed Protection Plan Development and Implementation.**
- 2007 \$24,000. USEPA. **Coastal Armoring & Sea Level Rise Response Study -Texas Gulf Coast, Phase 2.**
- 2006 \$45,000. Texas General Land Office. **Coastal CHARM (Community Health and Resource Management): Rockport/Aransas County Planning Charrettes.**
- 2006 \$15,000. USEPA/NOAA. **Smart Growth Implementation Grant: Houston Midtown Transit Oriented Development.**
- 2002 \$80,000. Texas General Land Office. **"No La Riegues" water conservation campaign in Spanish.**

TRAINING ACTIVITIES

Web-based Soil and Site Evaluation 8-hour CEU Course. Certified by the Texas Commission on Environmental Quality for the On-Site Sewage Facility industry.

40-hour Wetland Delineation Class. Taught yearly (through 2008). Soils, hydrology, geomorphology.

Lectures and advanced training on wetlands and soils to Master Naturalists and Master Gardeners.

SELECTED RECENT PUBLICATIONS

Dean, D.D., B.P. Wilcox, J.S. Jacob, A. Sipocz. In review. *Evidence of surface connectivity for Texas Gulf Coast depressional wetlands.* Wetlands.

Jacob, J. S., and T. Pacillo. *In Press. Smart Growth and Coastal Hazards.* Zoning Practice.

- Jacob, J.S. *In press. Walkability, watersheds, and stormwater: The role of density.* Stormwater Magazine.
- Jacob, J.S., and M. Sipocz. 2009. *Stormwater Wetlands for the Texas Gulf Coast: Ecology and Beauty for Improved Runoff Water Quality.* TAMU-SG-09-701.
- Jacob, J.S., and L. Lopez. 2009. *Is Denser Greener? A model for evaluating higher density development as an urban stormwater-quality best management practice.* Journal of the American Water Resources Association. 45(3):687-701. DOI: 10.1111/j.1752-1688.2009.00316.x
- Schuett, M.A., J.S. Jacob, J. Lu, and L. Respass. 2008. *Keeping our charm: Residents, growth, and quality of life issues in a small but growing Texas coastal community.* Journal of Extension. 46, No. 6. December. Article Number 6FEA1.
- Jacob, J.S., and S. Showalter. 2008. *The Resilient Coast: Policy frameworks for adapting non-deltaic Wetlands to climate change and growth in coastal areas of the U.S. Gulf of Mexico.* Texas Sea Grant. TAMU-SG-07-7401R
- Jacob, J.S., and S. Showalter. 2007. *The Resilient Coast: Policy frameworks for adapting The Built Environment to climate change and growth in coastal areas of the U.S. Gulf of Mexico.* Texas Sea Grant. TAMU-SG-07-7401R.
- Jacob, J.S., and D. Crossley. 2005. *Choices for Growth: Quality of Life and the Natural Environment.* TAMU-SG-05-701.
- Moulton, D.S., and J.S. Jacob. 2000. *Texas Coastal Wetlands Guidebook.* Texas Sea Grant. 66p. TAMU-SG-00-605. College Station.

RECENT CONFERENCES ORGANIZED

- Food and Sustainable Prosperity for the Houston region.*** A conference on farming, land use, community food security, and local food. Thursday, September 4, 2008. Rice Lofts. Houston, TX. Cosponsored with Gulf Coast Institute, Urban Harvest, and Houston-Galveston Area Council.
- Density by Design.*** 2004. Co-Conveners: Houston-Galveston Area Council, Gulf Coast Institute of Houston. Exploring the relationship between well-designed dense cities and environment and quality of life in Houston.

RECENT PROFESSIONAL PAPERS PRESENTED

- Wetland transgressions and human misdeeds: Topography, development, and sea level rise on the Gulf Coast.* Restore America's Estuaries national meeting, Galveston, Texas. November 2010.
- Is Denser Greener?* National STORMCON meeting, San Antonio, Texas. August 2010.
- Low Impact Development: A Watershed Perspective.* International Waterkeeper Alliance, La Paz, Baja California Sur, Mexico. June 2010.
- Gulf Coastal Plain Wetlands: How Significant a Nexus?* International Waterkeeper Alliance, La Paz, Baja California Sur, Mexico. June 2010.
- Density is a Stormwater Practice.* 18th annual Congress of New Urbanism. Atlanta, May 2010.

Where are all the Wetlands? Invited presentation. Texas State Society of Range Management annual meeting, Beaumont, Texas. October 9, 2009

Zen and the Art of Habitat Conservation. John Jacob. New Partners for Smart Growth 8th Annual Conference. Albuquerque, New Mexico. January, 2009.

The Smart Growth Imperative for Coastal Resilience. John Jacob. New Partners for Smart Growth 8th Annual Conference. Albuquerque, New Mexico. January, 2009.

Texas Coastal Wetlands: The Significant Nexus. Invited paper. Texas Association of Environmental Professionals Environmental Challenges and Innovations Conference: Texas Gulf Coast. February 21, 2008. Houston, Texas.

Is greener denser? A model for evaluating higher density development as an urban stormwater-quality best management practice. John Jacob and Ricardo Lopez. American Planning Association national conference. Las Vegas, NV. April 2008.

La Tormenta Perfecta: Crecimiento Poblacional y el Cambio Climático (The Perfect Storm: Population Growth and Climate Change). Invited paper. International Panel on Climate Change: The Coastal Zone in Crisis in the Gulf of Mexico, the Caribbean, and the Mediterranean. August 30, 2007. Instituto de Ecología. Xalapa, Veracruz, Mexico.

Rapid and Massive Wetland Loss on the Upper Gulf Coast of Texas: Results of a rapid and inexpensive GIS-based assessment. Ricardo Lopez and J.S. Jacob. American Water Resources Association National GIS Specialty Conference. Houston, TX. May 2006.

CONSULTANCIES

I have a long and extensive history as a consultant, since the late 1980s. I have performed hundreds of wetland delineations and assessments, including occasional permit processing. The most prominent wetland delineation work was for Harris County's Greens Bayou wetland mitigation project in northeast Harris County, a 1900-acre project that involved a detailed soil survey as well as complete wetland delineation. I have performed wetland delineations for a variety of engineering and environmental firms all along the Texas coast, but concentrated in the greater Houston region. The Gulf Coast of Texas is one of the more challenging areas in the country for wetland delineations because of the flatness and consequent poorly defined boundary, and because the great age of geomorphic surfaces means that many soil colors may not be indicative of current conditions.

Two recent projects exemplify broader scope of more recent work:

2006-2007. Performed work under contract to the Organization for Economic Cooperation and Development (OECD) on policy frameworks for adaptation to climate change for wetlands and the built environment in the Gulf of Mexico. I presented the work at a climate change adaptation working group meeting at the OECD headquarters in Paris in March, 2007. This work was later reworked into two Sea Grant publications on the Resilient Coast series.

2008. Performed work for the Coastal Habitat Alliance on the nature of wetlands on the Texas

Sand Sheet, as part of their suit against a windmill project. The investigation revealed significant and previously undocumented hydrologic pathways between the Sand Sheet wetlands and the Laguna Madre.