

# Carrie E. Kelly

## Senior Ecologist



### Expertise

Wetland Delineation,  
Evaluation and Permitting  
  
Aquatic Systems Evaluations  
  
Water Quality  
Wildlife Ecology and  
Permitting

### Education

M.S., Ecological Engineering,  
University of Florida, in  
process  
  
B.S., Environmental Science,  
Edinboro University of  
Pennsylvania, 2001

### Certifications

FDEP Stream Condition Index  
and Habitat Assessment  
Certification, Current  
  
SWFWMD Wetland  
Assessment Procedure (WAP)  
Training, 2011-2014  
  
FDEP Groundwater, Surface  
Water and Wastewater  
Sampling Certification, 2004  
  
FDEP Qualified Stormwater  
Management Inspector, 2012  
  
FWC Authorized Gopher  
Tortoise Agent, GTA-10-00001

Carrie Kelly has a depth of experience in wetland delineation, assessment and permitting, aquatic system evaluation, water quality monitoring, and wildlife ecology throughout Florida's ecosystems. She has been trained by the Florida Department of Environmental Protection (FDEP) in ambient water sampling and water quality evaluations, including being certified in Habitat Assessments (HA) and Stream Condition Index (SCI). She has also been trained by the Southwest Florida Water Management District (SWFWMD) in the Wetland Assessment Procedure (WAP) and by the FDEP as a Qualified Stormwater Management Inspector. Other areas of expertise include listed species surveys, permitting, and relocations. She is a Gopher Tortoise Agent as authorized by the Florida Fish and Wildlife Conservation Commission (FWC). Additional skills include Geographic Information Systems (GIS) and Global Positioning Systems (GPS). She has performed GIS mapping and data collection for all types of projects throughout Florida. Her GIS experience includes mapping of wildlife, wetlands, streams, land uses, vegetation, soils, and floodplains.

### WETLAND DELINEATION, EVALUATION AND PERMITTING

#### Project Manager/Lead Ecologist – Wetland Delineation, Evaluation and Permitting, Throughout, Florida

Conducted State (FDEP and WMD's) and Federal (NRCS and USACE) delineation reviews and wetland assessments using Florida's Uniform Mitigation Assessment Methodology (UMAM) or Wetland Rapid Assessment Procedure (WRAP). Developed, prepared and submitted application materials to Federal, State and Local regulatory agencies. Worked with large teams including the client, engineers, scientists and attorneys and participated in agency negotiations.

#### Lead Ecologist – Sub-aqueous Utility Projects, Various Counties, FL

Conducted wetland delineations and assessments for several proposed sub-aqueous crossings for utility pipelines. Prepared and submitted application materials to Federal, State and Local regulatory agencies.

#### Project Manager/Project Ecologist – Mitigation Planning and Implementation, Environmental Services, Throughout Florida

Performed wetland jurisdictional delineations and permitting. Permitting included preparation of wetland assessments using UMAM or WRAP. Also included detailed alternatives analysis and negotiations on suitable mitigation plans. Also prepared plans and negotiated mitigation conditions, including design of protective buffer zones, hydrologic barrier design, and site design alternatives. Mitigation plans included purchase of mitigation credits from an approved mitigation bank as well as design of an on-site mitigation plan, which included planting plan, monitoring plan, and protection plan of the natural resource.

### AQUATIC SYSTEMS EVALUATIONS

#### Project Manager/Lead and Project Ecologist – Mitigation Monitoring, Throughout Florida

Monitored several mitigation areas throughout Florida after permits were issued. Both qualitative and quantitative methods were used. Conducted negotiations with the regulatory agencies to facilitate release from monitoring upon achievement of success criteria.

#### Project Ecologist – Seagrass and Benthic Habitat Surveys, Franklin County, Florida

Conducted formal seagrass survey per FWC Recommended Survey Protocols for Estuarine and Marine Submerged Aquatic Vegetation (SAV) for pre and post construction activities. Tasks included mapping and photographing presence of hard bottom benthic communities and presence of seagrass along unconsolidated sandy ocean bottom. Surveys including submerged aquatic vegetation (SAV) mapping, species identification, and shoot counts. Appropriate cover class utilizing the Braun Blanquet method are assigned and aerial coverage is determined.

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**Project Ecologist – Stream Evaluations, Pasco County, Florida**

Conducted evaluations of several stream monitoring sites associated with the Pasco County National Pollutant Discharge Elimination System (NPDES) MS4 Permit. This evaluation consisted of biological assessment methods and water quality data collection. Duties included stream habitat assessment, benthic macroinvertebrate sampling, and water quality measurements using YSI data sonde as part of the SCI biological assessment method.

**Lead/Project Ecologist – Environmental Management Plan Implementation, Hardee County, Florida**

Implemented the Environmental Management Plan (EMP) to satisfy several conditions of a Water Use Permit (WUP) for a client in Central Florida. This plan included the installation and monitoring of permanent monitoring transects to allow for standardized vegetative, soils, and hydrologic monitoring. Wetland evaluation procedures included WAP, the United States Department of Agriculture Stream Visual Assessment Procedure (SVAP), and UMAM. Data collected during this effort was compiled, organized, analyzed, and stored in a Microsoft Access database as part of the environmental monitoring.

**Project Environmental Analyst – Coastal Development, Indian River and St. Lucie Counties, Florida**

Conducted benthic resource (rockbottom and worm reef) surveys and sediment sampling for grain size analysis. Performed daily sea turtles surveys and southeastern beach mice surveys. Obtained and analyzed historic water quality data.

**WATER QUALITY**

**Project Environmental Specialist - Ambient Sampling for the Strategic Monitoring Program, Throughout Southeast Florida**

Environmental Specialist for FDEP's Strategic Monitoring Program for Total Maximum Daily Load (TMDL) Rule Development and Comprehensive Everglades Restoration Plan (CERP) program within freshwater estuarine systems. The data collected were used to determine if a Waterbody ID (WBID) could be removed from the Impaired Waters List or if a TMDL needed to be established. Field data were collected with YSI data sondes, and the samples collected were analyzed for a range of inorganic and organic parameters, including nutrients and metals. Biological assessments were conducted at selected sites and included a standardized habitat assessment as well as collecting benthic macroinvertebrates and periphyton.

**WILDLIFE ECOLOGY**

**Biological Intern – U.S. Fish and Wildlife Service – Monomoy National Wildlife Refuge, Chatham, Massachusetts**

Performed seabird colony productivity surveys, including banding and trapping of adults and chicks. Species included federally endangered roseate tern and piping plover. Identified fish during feeding surveys; monitored American oystercatcher, American willet, and least tern nests; conducted horseshoe crab surveys and egg collection, and performed scat analysis and identification.

**Project Manager/Lead Ecologist – Listed Species Assessments on Various Large Mining, Utility and Residential and Commercial Development Projects, Throughout Florida**

Conducted surveys for state and federally listed wildlife, including the southeastern American kestrel, Florida scrub-jay, crested caracara, Florida sandhill crane, Florida grasshopper sparrow, red cockaded woodpecker, Florida snail kite, Florida burrowing owl, wood stork and other listed wading birds, eastern indigo snake, gopher tortoise, gopher frog, Sherman's fox squirrel, and Florida mouse. Results were used in the preparation of federal, state and local regulatory submittals.

**Project Manager/Lead Ecologist – Gopher Tortoise Surveys and Relocations, Throughout Florida**

Surveyed, excavated and relocated gopher tortoises and gopher tortoise burrow commensals to on-site and off-site recipient sites as an FWC Authorized Gopher Tortoise Agent.

**Project Manager – Bald Eagle, Osprey and Other Migratory Bird Nest Monitoring, Throughout Florida**

Perform monitoring of nests on cell towers and transmission lines to determine nest status. Estimate chicklet age and fledging dates via ground survey and microdrone surveys. Provide a summary of the regulations concerning work near active nests.

**Project Manager – Migratory Bird Nest Removal Permitting, Throughout Florida**

Developed a migratory bird nest management plan for migratory bird nesting on artificial structures owned by several utility companies. Obtained a State-wide Blanket Migratory Nest Removal Permit from the FWC for each utility company. Collect and submit required reporting to FWC.

**PEER-REVIEWED, PUBLISHED PAPERS**

Greg Graves, Mark Thompson, Gitta Schmitt, Dana Fike, Carrie Kelly, and Jillian Tyrell. 2005. Using Macroinvertebrates to Document the Effects of a Storm-water Induced Nutrient Gradient on a Subtropical Estuary. *Estuarine Indicators*. CRC Press. Boca Raton, FL. pp 333-349.