



ELDON CARL (Don) BLANCHER, II., Ph.D., BCES

CEO & Chief Scientist

SUSTAINABLE ECOSYSTEM RESTORATION, LLC

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Executive Director

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EDUCATION

B.A. Biology – University of New Orleans, Louisiana, 1972

M.S. Zoology and Physiology – Louisiana State University, 1974

Ph.D. Environmental Engineering Science – University of Florida, 1979

Post Doctoral Fellowship, University of Florida, 1979

FIELDS OF SPECIALIZATION

- Ecosystem Analysis, Assessment, Modeling, Planning and Restoration
- Plankton/Wetland/Seagrass/Sediment Systems
- Aquatic Toxicology – Impacts to Aquatic and Marine Systems
- Systems Ecology - Marine and Aquatic Systems
- Scientific Data Management
- Water Quality & Ecosystem Modeling
- Statistics and Scientific Visualization
- Numerical Taxonomy
- Bioinformatics
- Expert Witness

CERTIFICATIONS

Board Certified Environmental Scientist- American Academy of Environmental Engineers (2012)

Hazardous Materials Certification (40 hour + 8 hour refreshers)

Lead Hazards Risk Assessor (Inactive)



WORK EXPERIENCE SUMMARY

Dr. Blancher founded Sustainable Ecosystem Restoration, LLC in 2009, and brings with him extensive experience in assessment, analysis and planning of restoration projects. He is responsible for corporate performance for government and industrial clients; with emphasis on the north central gulf coast southeastern United States (Alabama; Florida; Mississippi; Louisiana) but with extensive national and international experience. Dr. Blancher is a senior consultant performing general project management, restoration planning and implementation, ecological assessment and modeling; EMERGENCY analysis; surface water quality modeling (aquatic & marine), particularly nutrients using AQUATOX; expert witness; benthic macroinvertebrate assessment and analysis (aquatic & marine) ; wetland & SAV assessment and analysis; Clean Water Act permitting, data interpretation and reporting.

other work experience includes:

Director of Southeastern Operations, Toxicological and Environmental Associates, Inc. (2005-2009).

University of South Alabama (2004 – present) Adjunct Associate Professor, Environmental Toxicology Program. Graduate Faculty Member.

Strand Associates, Inc. – TAI Division (2000 – 2005) Director of Operations, Mobile, AL. Toxicology laboratory director 2000-to-2003.

TAI Environmental Science, Inc. (1986 – 2000) President; Toxicology laboratory director 1986-to-2000.

Taxonomic Associates, Inc. (1977 – 1986) President

University of South Alabama (1988 – 1990; 1997) Adjunct Assistant Professor, Civil Engineering

University of South Alabama (1983 – 1984) Assistant Professor, Department of Computer Sciences, Coordinator, Interactive Computing Laboratory, College of Medicine

University of Alabama, Marine Sciences Program (1979 – 1983) Research Associate (Dauphin Island Sea Lab), Assistant Professor, Biology Department



PATENTS

Jones, B.G., R.E. Greene and E. C. Blancher II, 1990. Artificial Reef Module.
US Patent # 4913094

Jones, B.G., R.E. Greene and E. C. Blancher II, 1992. Artificial Reef Module.
US Patent # 5113792

Jones, B.G., R.E. Greene and E. C. Blancher II, 1993. Artificial Reef Module.
EP Patent # EP19920925008 – WIPO Publication Number WO/1993/003229

HONORS AND AWARDS

2000. Alabama Water Environment Association. Laboratory Analyst Award.

Water Environment Federation. Committee Service Award. Marine Water
Quality Committee - Committee Chairman. 1993-1996

Water Environment Federation. Committee Service Award. Ecology and
Aquatic Resources Committee Chairman. 2005-2009

PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS

Water Environment Federation:

Ecology and Water Resources Committee, chair 2005 -2009

Co-Chair – 2007 and 2009 TMDL Specialty Conferences

Marine Water Quality Committee, Chairman, 1993-1996

Member, Ecology Committee, Vice-Chair 2003-2005

Member, Watershed Committee

Member, TMDL/Pollution Trading Task Force

Member, Program Committee 1991-96; 1998 - present

Member, Surface water & Ecology Symposia, Program Committee

Alabama's Water Environment Association

Florida's Water Environment Association

Louisiana's Water Environment Association

Society of Environmental Toxicology and Chemistry

Sediment Quality Work Group; Life-Cycle Assessment Workgroup

International Society for the Advancement of Emergency Research

Founding Member

American Chemical Society- Environmental Division

Partners for Environmental Progress 2007-present,



Board Member

<http://www.pepmobile.org/>

Save the Earth Foundation,

Board Member

<http://www.restoretheearth.org/>

Mobile Bay National Estuary Program, Sciences Advisory Committee Member

National Association of Environmental Professionals (inactive)

National Lead Abatement Council (inactive)

National Society of Professional Engineers (Inactive)

INVITED PAPERS

Hird, J. and Blancher E.C. Challenges of Socio-economic research in Watersheds.
The 7th Randall L. Gibson Tulane University Conference on the Mississippi River. 18 November 2004 New Orleans, LA.

PUBLICATIONS AND REPORTS

Blancher, E.C. 2009. Restoration Recommendation for Bayou Trepagnier. Report to the Louisiana Department of Environmental Quality. Prepared for the Lake Pontchartrain Basin Foundation and the Coalition to Restore Coastal Louisiana. 32 pp.

Hunter, A., R. C. Brassieur, B. Vivas and E.C. Blancher. 2009. "Valuing the Subsistence Use of Goods and Services in Louisiana Coastal Communities: Using Emergy to Analyze Non-Market Activities." In: *Emergy Synthesis 5: Theory and Applications of the Emergy Methodology*, (Ed: M. T. Brown), (2009).

Hunter, A. E., B. Vivas, and E.C. Blancher. 2008. Habitat Evaluation and Assessment Tools (HEAT) Planning Model Certification Report. Prepared For: U.S. Army Corps of Engineers Under Contract No.: W912HQ-04-D-0008.

S. Janga, E. C. Blancher II, and M. Misra, "Emergy Analysis for Correlating Environmental Pollution with Birth Defects", *Environ. Res.*, (submitted, 2008)

Blancher, E.C. and A. Cincovich. 2008. Braden river watershed management plan Surface water resource assessment. Final report. Volume II. Evers reservoir water quality report. Eutrophication Modeling using AQUATOX. Southwest Florida Water Management District. Brooksville, Florida. 59 pp.



- Hunter, A., B. Vivas, E. Blancher and R. El Farhan. 2008. Wetland Value Assessment Model Application in the Sabine-Neches Waterway Channel Improvement Project - Model Assessment Report. Report to USCOE Institute for Water Resources. 76 pp.
- Blancher, E.C. and Y.J. Etheredge. 2007. Emergy Analysis of two watersheds in the Mobile Bay Estuary area, Alabama, USA. *Ecological Questions* 8/2007:87-97.
- W. Thompson, E. C. Blancher II and M. Misra. 2007. "Emergy Analysis and the Eigenvalue Method for Solving Transformities using Microsoft Excel", In: *Emergy Synthesis 4: Theory and Applications of the Emergy Methodology*, (Ed: M. T. Brown), (2007).
- Blancher, E.C., B. F. Droy and A. M. Cincovich. 2007. Expert Environmental Assessment for a Color Additive. FDA Petition for Bismuth Citrate. Report to Combe, Inc. White Plains, NY. 41 pp.
- Blancher, E.C. and A. Hunter. 2006. Expert Assessment of Impacts of Total Recoverable Copper Variance for the Escambia River, Florida. Report to Solutia, Inc. Pensacola, Florida. NPDES Permit # FL 0002488.
- Blancher, E.C. and Etheredge, Y. J. 2006. Emergy Analysis of Two Watersheds in the Mobile Bay Estuary Area, Alabama USA. In: Brown & Bardi, *Proceedings of the Fourth Biennial Conference on Emergy Analysis Research Conference*. January 24, 2006, Gainesville Florida.
- S. Janga, E. C. Blancher II, and M. Misra, "Emergy and Transformity Matrix Analysis for Correlating Environmental Pollution with Birth Defects", Annual AIChE Meeting, Nov 12 – 17, San Francisco, CA, (2006).
- Blancher, E.C., S. A. Sklenar and B. G. Jones. 2003. Final Report on Stream Reach Characterization for Banklick Creek, Kentucky. Report to Kentucky Sanitation District 1, Covington Kentucky.
- Park, R. A., E. C. Blancher, S. A. Sklenar, and J. L. Wood. 2002. Modeling the Effects of Multiple Stressors on a Use-Impaired River. *in* Society of Environmental Toxicology and Chemistry, Salt Lake City.
- Blancher, E.C., S. Sklenar, R. Park and J.L. Wood. 2002. Determining the Linkages for a Nutrient TMDL in a Stream Listed as Use-Impaired for Endangered Species. National Total Maximum Daily Load Conference. Proceeding of Water Environment Federation Conference held in Phoenix, Arizona November 2002.



- Blancher, E.C., S. Sklenar and J. L. Wood. 1999. Nutrient Utilization During Low-flow Conditions along the Cahaba River Alabama. Proceedings of WEFTEC, October 1999. New Orleans, Louisiana.
- Blancher, E. C., W. Ondler, J. Gnecco and C. Pollman. 1998. Trading Nitrogen Loading in Tampa Bay. Maintaining the Nitrogen Loading Goals of the Tampa Bay National Estuary Program. Accepted: Proceeding of Watershed 98. Watershed Management: Moving from Theory to Implementation. May 3-6, 1998. Denver, Colorado.
- Blancher, E. C. 1996. Wetlands Determination at Louisiana National Guard, Camp Villere, Slidell, Louisiana. April 1996. Report and Maps prepared for Louisiana National Guard, New Orleans.
- Jones, B.G., E.C. Blancher and R. E. Greene. 1995. Engineered Artificial Reef System Enhances Marine Biodiversity and Species Populations off Florida's Lee County Coast. Proc. Water Environment Federation Technical Conference. October 1995. Miami Beach Florida.
- Blancher E. C. and W. F. Geers. 1994. Historic Lake Changes for Banks Lake, Georgia. Prepared for U.S. Fish and Wildlife Service. Atlanta, Georgia. 153 pp.
- Blancher, E.C. II, Jones, B.G., Greene, R.E., 1994. Reef structure and reef function: engineering and materials considerations for artificial reef design. *Bull. Mar. Sci.* 55 (2-3). 1329.
- Blancher, E. C. and J. R. Stewart. 1993. Tidal Prism and Freshwater Exchange of The Jourdan Tidal Channel, Bay St. Louis, Mississippi. Final Report to First Mississippi Investment Corporation.
- Blancher, E. C. 1993. Benthic Invertebrate Community Analyses Along the Central Coast of the Gulf of Mexico. Proceedings of a Conference on Marine Water Quality Monitoring. Water Environment Federation. October 21, 1993. Anaheim, California.
- Blancher, E. C., B. G. Jones and R. E. Greene. 1991. Reef Structure and Reef Function: Engineering and Material Considerations for Artificial Reef Design. Proceedings of Fifth International Conference on Artificial Habitats. Long Beach, California. 3-7 November 1991. Bull. of Mar. Science. (abstract).
- Blancher, E. C. and J. R. Stewart. 1991. Interim Nutrient Loading Budgets for the Tampa Bay System. Report to Foth and Van Dyke Engineers. Green Bay



- Wisconsin, prime contractors to Southwest Florida Water Management District.
- Blancher, E. C. and J. R. Stewart. 1991. Nitrogen and Phosphorus Limitation of the Tampa Bay, Florida System. Report to Foth and Van Dyke Engineers. Green Bay Wisconsin, prime contractors to Southwest Florida Water Management District.
- Blancher, E. C. and R. Austin. 1988. (principal authors). Monitoring Environmental Impacts Associated with Open-Water Thin Layer Disposal at Fowl River, Alabama. Final Report, Contract DACW01-86-C-0099. U.S. Army Corps of Engineers, Mobile District.
- Blancher, E. C. and R. Austin. 1988. (principal authors). Monitoring Environmental Impacts Associated with Open-Water Thin Layer Disposal of New Work Dredged Material at Gulfport Harbor, Mississippi. Final Report, Contract DACW01-87-C-010. U.S. Army Corps of Engineers, Mobile District.
- Blancher, E. C. and K. Shaw. 1988. (principal authors). Analysis of Municipal and Industrial Effluent Discharges into the Streams of the Tombigbee-Black Warrior Basins. Final Report, Contract DACW01-87-C-0144 to TAI Environmental Sciences Inc.. U.S. Army Corps of Engineers, Mobile District.
- Stout, J.D., E.C. Blancher and M. Dardeau. 1986. Utilization of a Saltwater Marsh Ecosystem for the Management of Seafood Processing Wastewaters. 197 pp. EPA 904-9-86 142
- Blancher, E. C. 1985. Utilization of a Natural Saltmarsh as an Efficient, Low Cost Management System for Screened Seafood Wastewaters: Engineering considerations. Final Report to the Marine Environmental Sciences Consortium, EPA Contract.
- Blancher, E. C. 1984. Zooplankton Trophic State Relationships in Some North and Central Florida Lakes. *Hydrobiologia* 109:251-263.
- Blancher, E. C. 1983. An Information Management System for the Mississippi-Alabama Coastal Zone: Design and Implementation. *Proceedings of the ASCE Coastal Zone 83 Conference*. June 1983, San Diego, California.
- Blancher, E. C. 1982. Application of Existing Data Management Systems to compute and document Various Data Elements for the Mississippi Sound and Adjacent Areas Study. Final Report to U.S. Army Corps of Engineers, Mobile District. Contract DACQ-82-M-9911.



- Blancher, E. C. 1982. Establishing a Biological Benchmark for Mobile Bay: Rationale Methods and Progress. Final Report to the Alabama Coastal Area Board.
- Blancher, E. C. and C. G. Buglewicz. 1982. Large Scale Operations Management Test of use of the white Amur for Control of Aquatic Plants; Report 1, Baseline Studies; Vol. VII Summary of Baseline Studies and Data. U.S. Army Engineer Waterways Experiment Station. Tech. Report A-78-2 Vol. VII.
- Blancher E. C. 1982. A Description of the Marine Environmental Sciences Consortium Data Management System. *Dauphin Island Sea Lab Technical Report 82-002*.
- Blancher, E. C. 1981. Data Management Systems for the Theodore Channel Project. Report to U.S. Army Corps of Engineers, Mobile District.
- Blancher, E. C. 1980. Data Management Systems for the Large Scale Operations Management Test at Lake Conway. Final Report. U.S. Corps of Engineers Waterways Experiment Station. Miscellaneous Paper.
- Blancher, E. C. 1980. Impact of Stormwater Runoff on a Florida Lake Ecosystem: Effects on Water Quality and Biota. U.S. EPA Conference Proceedings. Municipal Environmental Research Laboratory, Cincinnati EPA 600/9-80- 056.
- Blancher, E. C. and C. R. Fellows. 1980. Nitrogen and Phosphorus Dynamics of the Lake Conway Ecosystem: Loading Budgets and a Dynamic Hydrologic-Phosphorus Model. Final Report to U.S. Army Corps of Engineers Waterways Experiment Station.
- Brezonik, P. L., E. C. Blancher and V. B. Myers. 1979. Factors Affecting Primary Productivity in Lake Okeechobee, Florida. Final Report to the Florida Sugar Cane League. Department of Environmental Engineering, Univ. of Florida, Gainesville, Florida 07-70-01.
- Conley, R. A., E. C. Blancher and F. Kooijman. 1978. Biological Baseline Studies of the Lake Conway, Florida, System. Second Annual Report to the Waterways Experimental Station. U.S. Army Corps of Engineers. Tech. Report A-78-2 Vol. III.
- Blancher, E. C. and C. R. Fellows. 1978. Nitrogen and Phosphorus Loading Characteristics of the Lake Conway, Florida, Ecosystem. Preliminary Report to the Waterways Experiment Station, U.S. Army Corps of Engineers. Tech. Report A-78-2 Vol. IV.



Fox, J.L., E. C. Blancher and R. A. Conley. 1976. Biological Baseline Studies of the Lake Conway Florida System. Interim Report to Waterways Experiment Station. U. S. Army Corps of Engineers, Vicksburg, MS. Misc. Paper 1-77-33.

Blancher, E. C. 1974. Abundance, Diversity and Distribution of Fishes in a Louisiana Estuary. *ASB_Bulletin* 21(2):209 (Abstract).

STUDENTS MENTORED

Ananda Ranasinghe, MS, Marine Sciences Program, University of Alabama 1984

Anthony Lowery, MS. Marine Sciences Program University of South Alabama 1985

Sravani Janga, MS. Environmental Toxicology Program, University of South Alabama, 2009

SELECTED RELEVANT PROJECT EXPERIENCE

- Atmospheric deposition modeling and impact assessment of nutrients, and other HAP's including mercury and dioxin from a biomass power plant located in Port St, Joe Florida. Florida Administrative hearing – petition withdrawn before hearing. (Hopping Green Sams, Tallahassee. 2010).
- Natural Resource Damage Assessment. Deepwater Horizon Incident. State of Mississippi Department of Environmental Quality. Currently working on documenting and assessing resource damages for the State of Mississippi's Claim. 2010- Present <http://www.mdeqnrda.com/>
- Restore the Earth Foundation Gulf Saver Bags Initiative – Louisiana Wildlife and Fisheries Wildlife Management Area- Pass a Loutre, LA. Planned and obtained necessary Programmatic Coastal Use permit and COE Permit for deployment of vegetation restoration project at end of Pass a Loutre, Mississippi River, Louisiana. This area was impacted by Deepwater Horizon Incident and efforts to restore the area for bird nesting and other habitat enhancements and monitoring the site are ongoing. 2010-present. http://www.restoretheearth.org/News/PR_11-03-21.pdf
http://www.restoretheearth.org/gulf_savers.html
- Expert on Nutrient Issues - CF Industries, Plant City Florida. Gave public testimony, performed analyses (including loading modeling for several



Florida systems) and supplied written comments for USEPA's proposed Numeric Nutrient Criteria rules for the State of Florida. (2009-2010).

- Expert – New Jersey Attorney General's Office; NJ Department of Conservation and Natural Resources. Coastal Wetlands Assessment, Restoration and Natural Resource Damage at Hercules Corporation Site Parlin, N.J. Kanner and Whiteley, LLC. (2009).
- Project Manager-Chief Scientist. Seminole Electric Cooperative- Midulla Facility- Toxicity Permitting Issues – State of Florida. Seminole Electric Cooperative Inc. Tampa Fl. (2008-2009)
- Consulting Expert Scientist - Coordinating Group, Florida Energy Council Environmental Committee - Expert representation for Nutrient Rule Making Process and Biocriteria Rule discussion – State of Florida - Hopping Green and Sams (2009).
- Expert - Cross Bayou, Destrehan Louisiana, Restoration Planning and Contaminant Assessment – Expert Report - Litigation – Smith & Fawer, LLC. 2008-2009
- Expert – Water Quality and Ecology. Progress Energy Corporation's Levy County Nuclear Plant Permit – Site Certification Administrative Hearing. Hopping, Green and Sams. (2008-2009)
- Expert – New Jersey Attorney General's Office; NJ Department of Conservation and Natural Resources. Coastal Wetlands Restoration and Natural Resource Damage at Bayway and Bayonne Refinery. Ongoing litigation, Kanner and Whiteley, LLC. (2006-2011).
- Managing Scientist. Negotiation and preparation of mitigation banking documents including Mitigation Prospectus for two Private Clients, Terrebonne and LaFourche Parishes, Louisiana. 2008-2009.
- Project Scientific Advisor. National Resource Damage Assessment (NRDA) voluntary settlement negotiations for contaminated sediments in Bayou Trepagnier, Louisiana. Representing Coalition to Restore Coastal Louisiana and Lake Pontchartrain Basin Foundation. (2001– present)
- Expert on AQUATOX Modeling application for Nutrients. Tulane Law Clinic-Interveners for State of Louisiana Department of Environmental Quality. Administrative Hearing on El Dorado Pipeline Permit, Arkansas Department of Environmental Quality. (2007)



- Expert to State of Florida. Biological Condition Gradient Workgroup for Florida Systems. (2006).
- Expert- City of Tallahassee. Nutrient Impacts to Submerged Aquatic Vegetation in Florida Springs. Consultant to City of Tallahassee, litigation and permit negotiations. Hopping Green and Sams, Tallahassee. (2006)
- Expert – FLUM Administrative Hearing, Bay County Florida. Wetland and Water Quality impacts from Proposed Marina on Gulf Intercoastal Waterway, Bay County Florida. Dilution modeling for shellfish protection. Hopping Green and Sams, Tallahassee (2006)
- Solutia, Inc. Pensacola Florida. Permit renewal assistance including producing an expert analysis using the Biotic Ligand Model for a permit variance for copper. (2006)
- Testifying Expert - Hopping Green & Sams. Expert witness. St. Joe Corporation, Intervener on Franklin County, Florida, FLUM litigation. Estuarine wetlands (including seagrasses) – nutrient issues, modeling and impacts. (2005)
- Mobile Bay National Estuary Program. EMERGY analysis of two Mobile Bay sub-watersheds. Project resulted in a full EMERGY accounting and development of a Landscape Development Index and spatial model of the Dog River and Fish River sub-watershed which drain into Mobile Bay. (2003-2004)
- Terrebonne Basin Dissolved Oxygen Study – Consulting Scientist 2005. Sampling and analysis of reference areas in Terrebonne Basin for the USEPA under a contract to Arcadis. Consultation to USEPA and LaDEQ (2005).
- University of South Alabama USAID Birth Defects Project- Ukraine. Helped establish the Web-based systems for the USAID BD program. Also provided consultation on environmental issues and recommendation of various software platforms, including collaborative software platform for web-medicine initiative (1996 – Present).
- Mobile Bay National Estuarine Program- WQ CoChair. Preliminary Characterization of Water Quality for the Mobile Bay Natural Estuary Program. Involved extensive review of water quality literature, previous data collected and loading modeling on Mobile Bay. Included preliminary Nutrient budget for Mobile Bay. Mobile Bay National Estuary Program (1997 – 1998, 2002 – 2003).



- Seagrass Survey for Mixing Zone Study, City of Palmetto, Florida. Performed detailed seagrass assessment and impact assessment of wastewater discharge in Terra Ceia Bay (Outstanding Florida Water) for permit renewal. Jones Edmunds & Associates, Gainesville FL. (2001-2002).
- Project Scientist. Stormwater Water Quality issues in Manatee and Sarasota Counties, Florida. AQUATOX modeling of Evers reservoir. With Singhofen Associates for Southwest Florida Water Management District. (2003 – 2008)
- Project Manager. Stormwater, wetlands and various water quality and environmental issues under Task Order Contract with Jones Edmunds & Associates for Sarasota County Florida (2003 – 2005, ongoing)
- Project Manager, Toxicity Identification Evaluation. for ion- imbalance issues with *Mysidopsis bahia* in discharge to St. Johns River. Seminole Electric Corporation. Palatka, Florida. (2001 – 2005)
- Project Consultant for stormwater impact planning and Expert on Nutrient Loading Issues from wetlands/development near Appalachicola Bay, Florida. ARVIDA Corporation and Hopping Greene Sams & Smith, Tallahassee Florida. (2002-2004).
- Project Manager. USEPA Coastal EMAP Macroinvertebrate Identification, Enumeration and Analyses. Coastal Maine to Texas. USEPA Gulf Breeze Laboratory. (2002-2005).
- Project Manager. Habitat Assessment and Biological studies for SRCER Study, Banklick Creek, Kentucky. Sanitation District 1. Covington Kentucky. (2001 – 2003)
- Expert Witness. Represented City of Fairhope, Alabama in effluent - metal-sediment contamination issues in Yardarm Resturant vs Booth Case. Baldwin County Circuit Court. (2000 – 2001)
- Expert. Coordinating Group, Florida Energy Council Environmental Committee and Florida Paper and Pulp Association . Consultation regarding the Florida Impaired Waters Rule (2000 –2001)
- Project Scientist. Kokomo Indiana, Stream Reach Characterization of Biological and Chemical impacts to the Kokomo and Wildcat Creek , City of Kokomo, Indiana. Brownfield grant to establish municipal park areas in



former superfund site. Included Habitat Assessments, Biological Sampling and Sediment Profile Analyses of stream through area potentially impacted by combined sewer overflows and the superfund site (CSO's) and (2000 – 2002)

- Project Scientist. Peru Indiana, Stream Reach Characterization of Biological and Chemical impacts to the Wabash River, Indiana. Habitat Assessment and Rapid Bioassessment Protocol (2000 – 2002)
- Project Manager. Jefferson County, Alabama. Directed Nutrient Utilization Study (1999) and Periphyton-Nutrient relationship Study (2000) for data collection efforts related to TMDL development for the Cahaba River, Alabama. Included preparation of a third-party nutrient target study (for Phosphorus) in support of the State developed TMDL . Included stressor identification for periphyton growth using AQUATOX (1999 – 2004)
- Project Manager. Charlton County/DuPont Collaborative Process (adjacent to Okefenokee Swamp, Georgia) to resolve permitting issues (including mitigation considerations) regarding proposed titanium mine for 39,000 acres. Selected as Independent Technical Entity (ITE) to advise all stakeholders (mining, environmental and other interested parties) on issues surrounding mine development. Developed an independent Technical Advisory Group (TAG) of top-caliber scientists, and prepared white paper on Okefenokee Research and Education Center and Land Trust involved in the no-mining scenario. RESOLVE, Inc. (1998 – 1999)
- Project Manager. Wetlands Determination at Louisiana National Guard, Camps Beauregard and Camp Livingston, Alexandria, Louisiana consisting of over 18,000 acres of land area. (1996)
- Project Manager. Wetlands Determination on 9,000 plus acres of land at Louisiana National Guard, Camp Villere, Slidell Louisiana. (1996)
- Systems Analysis Director. Directed and directly participated in all modeling projects for both the firm and prior entities since 1978 including eutrophication modeling and wasteload allocation studies for numerous watershed/lake and estuarine systems in Florida, Georgia, Alabama, Mississippi and Louisiana. (1978 – present)
- Laboratory Director. Directed all laboratory operations in TAI Toxicology and Taxonomy Laboratory Mobile Alabama (1986 – 2003) with certification in the State of Florida since 1988 and NELAP Certification. Also directed toxicology laboratory operations in St. Rose, Louisiana (1989-1992) and Greenville, South Carolina (1996 – 1999), with certifications in South



Carolina and North Carolina. Approximately 600 bioassay tests annually under various NPDES and OPPTS protocols. Taxonomic analysis of plankton, macrobenthos (including EPA Coastal EMAP samples) and fish samples from Maine to the Florida Keys (Atlantic), Florida to Texas (Gulf Coast), and the Bahamas, Puerto Rico and Venezuela.

- Senior Aquatic Toxicology Project Manager. Senior manager on all toxicology and Toxicity Reduction Evaluations/Toxicity Identification Evaluations (TRE/TIE) for TAI Environmental Sciences Inc. Reviews all large scale work products and directs all staff scientists and project managers. (1986 – 2005).
- Project Manager. Taxonomic Assessment of Several Estuaries in Panhandle Florida. Ecological assessment of receiving waters receiving cooling water discharges from power generation facilities in support of regulatory requirements. Gulf Power Corporation. (1998 – 1999)
- Project Scientist. Workplan development for offsite ecological risk assessment near Anniston Alabama. Remediation project involving PCB contamination of stream and lake bed fate and transport and potential source of aquatic food-chain uptake. Blasland, Bouck & Lee. (1998 – 1999)
- Project Scientist and Environmental Consultant to Birth Defects Project: Developing environmental linkages to birth defects, Ukraine. University of South Alabama and USAID. (1998 – 1999)
- Project Manager. Ecological Survey and Taxonomic Analysis for the Caloosahatchee River-Orange River Florida. Florida Power and Light. (1998)
- Project Scientist. Preliminary Characterization of Water Quality for the Mobile Bay Natural Estuary Program. Involved extensive review of water quality literature and previous data collected on Mobile Bay. Included preliminary Nutrient budget for Mobile Bay. Mobile Bay National Estuary Program. (1998)
- Expert Witness. Biological Impacts from Improperly closed waste oil pits, Barataria Bay, Louisiana. Represented parish government on impact assessment, ecological risk assessment and remediation options including creation of new marsh. Martzell and Bickford, New Orleans. (1998 – 1999)



- Discharge Plume Modeling, Lower Pearl River - Main Stem. Senior scientist on instream waste determination study for a new discharge in the Lower Pearl River, MS. Conducted CORMIX modeling and sensitivity study and oversaw toxicity testing for determining IWC for new discharge J.M. Montgomery. (1997)
- Expert Witness, Sediment Contamination (Lead & PAH). Key witness on Impact on biology and ecology of excessive lead levels in sediments and soils in a Louisiana Bayou system. Testified on fate and transport and toxicity of sediment metals and mobilization and fate of Lead and PAHs in a swamp environment and commented on restoration options. A. Kanner & Associates. (1997)
- Project Manager. Wetlands Determination at Louisiana National Guard, Camps Beauregard and Camp Livingston, Alexandria, Louisiana. A determination and mapping of over 18,000 acres of base areas. (1996 – 1997)
- Project Manager. Wetlands Determination at Louisiana National Guard, Camp Villere, Slidell Louisiana. Wetlands mapping project for over 7,000 acre military base. (1996)
- Expert Witness. Orimulsion Conversion Project, Florida Power and Light, Manatee Plant. Developed comparative Nitrogen loading budgets for determining water quality and biological impacts associated with increase N inputs from Atmospheric deposition to Tampa Bay and to several Outstanding Florida Waters (OFW). Reviewed WASP and other modeling efforts by South West Florida WMD. Also testified about effects of water withdrawals from the Little Manatee River. (1995 – 1996)
- Project Manager. Historic Lake Level Changes for Banks Lake Georgia, Reviewed historical information and designed and implemented basin investigation including sediment and vegetation analysis to determine Historic Lake Levels. U.S. Fish & Wildlife. (1994)
- Project Manager. Former Super Fund Site, Pascagoula MS. Investigated fate of creosote residue in a closed superfund site. Conducted erosion, sedimentation rate and macroinvertebrate studies, and also prepared study using sediment profile techniques to assess creosote migration along the Pascagoula River. CSX Railroad through Geraghty-Miller (1994)
- Project Manager. Tidal Survey of the Jourdan Tidal Channel, Mississippi for determining tidal prism and freshwater flushing. Performed an



extensive diel salinity and hydrographic survey to determine the tidal status of several river areas. (1993)

- Project Manager. Water Effect Ratio Study, and Site specific Analysis, City of Fort Wayne Indiana. Directed extensive site specific analyses for determining the impact of the metals Cadmium, Lead and Zinc to the White River, Indiana. (1992 – 1993)
- Project Manager. Tampa Bay Nutrient Study. Responsible for determining nutrient budgets (nitrogen, phosphorus and Silica) and limiting nutrients for Tampa Bay. Includes data review, nonpoint and point source loading estimates and internal nutrient regeneration. (1990 – 1991)
- Principal Scientist, Project Manager, ICI Americas Inc. Performed Wetlands delineation, Mixing Zone analysis and plume fate modeling for proposed outfall project, Axis, Alabama. Included all aspects of permitting process, including mitigation considerations. (1991 – 1992)
- Project Manager. Toxicity Reduction Evaluation for industrial wastewater system, specialty chemical manufacturer for Tributyl Tin (TBT). Included treatability studies on wastewater, including extensive toxicological testing from two North American facilities, and extensive aquatic toxicity studies to extend fate and transport database for the development of water quality criteria for TBT. Also performed CORMIX modeling studies to determine Instream Waste Concentration and DYNTOX Monte Carlo probabilistic modeling for determining downstream fate and effects of the compound. Market basket study coordinator for the northern Gulf Coast area. (1989 – 1994)
- Project Scientist. Site evaluation, biological community analysis and data collection risk assessment of closed Pan American refinery on Mississippi River, Louisiana. Helped develop portions of RI/FS for remediation options at this Amoco site. Montgomery-Watson Engineers. (1990 – 1991)
- Principal Scientist, Project Manager, ICI Americas Inc. Performed Wetlands delineation, Mixing Zone analysis (including dye studies, UDKHDEN and CORMIX modeling) and downstream plume fate modeling for proposed outfall project, Axis, Alabama. (1991 – 1992)
- Project Manager. Mixing Zone Analysis, Atochem. Responsible for project management, modeling, data collection, data processing and reporting of isopleth data using Rhodamine WT dye to determine outfall mixing zone, concentration. This was combined with further environmental assessments to give a comprehensive mixing zone analysis. (1988 – 1990)



- Principal Scientist. Produced water plume modeling. Responsible for model development, modeling and data analysis in predicting the fate of various constituents in an offshore produced water discharge. Resulted in development of the Ocean Discharge Criteria Document for a large offshore mining client. (1988 – 1991)
- Project Manager. Mixing Zone Analysis. Responsible for project management, modeling, data collection, data processing and reporting of isopleth data using Rhodamine WT dye to determine outfall mixing zone, concentration. This was combined with further environmental assessments to give a comprehensive mixing zone analysis. (1988 – 1990)
- Project Manager. Water Resource Study. Analysis and review of municipal and industrial effluent discharges into the streams of the Tombigbee-Black Warrior River Basins. U.S. COE, Mobile District, Mobile, Alabama. (1987 – 1988)
- Principal Scientist. Diffuser Design Modeling. Responsible for all modeling and sensitivity analysis of diffuser plume models using PLUME, UDKHDEN and CORMIX for several corporate clients in Alabama, Kentucky, Tennessee and Arkansas. Included re-coding of FORTRAN model for inclusion of ambient effects not included in existing model and changes in model geometric representations. (1987 – 1998)
- Project Manager. Environmental Impact Assessment. Responsible for subcontractor negotiations and overall management of extensive study for Monitoring Environmental Impacts Associated with Open-Water Thin-Layer Disposal of New Work Dredged Material at Gulfport Harbor, Mississippi. Study included automated precision bathymetric surveys, extensive biological sampling and analysis (benthic and demersal organisms), sediment profiling and water quality studies. (1986 – 1988)
- Project Manager. Environmental Impact Assessment. Responsible for overall management, budget, scheduling and reporting for Monitoring Environmental Impacts Associated with Thin-Layer Open-Water Disposal of Dredge Material at Fowl River, Alabama. Included comprehensive water quality, and biological sampling of pre-during and postdredging operations. (1986 – 1988)
- Project Manager. Water quality (WQ) survey of Coast Guard Stations, Destin and Pensacola, Florida and Port Isabel, Texas. Performed overall WQ surveys and diurnal oxygen metabolism studies to determine sediment oxygen contribution from these docking facilities. (1985 – 1986)



- University of South Alabama. Southeast Regional Genetic Group (SERGG). Advisor to Department of Medical Genetics in charge of data management and graphical descriptions for establishing a reporting system for Genetics and Birth Defect Screening program. This effort impacted the national approach to assess the status of Birth Defects in several southern states. (1983 –1984).
- Project Manager. Collection and reporting for metal corrosion and bioaccumulation of radioactive boiler plate study on samples placed in near shore shallow-water areas in the Florida Keys. Knolls Atomic, (Navy Contract to DOE). (1984 – 1986)
- Project Manager. Assessment of Stormwater Lake Systems, Kings Bay Naval Base, St. Mary's, Georgia. Determined stormwater nutrient and sediment loadings and modeled various water quality parameters. Jones, Edmunds & Associates. (1985)
- Project Manager. Coastal Land Use Compilation for the Baldwin County, Alabama Coast. Included a sewer and water survey and design of the permit process for county administrators. Baldwin County. (1984)
- Principal Investigator. Compilation of biological and chemical data for Mississippi and Alabama Coastal Area (Mississippi Sound and Adjacent Areas Study), analysis of tidal and water quality parameters including nutrient inputs from major streams and designed a data management system for use by environmental planners at the USCOE Mobile District. (1983 – 1984)
- Project Scientist. Assessment of impacts to aquatic biological systems resulting from the construction of the Tennessee-Tombigbee Waterway. Baseline characterization, data management and analysis (SAS), assessment of impacts to fishery resources. Mississippi and Alabama. (1979 – 1983)
- Consultant to Sea Grant Advisory Service. Biological Advisory Committee for Mobile District COE. (1981 – 1983)
- Project Manager. Assessment of impacts associated with the dredging and operation of the Theodore Ship Channel. Data management, statistical analyses, impact assessment, Mobile, Bay, Alabama. (1979 – 1982)



- Project Scientist Analysis of zooplankton community structure in a series of hydropower reservoirs. Coosa River, Georgia and Alabama. (1980 – 1981)
- Project Scientist. Evaluation of biological strategies for macrophyte control. Ecological modeling, development of a hydrologic-nutrient systems models using FORTRAN and CSMP, data management and analysis using SAS. Included development of nutrient-macrophyte algorithm for CE-QUAL-R2 at USCOE Waterways experiment station. Lake Conway, Florida. (1978 – 1982)
- Project Manager. Comprehensive environmental monitoring and assessment of environmental monitoring and assessment of environmental sensitivity. Broad-based characterization of estuarine water quality, plankton, benthos, sediments, and fishery resources. Biological analysis, data management, evaluation, management recommendations. Mobile Bay-Mississippi Sound.
- Principal Investigator. Development of a plan of study for the utilization of a salt marsh system for the treatment of seafood wastes. Performed Field studies and nutrient modeling of nitrogen transformations in salt marsh and developed ultimate loading rates for wastes. Bayou LaBatre, Alabama. USEPA. (1979 – 1981)
- Quality Control Manager for the taxonomic analysis of biota collected from the St. John's River, Florida. Ebasco Environmental Services. (1980)
- Project Scientist. Characterization of the zooplankton community of Lake Lanier and Lake Seminole, Georgia. COE. Mobile District (1978 – 1979)
- Project Scientist. Environmental Assessment. Evaluation of the impacts of agricultural runoff of Lake Okeechobee, Florida. Included development of nutrient budgets, analysis of wasteload allocations from various land-use types and development of empirical and deterministic models of nutrient utilization in Lake Okechobee. (1978 – 1979)
- Project Scientist. Characterization of the plankton communities of six estuaries in support of area wide 208 water management planning. Southwest Florida. (1977 –1978)
- Project Scientist. Characterization and sensitivity analysis of aquatic communities at a proposed source of power plant cooling water. Lake Rousseau, Florida. (1977)



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- Cruise Scientist. Survey of the fish and epibenthic fauna of Hudson Canyon, North Atlantic Ocean. (1973)
 - Project Scientist. Estuarine Fisheries Survey of Little Lake, St. Tammany Parish, Louisiana. (Masters Thesis- 1972-1974)