Silong Lu, Ph.D., P.E., D.WRE

Dynamic Solutions LLC

Senior Water Resources Engineer

TECHNICAL SPECIALTIES:

Scientific and Technical Peer Review.♦Hydrodynamics, Sediment Transport,Water Quality and Eutrophication Modeling ♦ Hydraulic Modeling with HEC-RAS ♦Watershed Studies and Modelingwith BASINS/HSPF,LSPC and SWMM ♦Ground Water Modeling with MODFLOW, MT3D and SEAWAT♦TMDL ♦Modeling Data Collection and Analysis ♦Coastal Tide and Wave Analysis and Modeling Using SWAN, STWave

EDUCATION and EXPERIENCE:

Ph.D., Environmental Engineering and Science, Clemson University, 1999
M.E., Water Resources, China Inst. of Water Res and Hydropower Res., Beijing, China, 1989
B.E., Hydraulics and Hydropower Engineering, Hohai University, Nanjing, China, 1986
Years of Professional Experience: 29; with Dynamic Solutions, LLC: 7

PROFESSIONAL REGISTRATION and MEMBERSHIPS:

Registered Professional Engineer: Florida #69540, and Georgia #032171
Member, American Society of Civil Engineers
Member, American Water Resources Association
Member, International Association of Hydrological Sciences

PROFESSIONAL BACKGROUND:

Dr. Lu is a registered Professional Engineer and a Diplomat of American Academy of Water Resources Engineers (AAWRE). He has 29 years of diverse research and consulting experience in surface water and coastal hydraulics and hydrodynamics, groundwater hydrology, and watershed hydrology. His expertise includes hydrodynamic, sediment transport, and water quality modeling of lakes, rivers, estuaries, coastal marshes and wetlands; coastal tide and wave analysis and modeling; and groundwater, watershed and hydraulic modeling. He has led a number of3D hydrodynamic, sediment and waterquality modeling studies including the Indian River Lagoonin Florida and numerous 3D hydrodynamic, sediment and water quality modeling in Southeast States, Texas, Oklahoma, and California. He has extensive experience and knowledge of public domain surface water models and groundwater models including BASINS/HSPF, SWMM, EFDC, WASP, HEC-RAS, MODFLOW, MT3D and SEAWAT. He hadconducted hydrologic and hydrodynamic modeling software training including EFDC, HSPF and WASP for SFWMD, FDEP, USACE Jacksonville District and Sacrament District. He is experienced in performing wave modeling using SWAN and STWave. Dr. Lu has published sixteen peer-reviewed papers and has served as a peer reviewer for Water Resources Research, Journal of American Water Resources Association, and Transport in Porous Media.

SELECTED PROJECT EXPERIENCE:

Loxahatchee River and Estuary and Big Bend and Cedar Key Hydrologic Models and Hydrodynamic and Water Quality Models Review and Recommendations for Estuary Waters, Florida Dept. Environmental Protection (FDEP), FL.
Performed technical review and evaluation of hydrologic (LSPC), hydrodynamic (EFDC) and water quality (WASP7) model developed to support TMDLs for Loxahatchee river and estuary and Big Bend and Cedar Key watershed load reductions of sediment and nutrients. Compiled

data from NOAA NODC, USGS, SFWMD, Water Quality Portal and FDEP IWR for inventory of historical data. Prepared technical report with recommendations, model review, and evaluation of model credibility to support TMDL determinations.

Technical Review and Evaluation of Alabama-Coosa-Tallapoosa (ACT) Draft EIS for Water Control Manual Update, Alabama Power Company, Birmingham, AL.
Performed technical review of basin-wide hydrodynamic (HEC-ResSim) and water quality (HEC-5Q) modeling system developed to support simulated water quality assessments of strategies for operational plans for basin reservoirs. Reviewed Draft EIS, technical appendices and updates to Water Control Manual. Compiled station data time series and extracted model results for comparison to data at selected station locations in the Coosa River and Weiss Lake. Prepared technical memorandum documenting findings of peer review.

Technical Review and QA and QC for Various Hydrologic Models, Hydrodynamic and Water Quality Models, Groundwater Models
Routinely conducted technical review and QA and QC for various surface and groundwater models developed internally within DSLLC or our sub-consultants to ensure the best quality products for our various clients.

Engineering QA/QC, FEMA Flood Hazard and Mapping – Northeastern Atlantic Ocean Coasts, FEMA
Performed engineering QA/QC for various engineering analyses and calculations using FEMA's Guidelines and Specifications for Coastal Flood Hazard Analysis and USACE's Coastal Engineering Manual. The engineering QA/QC included peak over threshold (POT) analyses, extreme value distribution analyses, stillwater elevation analyses, wave setup, wave runup, and storm-induced coastal erosion analyses using CHAMP (WHAFIS and RUNUP) and CEDAS (ACES).

Task Manager and Lead Modeler, Indian River Lagoon (IRL) Tributary Total Maximum Daily Load (TMDL) ModelDevelopment, FDEP, Florida.
Dr. Lu served as the lead modeler in developing, calibrating and validating eight (8) hydrology and water quality watershed HSPF models for thirteen (13) tributary waterbodies with impaired dissolved oxygen (DO) and nutrient/Chl-a. The modeling effort included data collection and analysis/ evaluation, selection of proper model domain and resolution, selection of proper boundary conditions and simulation periods, model setup, model calibration and validation, and analysis and interpretation of the model results and recommendations.He supervised and provided technical guidance and mentoring to other three (3) modelers. He reviewed the IRL mainstem and eight (8) tributaries hydrodynamic and water quality EFDC models which incorporated oxygen, nutrients, algae, sediment transport, internally coupled sediment diagenesis modeland the effect of solids, algae and color on light attenuation and provided comments in support of FDEP's TMDL development. Conducted HSPF model training for FDEP's staff.