

Candidates for SAB Geographic Information System Screening Tool Review Panel

September 29, 2005

The EPA Science Advisory Board (SAB) Staff Office announced in a *Federal Register* Notice (Volume 70, Number 183; Pages 55620 – 55621) that it would augment the collective expertise of the SAB's Ecological Processes and Effects Committee (EPEC) to form a panel that will review the Region 6 Geographic Information System Screening Tool (GISST). The *Federal Register* Notice stated that the expertise needed on the GISST Review Panel is similar to the expertise required on SAB panels that previously provided advice on EPA's Critical Ecosystem Assessment Model (CrEAM) and Regional Vulnerability Assessment (ReVA) methods for multi-scale decision-making. The *Federal Register* Notice therefore stated that the SAB Staff Office would select a set of nominees for consideration to serve on the GISST Review Panel from the rosters of SAB panels that reviewed the CrEAM and ReVA methods, and from previously published short lists of candidates for those panels. Background information on the project and details on the nomination process appeared in the cited notice. The notice is available on the SAB Website at www.epa.gov/sab/.

Based on relevant qualifications and interest of the nominees, the SAB Staff Office identified the "Short List" of nominees. Brief biographical sketches of the candidates on the "Short List" are provided below for comment. Biosketches of the SAB EPEC members can be found on the SAB Website at <http://www.epa.gov/sab/memberbios.htm>. We welcome information, analysis or documentation for the Staff Office to consider in evaluating the "Short List" candidates.

The SAB Staff Office Director, in consultation with SAB leadership, as appropriate, makes the final decision about who will serve on the panel in the "Panel Selection" phase of this process. In that phase, the SAB Staff completes its review of information regarding conflict of interest, possible appearance of impartiality, and appropriate balance and breadth of expertise needed to address the charge. Staff reviews all information provided by candidates, along with any information that the public may provide in response to the posting of information about the prospective panel on the SAB Website during the "Short List" phase, and information gathered by SAB Staff independently on the background of each candidate.

Please provide any comments you may have with respect to the "Short List" candidates, no later than October 13, 2005. Please make your comments to the attention of Dr. Thomas Armitage, Designated Federal Officer. Emailing comments (armitage.thomas@epa.gov) is the preferred mode of receipt.

Geographic Information System Screening Tool Review Panel

DeWitt Braud

Mr. DeWitt Braud is Director, Academic Area, Coastal Studies Institute, Louisiana State University. He received a M.A. in Geography from Michigan State University and a B.S. in Geography from Louisiana State University. He has been an instructor, manager, and director in the Department of Geography and Anthropology at Louisiana State University. In addition, Mr. Braud has also held the following positions: Principal, Decision Associates, consulting in the areas of remote sensing, and decision analysis; Research Associate in the Division of Engineering Research at the Remote Sensing and Image Processing Laboratory of Louisiana State University; Supervisor, Senior Instructor and Editor at the National Aeronautics and Space Administration Earth Resources Laboratory, Slidell Computer Complex; Land Use Consultant, Louisiana Office of State Planning, Urban Planner and Environmental Coordinator, Louisiana Commission on Intergovernmental Relations; Research Assistant, Computer Institute for Social Science Research. Mr. Braud's professional experience includes work in: remote sensing (satellite image processing, classification, image analysis, enhancement, image fusion, terrain analysis, land-water interface extraction, and land cover mapping); geographic information systems (spatial analysis, spatial modeling, land suitability analysis, computer mapping, and sensitivity analysis). Mr. Braud's professional experience also includes environmental impact assessment, environmental sensitivity analysis, coastal wetland analysis, and change and detection analysis. He has been involved in the development of an on-line statewide geographic information system of Louisiana. Recent grants and contracts include: National Oceanic and Atmospheric Administration, Cumulative Coastal Stressors – Northern Gulf of Mexico, Co-PI, 2002-2007. Louisiana Oil Spill Coordinator's Office, Mapping and Technical Support Services for the Louisiana Oil-Spill GIS (LOGIS), Co-PI, Minerals Management Service – Coastal Marine Institute, Environmental Sensitivity Index and Land Water Interface Using High-Resolution Satellite Imagery, PI, 2002-2004. Louisiana Oil Spill Coordinator's Office, Mapping and Technical Support Services for the Louisiana Oil-Spill GIS (LOGIS), PI, 2001-2003. Governor's Office of Coastal Activities, Coastal Marsh Monitoring Capability Utilizing Landsat 7 Enhanced Thematic Mapper Satellite Imagery, PI 2000-2001. Louisiana Department of Environmental Quality, Development of IRS-TM Satellite Fusion of Louisiana, PI, 2000-2001. Louisiana Oil Spill Research and Development Program, La. GIS CD Demonstrations, PI, 2000-2001. NASA, World Deltas, A Baseline and Changes, Co-PI, 2000-2002. Louisiana Department of Environmental Quality, Multi-temporal Agricultural Classification from Satellite Imagery for Non-Point Source Pollution Modeling, PI, 1999-2000. Louisiana Oil Spill Research and Development Program, Satellite and GIS Database of Louisiana: A Continuation of Training, Co-PI, 1997-1998., Louisiana Board of Regents Coastal Modeling Grants Program, Predicting Coastal Land Loss at a Scale of Disturbance, Co-PI, 1999. Minerals Management Service, Development of Louisiana GIS Data in Support of the MMS Gulf-wide Information System, Co-PI, 1998-2000. Louisiana Department of Environmental Quality, Identification and Delineation of urban Riparian Zones and Their Influence on Local Environmental Conditions, Co-PI, 1997-1999.

Patrick Comer

Mr. Patrick Comer completed graduate work in Forest and Landscape Ecology at the University of Michigan in 1987. Throughout much of the 1990s, Mr. Comer worked as an ecologist with the Nature Conservancy in the Great Lakes region and throughout the West. He completed extensive field research, inventory, mapping, and consultation on forest, wildlife, and environmental management. He specialized in the development of ecological classifications and methods for ecoregional assessment that have been applied across North America. Mr. Comer is currently Chief Terrestrial Ecologist with NatureServe. He oversees NatureServe's Ecology Department and works on core NatureServe activities, including the development of the new Terrestrial Ecological Systems Classification for the Americas. He maintains involvement with development and implementation of the U.S. National Vegetation Classification and parallel efforts in Canada and Latin America. Mr. Comer is engaged in several U.S. regional-scale mapping and assessment efforts with NASA, the Gap Analysis Program, interagency sagebrush ecosystem projects, U.S. Forest Service regional assessments. Mr. Comer serves on the core science team for development of NatureServe's conservation decision support methods and software.

Carol Johnston

Dr. Carol A. Johnston is Director of the Center for Biocomplexity Studies, and Professor in the Department of Biology and Microbiology at South Dakota State University. Dr. Johnston is author of the book, *Geographic Information Systems in Ecology*, and was co-editor of the book, *GIS and Environmental Modeling: Progress and Research Issues*. Dr. Johnston received a Ph.D. in Soil Science from the University of Wisconsin in 1982; an M.S. in Land Resources from the University of Wisconsin in 1977; an M.S. in Soil Science from the University of Wisconsin in 1977, and a B.S. in Natural Resources from Cornell University in 1974. Dr. Johnston is a Certified Professional Wetland Scientist and a Certified Professional Soil Scientist. Dr. Johnston's professional experience includes positions as: GIS Administrator and Senior Research Associate at the Natural Resources Research Institute in Duluth, MN (1986-2003); Lecturer in Continuing Education and Extension at the University of Minnesota at Duluth from (1991-1992); Research Ecologist at the Environmental Protection Agency (1989-1990); Environmental Consultant at the Oak Ridge National Laboratory in Oak Ridge, TN (1984-1985); and Natural Resource Supervisor and Planning Analyst at the Wisconsin Department of Natural Resources in Madison, WI from (1978-1983). Dr. Johnston served on the Water Science and Technology Board of the National Research Council from 1994-2000 (Vice-chair from 1997-2000), she served on the National Research Council Committee on Watershed Management from 1996-1998, and on the National Research Council Committee on Wetland Characterization from 1993-1995. Dr. Johnston's National Science Foundation activities have included: Director of the Ecosystem Studies Program (2000-2002); Biodiversity Observatory Network Work Group (1999); Workshop on Geographic Information Science and Geospatial Activities (1999); Ecosystems Program Review Panel (1996-1999); Database Activities in the Biological Sciences Review Panel (1994); National Center for Ecological Analysis and Synthesis (1994). Dr. Johnston also served on the U.S. EPA Science Advisory Board's Ecological Processes and Effects Committee (1995-1999), she has been President of the National Society of Wetland Scientists, and has served on the Minnesota Governor's Council on Geographic Information.

Mark Ridgley

Dr. Mark Ridgley is a resource systems analyst and Professor and Chair of the Department of Geography at the University of Hawaii at Manoa. With an academic background in environmental design (B.Env. Dn, NCSU), hydrology, operations research, and geography (M.S. and Ph.D., Penn State), Dr Ridgley focuses on the application of decision science to resource management and human-environment systems in general. A specialist in multicriterion decision modelling, he has over 20 years' experience in providing multicriterion decision analysis and support to a wide range of resource and related societal issues, including water resource management, land-use planning, urban water and sanitation services, forestry, coral reef management, risk assessment, the design of both marine and terrestrial protected areas, equitable burden sharing, and bioethics. With a colleague in oceanography, he pioneered the application of fuzzy rule-based modelling to coral reef ecosystems. At University of Hawaii at Manoa he teaches upper-level undergraduate and graduate courses in optimization modelling, resource management, and risk assessment, and graduate courses or seminars in human-environment systems analysis, multiobjective decision analysis, and concepts and theories in geography.

Amanda Rodewald

Dr. Amanda Rodewald is an Assistant Professor of Wildlife Ecology in the School of Natural Resources at The Ohio State University. She received a B.S. in Wildlife Biology from The University of Montana, an M.S. in Zoology from The University of Arkansas, and a Ph.D. in Ecology from The Pennsylvania State University. Her research interests and expertise include landscape ecology, community ecology, population demography, and urban ecology. Her work is published in diverse outlets ranging from broad-based Ecology and Ecological Applications to the more specialized Journal of Wildlife Management and Forest Science. Dr. Rodewald's current research projects focus on understanding multiscale impacts of landscape heterogeneity (especially resulting from urbanization and silviculture) in maintaining animal communities and populations. This research is funded by the National Science Foundation, U.S. Fish and Wildlife Service, The Nature Conservancy, and Ohio Department of Natural Resources. Dr. Rodewald actively contributes to her profession by serving as: an associate editor for Journal of Wildlife Management, guest associate editors for Society of Conservation Biology and Wildlife Society Bulletin, and reviewer for 12 scientific journals related to ecology and conservation. She regularly interacts with colleagues in agencies on both research and management-related issues. For example, she is frequently consulted by Ohio Division of Forestry, Wayne National Forest, and The Nature Conservancy to discuss potential management impacts on wildlife. She also was an expert reviewer for Wayne National Forest Plan Revision and Species Viability Evaluation Process as well as of biodiversity indicators for sustainable forestry for the National Commission on Science for Sustainable Forestry (NCSSE). Dr. Rodewald also helped to develop the all-bird-conservation plan for Bird Conservation Region 22 (Eastern Tallgrass Prairie). FUNDED GRANTS (OVER \$900,000 SINCE 2000): The role of the landscape matrix in structuring avian communities, 2004-2006, National Science Foundation. Conservation of Cerulean Warblers in the Ohio Hills, 2004-2006, U. S. Fish and Wildlife Service. Terrestrial Wildlife Ecology Lab, 2003-2004, Ohio Department of Natural Resources – Division of Wildlife. Conservation of late-successional birds in managed forest landscapes, 2003-2006, Ohio Department of Natural Resources – Division of Wildlife. Balancing the needs of early and late successional birds on public forestlands 2003-2006, Ohio Department of Natural Resources – Division of Wildlife. Bird conservation in midwestern riparian forests: local and landscape influences on breeding birds, 2003-2004, Ohio Department of Natural Resources – Division of Wildlife. Edge effects in tropical montane forests: impacts on avian communities, 2003, American Association for the Advancement of Science. Minimum area and habitat requirements of scrub-successional birds: does landscape context matter? 2001-2003, Ohio Department of Natural Resources – Division of Wildlife. Assessment of midwestern golf courses as breeding habitat for a declining bird species: the Red-headed Woodpecker, 2001-2004, National Fish and Wildlife Foundation / U.S. Golf Association, Co-PI: Paul Rodewald. Wildlife habitat enhancement on public open spaces, 2001-2003, U.S. Fish and Wildlife Service. A multi-scale analysis of landscape matrix effects on riparian forests: implications for wildlife conservation and buffer design, 2000-2002, OARDC Research Enhancement Competitive Seed Grants. A landscape approach to riparian forest buffer design: implications for wildlife conservation and policy, 2001, The C. William Swank Grant Program in Rural-Urban Policy. Suitability of riparian and upland forests as stopover habitat for migrating songbirds: a multi-scale approach, 2001, Ohio Department of Natural Resources – Division of Wildlife, Co-PI: Paul Rodewald.

David Stoms

Dr. David Stoms (B.A. in Architecture, Rice University, M.A. and Ph.D. in Geography, University of California Santa Barbara) is an Associate Research Scientist in the Bren School of Environmental Science and Management at the University of California, Santa Barbara. In his current position, he manages the Biogeography Lab, which conducts research integrating landscape ecology, conservation planning, and geospatial techniques. His research interests center on the application of conservation science to GIS-based conservation planning and assessment methods, with funding support from the U. S. Forest Service, USGS, the Environmental Protection Agency, the California Resources Agency, the California Energy Commission, the University of California, the IBM Environmental Research Program, the World Bank, The Nature Conservancy, and NatureServe. These projects have produced new methodological procedures or working GIS-based tools, such as the TAMARIN model for conservation planning in the Atlantic Rainforest of Brazil. He was awarded second place from ESRI in 1993 for the best scientific journal paper in GIS for a sensitivity analysis of the effects of spatial data uncertainty in habitat suitability modeling. Dr. Stoms is a member of the International Association for Landscape Ecology, the Society for Conservation Biology, and the Society for Conservation GIS. He has reviewed for more than a dozen journals in ecology, conservation biology, and GIS/remote sensing. He has participated in several working groups related to conservation planning methods and tools at the National Center for Ecological Analysis and Synthesis. Dr. Stoms has served on advisory panels for conservation planning programs in Florida and California. In 2003, the Autonomous Government of Catalonia, Spain selected him as a University of California Visiting Scholar. Prior to his academic career, Dr. Stoms served for nine years on a multidisciplinary planning team with the U. S. Forest Service at Lake Tahoe.

Robert Twiss

Dr. Robert Twiss is Professor in the Graduate School and Professor Emeritus of Environmental Planning, The University of California, Berkeley. He serves on the California Bay-Delta Authority's Independent Science Board and as co-chair of that agency's Ecosystem Restoration Program Science Board. He founded and is president of Geostage Inc., which designs and implements web-based geographic information systems. Dr. Twiss received a B.A. in Conservation from San Jose State University, and the M.S. and Ph.D. from the School of Natural Resources, University of Michigan. Dr. Twiss' recent work has focused on the incorporation of science-based information in environmental plans and decisions, including extensive work on planning and land regulation (Lake Tahoe, the Sierra Nevada, California's North Coast, and San Francisco Bay and estuary). Dr. Twiss has held a number of public offices: Chairman of the California State Mining and Geology Board, Chairman of the Governing Board, California/Tahoe Regional Planning Agency, and Special Representative of the United Nations to the Government of Yugoslavia on planning for Montenegro. Dr. Twiss has served as principal faculty investigator on numerous research projects, developing planning tools for state and federal agencies in resource management and in environmental and land-use planning. Dr. Twiss is a member of the EPA Science Advisory Board.