FACULTY RESEARCH EXPERTISE

[Biocomplexity and Ecology](#), [Environmental Policy and Social Sciences](#)

Dann M. Sklarew, Associate Professor
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PhD George Mason University, Environmental Biology and Public Policy
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Research Foci: Applied, Behavioral, Coastal and Estuarine Ecology;
Ecosystem-based Management; Environmental Collaboration

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Dr. Sklarew's research combines ecological systems analysis, technical assistance for environmental policy and management, and examination of collaborative ecological problem-solving processes and innovations.

With respect to ecological analysis, his studies have applied new data visualization techniques to tease apart complex effects of climate variability and nutrient management on water quality in the tidal freshwater Potomac River. He also developed an adaptive pattern recognition algorithm -- based on a hybrid of neural networks and fuzzy logic -- to successfully recognize early signs of seasonal drought from satellite remote sensing data of arid West Africa. As a Smithsonian Fellow, he developed a nitrogen budget for the semi-rural Rhode River basin (MD), validating demographic and agricultural census data through local interviews with residents, farmers and even the town veterinarian.

Dr. Sklarew has researched and developed numerous methods to assist environmental policy, management and compliance. For EPA's Office of Water, he identified and characterized watershed management tools; conducted cost-benefit analysis for municipal investments in storm water pollution control; overlaid county-level livestock data with basin-level water quality data to identify "hot spots" where dense animal feedlots were likely impairing our nation's waters; and created a Web-based decision support system to help companies comply with industry-specific federal water pollution permitting rules. In addition, he has provided technical assistance in developing environmental information management systems for the Chesapeake Bay; Cook Inlet, AK; the State of Texas; and international basins on four continents.

Dr. Sklarew has investigated various ways to help diverse partnerships address common ecological problems. To improve transparency and participation in transboundary water governance, he contributed two chapters to a United Nations University book on the subject and co-authored a *Handbook on Public Participation in International Waters Management* (Environmental Law Institute, in press). He documented global challenges and successes in managing coastal and marine resources as producer and scriptwriter for a video documentary, *Turning the Tide: Sustaining Earth's Large Marine Ecosystems*. Under his eight-year direction, the UN-sponsored IW:LEARN project also produced a series of over 20 *International Waters Experience Notes* to succinctly capture and share best practices and lessons learned among Global Environment Facility (GEF) projects. Finally, he participated actively in a three-year collaboration of international experts examining and advancing Integrated Water Resources Management (IWRM) in the Tigris-Euphrates river valley.