

Law and Policy Research, Education, and Outreach within the Sea Grant Network: Introduction to the Special Issue

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This special issue of the *Sea Grant Law and Policy Journal* contains articles from a symposium held in September 2013 at the University of Mississippi School of Law in Oxford, Mississippi. The symposium, entitled "Law and Policy Research, Education, and Outreach within the Sea Grant Network," brought together members of the Sea Grant Legal Network (SGLN) from around the country to meet and share their work and experiences with each other. The papers presented at the symposium and published here highlight the applied legal research and work products SGLN members have produced as part of their jobs at their respective Sea Grant programs, which are slightly different than the more traditional academic or scholarly explorations usually found in law journals.

The SGLN is a small, informal professional networking organization composed of legal programs and lawyers who are specialists and extension personnel within university-based Sea Grant College Programs. Each coastal and Great Lakes state, as well as Puerto Rico and Guam, have Sea Grant College Programs that are recognized and established through a partnership between the respective universities and the National Oceanic and Atmospheric Administration within the U.S. Department of Commerce. Members of the SGLN are somewhat unique within the Sea Grant network in that less than a third of the Sea Grant College Programs have legal programs or legally trained staff. That number has been increasing recently, however, as more programs recognize the importance of legal expertise and capacity.

The Louisiana Sea Grant Law and Policy Program at Louisiana State University and the Mississippi-Alabama Sea Grant Legal Program at the University of Mississippi School of Law are the oldest legal programs within Sea Grant. Each program was established in 1972 and has worked continuously for over 40 years to meet the legal research, education, and outreach needs of coastal communities in the Northern Gulf of Mexico. The National Sea Grant Law Center is a Sea Grant institutional project established in 2002 to, among other things, provide legal research, education, and outreach services to the 30 Sea Grant programs. The Rhode Island Sea Grant Legal Program was established in 2003 and is housed within the Marine Affairs Institute at Roger Williams School of Law. The newest legal program within the Sea Grant network is the North Carolina Coastal Resources Law, Planning, and Policy Center, established in 2004. It is important to note, however, that this partnership between North Carolina Sea Grant, the University of North Carolina School of Law, and the University of North Carolina Department of City and Regional Planning was an outgrowth of North Carolina Sea Grant's longstanding (since the 1970s) legal specialist position. A number of other Sea Grant programs, including Florida, Hawaii, Illinois-Indiana, New York, Virginia, and Washington, have staff with legal backgrounds or partnerships with legal clinics in their states.

The Sea Grant College Programs' mission is to assist constituents in the wise and sustainable use of coastal resources through research, education, and outreach. In recent decades the exponential increase of natural resources laws and regulations has changed the dynamics of coastal resource management. Though sound science is more important now than ever for making wise decisions about resource management, social and political influence on those decisions have often been the pivotal factors. The integration of science, which is increasingly complicated and inaccessible to lay people,

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into laws and thereby into regulatory and judicial decision-making has greatly increased the need for accessible interpretations and an understanding of science and the law and the legal systems. The members of the SGLN fill part of this important need by providing the best available legal information to their constituents, which include not only the public and federal, state, and local governments, but also their colleagues in the Sea Grant College Programs. Some of the most important impacts of SGLN members' work are borne out of the synergy between the SGLN and the extension and education components of the Sea Grant programs.

Many in the SGLN have spent their careers working on natural resources legal issues and are recognized experts in their fields. Some have scientific training as well, which adds an extra dimension to their understanding of the interaction of law and science. The range of topics and issues members of the SGLN handle on a daily basis is very wide. In recent years, coastal safety and resiliency issues have risen to prominence, as demonstrated by three of the articles in this volume. At the same time, the Sea Grant College programs remain committed to their more traditional areas of emphasis, including fisheries, wetlands and other natural resources, ports, and coastal businesses. Two of the articles in the symposium address fisheries issues, albeit from different perspectives, and demonstrate how varied the work of the SGLN can be. The pieces in this issue cover an eclectic group of topics but represent only a small glimpse at the SGLN's repertoire. The SGLN and its members believe these articles will be interesting and informative to a wide audience and welcome any feedback and professional interactions that may be generated by them.

The article by Martin Jaffe and Mary Woloszyn takes the unique approach of examining the effects of warmer winters in the urban setting using Chicago as a case study. The city's Sustainable Chicago Action Agenda focuses mainly on warmer summers but is broad enough to allow consideration of adaptation measures for warmer winters. The article discusses the possible impacts of increased winter temperatures and precipitation and their effects on flood risks and increased freeze-thaw cycles. The force of water expanding as it turns to ice is a very powerful and destructive force, and more freeze-thaw cycles will increase maintenance requirements on roads and other structures, hinder the operations of transit facilities, and pose public safety issues as more material is loosened and falls from buildings onto city sidewalks. A higher percentage of winter precipitation falling as rain rather than snow will change flooding patterns, although one study determined that there may be a lower frequency of destructive freezing rain and ice storm events. Climate change may also increase the percentage of snowfall that is heavier and wetter. Heavy snow is more destructive to roofs, trees, and power lines causing dangerous conditions and blackouts, and the associated health risks include heart attack risks from shoveling heavy snow. The article discusses possible adaptation strategies drawing on examples from other cities, concluding that current local climate adaptation plans in the region are still too heavily weighted towards changing summer conditions, and that winter adaptation measures are legally defensible and should be transferable throughout the region. Finally, the article postulates that incremental changes in adaptation measures would be the best strategy and that the current adaptive management framework may not be appropriate because of the long-term data analysis required to identify trends in climate change and the short-term variability that can mask those trends.

Lisa Schiviano and Joe Kalo discuss public trust issues on North Carolina's beaches. This topic is particularly relevant to the issue of climate change adaptation given the impending collision between the massive amount of coastal development and sea level rise. The article's two case studies seek to tease out the public nature of dry sand beaches and the legal rights and responsibilities of beachfront property owners and the public when beaches naturally migrate. The main issues in determining the public/private character of North Carolina's dry sand beaches are the state's public trust doctrine and the common law doctrine of custom, as well as the extent of any easement that may exist. The doctrine of custom would be the source of public dry sand beach rights in the state, but despite statutes affirming customary use, the state's courts have yet to decide the issue. The article discusses artificially

nourished beaches, which are becoming an important component of developed shorelines, as billions of dollars are being spent by federal, state, and local governments on U.S. beach renourishment projects. Distinguished from natural beaches, the public investment in artificially constructed beaches can change the ownership and rights of use depending on the pre-project water lines and the language of any easement agreements required for the renourishment projects to be conducted. When natural forces erode beaches to the extent that private structures sit in the water, a question arises as to whether the structures' location violates federal or state law. The federal navigation servitude and the Rivers and Harbors Act are implicated when the structures sit below mean high water mark. Federal case law from one circuit holds that property owners can be compelled to move their structures located below the mean high water mark because of erosion, but not as the result of avulsive events. State common law and statutes would require removal of obstructions to navigation whether from erosion or avulsion, but do not compel the removal of abandoned property. Structures that are not abandoned on dry sand beaches may present a problem if they are not actually nuisances and do not interfere with the public's right of use. The North Carolina courts seem to have difficulty with the ambulatory nature of shores and what that means to public/private property rights, but the issue will definitely have to be resolved as sea levels rise.

Catherine Janasie's article explores climate change adaptation on Dauphin Island, Alabama. The article discusses in detail the climate induced threats that the residents of this low-lying barrier island may face in the coming decades. Land loss, sea level rise, and storms all pose significant problems to coastal barrier islands and the residents of Dauphin Island are seeking information and assistance in addressing those hazards. The Mississippi-Alabama Sea Grant Legal Program, working with the Mobile Bay National Estuary Program, organized and assisted in conducting a Vulnerability-Consequence Planning Scenarios (VCAPS) workshop to aid the residents in understanding what climate change could mean to the long-term sustainability of the community. The VCAPS process uses local knowledge and experience to identify the unique vulnerabilities for the particular community and the best ways to mitigate impacts from a local perspective. A wide range of participants were gathered for the workshop to make sure as many viewpoints as possible were considered. Getting the participants to agree on solutions proved difficult, but several suggestions for future action such as catching rain to reduce flooding and beach renourishment came out of the workshop. Legal issues such as public/private shore boundaries and regulation of non-water dependent uses will need further study.

Nicole Faghin's article discusses measures several states have taken to promote the viability of working waterfronts. The article looks at the work of legislatively created committees charged with developing strategies to protect working waterfronts such as land use planning, submerged lands leasing, direct and indirect funding incentives, development rights transfers and purchases, and education. In addition to legislators, the committees included representatives from governmental agencies charged with managing ocean and coastal resources, private sector representatives from the commercial and recreational fishing industries, marine trades, construction and real estate, and environmental NGOs. The definitions of what constitutes a working waterfront have not been consistent over the years, but they commonly emphasize the fishing industry and quite often ports. The committees operated in slightly different ways, but they all developed recommendations that commonly included better planning and zoning, funding/taxing mechanisms, and education. Implementation of the committees' recommendations has varied considerably among the states ranging from legislation requiring local governments to plan for working waterfronts in their comprehensive plans to mapping coastlines to determine the extent of working waterfronts for future planning. Some states changed tax assessment procedures to assist working waterfront property owners, one state reduced its submerged lands lease fees, several states provided direct funding to purchase property, easements, and development rights and to build infrastructure, and several states

developed education and outreach programs to inform the public about the importance of working waterfronts.

Finally, Melissa Chalek writes about legal issues affecting shellfish relay for depuration in Rhode Island. Relay of shellfish from areas where water quality problems can make it unsafe to eat to areas where it can be cleansed by depuration can be an effective way to increase shellfish growing areas. However, in some states like Rhode Island, laws requiring long wait times before relayed shellfish can be harvested make relaying less profitable and therefore impracticable. The article examines federal depuration requirements that allow for variability based on several physical parameters, such as water temperature, salinity, and species, and the laws of other states and Canada, all of which require far shorter depuration periods than Rhode Island. Rhode Island law also discourages private relay operations by favoring public relay programs in required approvals and permits. Though Rhode Island has valid reasons for its long depuration period requirements, the article argues persuasively that changes in its current policies would be beneficial to the industry and could be accomplished while still protecting public health.