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THE SEA GRANT LAW AND POLICY DIGEST is a bi-annual publication indexing the law review and other articles in the fields of ocean and coastal law and policy published within the previous six months. Its goal is to inform the Sea Grant community of recent research and facilitate access to those articles. The staff of the Digest can be reached at: the Sea Grant Law Center, Kinard Hall, Wing E - Room 256, P.O. Box 1848, University, MS 38677-1848, phone: (662) 915-7775, or via e-mail at sealaw@olemiss.edu .

Editor: Terra Bowling, J.D.

Contributors: Sarah Spigener, 3L

Publication Design: Waurene Roberson



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**I.****ALTERNATIVE ENERGY**

Brown, Brit T., and Benjamin A. Escobar. "Wind Power: Generating Electricity and Lawsuits." 28 *Energy Law Journal* 489 – 515 (2007).

In light of soaring fuel costs and increased concern over emissions, wind energy is an increasingly attractive alternative to traditional fuels. Despite the benefits of wind energy, it has faced increasing opposition in the courts, legislatures, and state and federal agencies. Brown and Escobar examine trends in wind power litigation and legal issues that impact the development of wind power. The article provides a review of four proposed offshore wind farms and details litigation regarding one of the wind farms, the Cape Wind Project.

Hadam, Jacquelyne. "The Latest Development in the Debate over Nantucket Sound: *Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Board*." 13 *Ocean and Coastal Law Journal* 121 – 134 (2007).

Hadam looks at hurdles hindering wind energy projects in the United States, using the permitting process for the Cape Wind Project in the Nantucket Sound as an example. She analyzes the Massachusetts Supreme Judicial Court's recent decision, *Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Board*, which dealt with the construction of underground and undersea transmission cables for the Cape Wind project. The author concludes that the court acted reasonably under the circumstances and suggests that the successful development of an offshore wind energy project would require the federal government to develop a comprehensive permitting and regulatory framework.

Walsh, Michael B. "A Rising Tide in Renewable Energy: The Future of Tidal In-Stream Energy Conversion (TISEC)." 19 *Villanova Environmental Law Journal* 193 – 226 (2008).

Hydropower is the largest source of renewable energy in the United States. The first fully functioning tidal turbines, called Tidal In-Stream Energy Conversion (TISEC) devices, were installed in New York City's East River in December 2006. Walsh focuses on the possibility of creating commercially viable, mainstream tidal energy and the obstacles that must first be overcome.

**II.****AQUACULTURE**

Davies, Lynne D. "Revising the National Offshore Aquaculture Act of 2007: Using State of Maine Aquaculture Laws, Regulations, and Policy Recommendations as a Prototype for the Proposed Framework." 13 *Ocean and Coastal Law Journal* 95 – 120 (2007).

In recent years, the United States' demand for seafood has increased dramatically. Davies suggests that the implementation of a national offshore aquaculture industry would help alleviate the pressure on commercial fish stocks. The article includes background information on the country's regulatory environment and an analysis of the National Offshore Aquaculture Act of 2007. She suggests a potential framework for creating a successful offshore aquaculture program based on the state of Maine's aquaculture laws. The article provides an in-depth look at the state's aquaculture laws and regulations.



Thomas, Kelly O. “The Sustainable Oceans Act: Will Fish Farmers Take the Bait?” 38 *McGeorge Law Review* 149 – 157 (2007).

Aquaculture has become the fastest growing animal-food producing industry in the world. California does not currently have any offshore fish farms, but a few states do. Aquaculture operations in other countries have shown that marine fish farming may significantly impact the environment. In anticipation of marine fish farms, the California Legislature enacted the Sustainable Oceans Act (SOA), which establishes the most stringent aquaculture standards in the nation. Thomas examines whether the SOA will be sufficient to resolve regulatory and user conflicts.



III.

CLIMATE CHANGE

Caldwell, Meg, and Craig Holt Segall. “No Day at the Beach: Sea Level Rise, Ecosystem Loss, and Public Access along the California Coast.” 34 *Ecology Law Quarterly* 533 – 578 (2007).

Caldwell and Segall argue that global warming will cause higher water, more powerful storms, and increased coastal erosion along the California coast. Climate change also presents the California Coastal Commission (CCC) with new challenges in its goal to protect coastal resources. The authors contend that the CCC and the State of California should plan now for sea level rise. Caldwell and Segall discuss the current threats to the coast and then suggest policy responses that the CCC and other land use bodies should consider adopting.

Farber, Daniel A. “Adapting to Climate Change: Who Should Pay.” 23 *Journal of Land Use and Environmental Law* 1 – 37 (2007).

Most environmentalists are concerned with mitigating the effects of climate change. Farber examines the possibilities for adaptation to climate change. He points out that in *Massachusetts v. EPA*, the states asked for regulatory action and the court did not consider the issue of cost allocation. In the article, he first addresses the challenges of adaptation and asks who should absorb the cost for climate change. Farber looks at possible solutions to cost allocation, concluding that the “emitters pay” principle would be the most successful.

Few, Roger, et. al. “Climate Change and Coastal Management Decisions.” 35 *Coastal Management* 255 – 270 (2007).

The integration of climate change adaptation considerations into management of the coast poses major challenges for decision makers. This article reports on a case study undertaken in Christchurch Bay, UK, examining local capacity for strategic response to climate risks, with a particular focus on issues surrounding coastal defense. Drawing primarily on qualitative research with local and regional stakeholders, the analysis identifies fundamental disjunctures between generic concerns over climate change and the adaptive capacity of local management institutions. Closely linked with issues of scale, the problems highlighted here are likely to have broad and continuing relevance for future coastal management elsewhere.

Abstract courtesy of Coastal Management



Hand, Jacqueline P. "Global Climate Change: A Serious Threat to Native American Lands and Culture." 38 *Environmental Law Reporter* 10329 – 10337 (2008).

Hand discusses the effects of climate change on Native American lands and culture. She describes how the Native American population in the Arctic Region will face a more immediate threat than the general population. Hand explains the value of including tribal knowledge and expertise in forming adaptive mechanisms to climate change. Finally, she examines tribal responses to climate change.

Kaswan, Alice. "Environmental Justice and Domestic Climate Change Policy." 38 *Environmental Law Reporter* 10287 – 10315 (2008).

Kaswan suggests that legislators and regulators should consider environmental justice concerns when forming climate change policies. She discusses the environmental benefits and risks of cap and trade programs, noting how environmental justice concerns may be incorporated into the programs without upsetting the balance of equity and efficiency. Kaswan also looks at economic risks and opportunities in other climate change policies. Finally, she describes environmental justice risks in new technologies, such as ethanol.

Kostyack, John, and Dan Rohlf. "Conserving Endangered Species in an Era of Global Warming." 38 *Environmental Law Reporter* 10203 – 10213 (2008).

Kostyack and Rohlf examine the strength of the Endangered Species Act (ESA) in the face of global warming. The authors suggest necessary changes to the ESA for the Act to continue to protect biodiversity. The article contains a description of the effects of climate change on certain species and suggests management responses. The authors also include policy recommendations for climate change legislation and adaptive management practices.

Openchowski, Charles. "The Next Greenhouse Gas Executive Order?" 38 *Environmental Law Reporter* 10077 – 10088 (2008).

Openchowski notes that five presidential Executive Orders involving greenhouse gas emissions have been signed since the Kyoto Protocol was drafted. Several state governors have signed similar orders. He predicts what the next Executive Order related to greenhouse gases might contain and examines the growing impact of climate change on political and economic issues.

Ross, Christina, et. al. "Climate Change Liability and the Allocation of Risk: Limiting Liability in the Greenhouse: Insurance Risk-Management Strategies in the Context of Global Climate Change." 43 *Stanford Journal of International Law* 251 – 318 (2007).

In light of liability concerns regarding the impacts of climate change, Ross and coauthors tackle the issue of liability insurance risks. Specifically, the authors examine risks to insurers from claims of third parties alleging property damage after natural disasters linked to climate change. The authors identify risk-management strategies that will help insurers mitigate their exposure to climate change liability.



Ruhl, J.B. "Climate Change and the Endangered Species Act: Building Bridges to the No-Analog Future." 88 *Boston University Law Review* 1 – 62 (2008).

Climate change will have an unpredictable effect on ecological systems. Ruhl looks at how climate change will affect the Endangered Species Act (ESA) and the primary agency that administers it, the U.S. Fish and Wildlife Service (FWS). He first looks at threats species will face and likely consequences from the changes. Next, he provides an in-depth examination of the effects of climate change on the FWS's decisionmaking process. The article then examines the FWS's discretion to make policy decisions under the ESA. Finally, he proposes a way that the ESA may be used to establish protective measures for endangered species affected by climate change.

Wood, Mary Christina. "Nature's Trust: A Legal, Political and Moral Frame for Global Warming." 34 *Boston College Environmental Affairs Law Review* 577 – 603 (2007).

Wood examines the impact of environmental law on global warming and provides an overview of the history of global warming. She concludes that the current regulatory system has contributed to the problem and proposes a property-based framework to measure a government's responsibility for climate change.



IV.

COASTAL HAZARDS

Carrasco, A.R. et. al. "Historic Monuments Threatened by Coastal Hazards at Boca do Rio, Algarve, Portugal." 35 *Coastal Management* 163 – 179 (2007).

The coastal stretch of Boca do Rio, western Algarve, Portugal, is experiencing shoreline retreat. Roman ruins are located along the beach section of the coast, and a 17th-century fort is positioned over the cliff section. Both historic monuments are being destroyed by erosion but need to be protected due to their heritage status. Aerial photograph analysis was used to define the evolution of the coast for the period 1945-2001. Shoreline retreat of 0.3 m/year was measured for the sandy coast and 14 mass movements in the cliff face were identified. Considering the rate and style of shoreline evolution, several types of management scenario were evaluated, with the favored measures being the removal of the Roman ruins to a museum and the relocation of the fort inland.

Abstract courtesy of Coastal Management

Costonis, John J. "Two Years and Counting: Land Use and Louisiana's Post-Katrina Recovery." 68 *Louisiana Law Review* 349 – 386 (2008).

In this report, Costonis examines legal issues in Louisiana's land use and coastal management system in light of Hurricanes Katrina and Rita. He explains the importance of the issues and gives an overview of the legal challenges that must be overcome to address the issues. Costonis looks at regional land use and land use powers and local governments. The article analyzes the amendments to the Louisiana Constitution involving the state's eminent domain power and suggests possible legal challenges that might lie ahead.



Klein, Christine A., and Sandra B. Zellmer. "Mississippi River Stories: Lessons from a Century of Unnatural Disasters." 60 *SMU Law Review* 1471 – 1537 (2007).

Klein and Zellmer focus on three stories: the Great Flood of 1927, the Midwest Flood of 1993, and Hurricanes Katrina and Rita of 2005. The authors note that these stories include important lessons, including the inadequacy of engineered flood control structures such as levees and dams, the perverse incentives created by the national flood insurance program, and the need to reform federal leadership over flood hazard control, particularly as delegated to the Army Corps of Engineers. Klein and Zellmer argue that property owners in flood-prone areas "take" taxpayer dollars through two sometimes overlapping mechanisms. The article concludes with suggestions for reform of federal flood hazard policy, the national flood insurance program, and the regulatory takings doctrine.

Main, Michiru A. and Philip Dearden. "Tsunami Impacts on Phuket's Diving Industry: Geographical Implications for Marine Conservation." 35 *Coastal Management* 467 – 481 (2007).

This article examines the impacts of the December 26, 2004 Indian Ocean tsunami on the scuba diving industry in Phuket, Thailand. Interviews were carried out to determine tsunami effects on dive tour companies, and post-dive questionnaires were distributed to ascertain recreational diver perceptions of tsunami effects on dive sites. Of the 65 companies in December, 2004, 42 were fully operational in April 2005. During the post-tsunami high season, 35 companies lost an average of $63.6 \pm 40.5\%$ days of diving, compared to an average season, amounting to a total of 4631 diving days. During this time, the diving industry was instrumental in post-tsunami rescue, relief, and restoration efforts. Despite high expectations for damage, tsunami effects on dive sites were not noticed by most recreational divers. Using a geographical perspective, this study highlights how tsunami effects on the diving industry have several implications for marine conservation in Thailand.

Abstract courtesy of Coastal Management

Miller, Jeffrey G. "Remedying Our Fragmented Governmental Structures to Deal With Our Nation-on-Edge Problems." 38 *Environmental Law Reporter* 10187 – 10192 (2008).

Miller defines "nation-on-edge" problems as problems stemming from development in disaster-prone areas. He argues that a flexible federal framework would effectively remedy those problems, rejecting the assumption that local problems require local solutions. He suggests a regime modeled on the Clean Water Act's point source pollution control framework.

Platt, Rutherford. "Learning From Disasters: The Synergy of Law and Geography." 38 *Environmental Law Reporter* 10150 – 10157 (2008).

Platt explains that regulatory schemes for natural disaster mitigation are generally created in the aftermath of specific disasters, such as the flood control rules for the Lower Mississippi after the Great Mississippi River Flood of 1927. He discusses how natural disasters have shaped land use planning over the past several centuries and examines the evolution of several management policies.



Salkin, Patricia E. “Sustainability at the Edge: The Opportunity and Responsibility of Local Governments to Most Effectively Plan for Natural Disaster Mitigation.” 38 *Environmental Law Reporter* 10158 – 1017 (2008).

Salkin explores the role of local governments in natural disaster mitigation. The article includes an explanation of how local governments may use local land use power to mitigate natural disasters. Salkin gives an overview of provisions regarding local land use planning in the Disaster Mitigation Act of 2000, noting that the Act offers financial incentives for states working with local governments when planning for growth and disasters. She also includes case studies in which states have formed links among federal, state, and local entities that facilitate disaster mitigation.

Schwab, Anna K., and David J. Brower. “Increasing Resilience to Natural Hazards: Obstacles and Opportunities for Local Governments under the Disaster Mitigation Act of 2000.” 38 *Environmental Law Reporter* 10171 – 10186 (2008).

Schwab and Brower examine how decisions about local land use planning can mitigate the effects of natural hazards. The authors explain the differences between resistance and resilience, noting that efforts at resisting the forces of nature through containment or control usually fail. Looking at the Disaster Mitigation Act of 2000, Schwab and Brower explore the planning tools available to local governments.

Worachananant, Suchai. “Impacts of the 2004 Tsunami on Surin Marine National Park, Thailand. 35 *Coastal Management* 399 – 412 (2007).

The impacts of the tsunami in 2004 on the reefs in Surin Marine National Park, Thailand, varied with the location and exposure of the reefs. Channel areas between islands were severely damaged. Areas with steep reef slopes were damaged by sand slides or coral collapse more than areas with low slopes. Massive, sub-massive, and encrusting corals were more resistant and resilient to the direct impact of the tsunami than branching, tabulate, and foliose life forms whereas the latter were more tolerant of temporary coverage by sand. Sub-massive corals were the most tolerant overall and survived sand coverage, breakage, and overturning. Live coral cover measured three months after the tsunami was significantly greater than immediately post-tsunami as broken, moved, or sand-covered corals, recorded as impacted in the initial survey, had survived and were regenerating. Low turbidity, lack of pollution, and mild currents possibly contributed to rapid recovery and limited long-term effects of the tsunami. Impact assessment shortly after a major disturbance may give an initial measure of damage but subsequent surveys must be undertaken to identify long-term effects. Understanding patterns of reef damage can help to formulate reef zoning and protection strategies in response to catastrophic events, but also in advance of such events to improve likely resilience of the marine park to disturbance.

Abstract courtesy of Coastal Management



V.

COASTAL MANAGEMENT

Busenberg, George J. “Citizen Participation and Collaborative Environmental Management in the Marine Oil Trade of Coastal Alaska.” 35 *Coastal Management* 239 – 253 (2007).



This study compares the contributions to policy change made by two Regional Citizens' Advisory Councils that participate in the environmental management of the marine oil trade in coastal regions of Alaska. Both councils are remarkably well-funded and long-enduring examples of citizen participation in environmental policy. This study finds that both councils have applied their substantial funding resources to make significant contributions to policy change (policy contributions) in the marine oil trade of coastal Alaska. This study also finds that both councils have greatly magnified their policy contributions through collaborative efforts with many other organizations active in the marine oil trade of Alaska. Therefore, the overall policy contributions of the councils result from the joint application of council resources and collaborative efforts.

Abstract courtesy of Coastal Management

Fletcher, Stephen, and Hance D. Smith. "Geography and Coastal Management." 35 *Coastal Management* 419 – 427 (2007).

This article presents an overview of the relationship between geography and coastal management. It explores the nature of geography as well as the geographical underpinnings of key notions within coastal management, in particular, "coast," "conflict," and "integration." The article considers the integrated coastal management process and tracks the influence of geography on the development of the discipline's theory and practice, as well as its academic infrastructure. The article concludes that although geography both underpins and offers useful insights into coastal management, a challenge remains to explore in greater depth the benefits of applied geographical approaches to the management of coasts.

Abstract courtesy of Coastal Management

Fletcher, Stephen, and Jonathan Potts. "Ocean Citizenship: An Emergent Geographical Concept." 35 *Coastal Management* 511 – 524 (2007).

Ocean citizenship describes a relationship between our everyday lives and the health of the coastal and marine environment. Through our everyday lives we affect, and are affected by, the marine and coastal environment in numerous ways. As such, individuals have a responsibility to make informed lifestyle choices to minimize this impact. In doing so, the actions of individuals can contribute to the amelioration of large-scale and seemingly insurmountable geographical problems. This article outlines the concept of ocean citizenship within the context of the public understanding of marine environmental issues. The article draws heavily on the experience of the National Maritime Museum as an important contributor to the development of ocean citizenship in the United Kingdom. Specifically, the Planet Ocean initiative will be examined, in which the Museum has adopted a multimodal approach to public engagement through exhibitions, educational resources, and specific research publications. The article concludes by highlighting the importance of geography in the development and sustainability of ocean citizenship.

Abstract courtesy of Coastal Management



Gurran, Nicole, et. al. "Governance Responses to Rapid Growth in Environmentally Sensitive Areas of Coastal Australia." 35 *Coastal Management* 445 – 465 (2007).

The twin forces of rising affluence and population are altering coastal communities around the world. High amenity, environmentally sensitive areas—particularly attractive, non-metropolitan coastal environments—are witnessing a tidal wave of in migration from former urbanites. As a result, these communities are struggling to accommodate growing numbers of people with urban tastes and rural dreams in areas with governance structures and physical infrastructure designed for occasional tourists. This article looks at how governance frameworks in coastal Australia respond to the profound environmental, social, and cultural implications of this process. Gurran and coauthors offer a typology of non-metropolitan coastal growth settings—from exurban contexts to isolated coastal hamlets—and identify the main environmental, social, economic, and governance issues they face. The authors then outline the policy and legislative framework governing coastal areas in Australia and show how this framework is interpreted at the local level through an analysis of five local plans covering different coastal settings.

Abstract courtesy of Coastal Management

Hodge, Michelle, and David Johnson. "Constraint Mapping as a Means of Further Refining Saltmarsh Re-Creation Opportunities for the UK Solent Region." 35 *Coastal Management* 483 – 498 (2007).

Based on geomorphological criteria, the Coastal Habitat Management Plan (CHaMP) for the Solent identified some 4,800 hectares of land potentially suitable for the creation of intertidal habitat, principally saltmarsh, through the use of managed realignment. Using "constraint mapping," this study set out to illustrate that limitations to habitat re-creation through inundation are not merely geomorphological in nature. Indeed, a broad range of social, political, legal, technical, and economic constraints exist and must be evaluated in conjunction with physical parameters if the objectives of the European Birds and Habitats Directives are to be met, and so that future coastal defense policies ensure maintenance of the "favorable conservation status" of designated sites. A numerical filter system has been used to re-evaluate individual sites to establish "realistic" opportunities for compensatory saltmarsh creation in the Solent. As a result of taking into account wider socioeconomic constraints, it is clear that fewer areas are available for habitat creation purposes than were initially identified in the Solent CHaMP study.

Abstract courtesy of Coastal Management

Jude, S.R. et. al. "The Development of a Visualization Methodology for Integrated Coastal Management." 35 *Coastal Management* 525 – 544 (2007).

Coastal management information is frequently communicated to stakeholders and the public through complicated management documents and engineering plans. With the recognition that public involvement in coastal decision-making processes should be widened have come calls to develop new techniques to communicate complicated coastal information. Using Virtual Reality Geographical Information Systems and visualization packages, such information may be presented using formats more suitable for public consultation and information dissemination exercises than those currently



employed. Using a site on the north Norfolk coast of England, an integrated Geographical Information Systems based methodology is presented that allows the visualization of proposed coastal management interventions. Visualizations have been produced that can be published in traditional paper-based management documents, or electronically. The different visualizations are compared and the technical issues surrounding their use discussed. It is argued that the methodology has clear advantages over traditional communication methods, although further research is necessary to determine how it may be practically employed by coastal managers.

Abstract courtesy of Coastal Management

McFadden, Loraine. "Governing Coastal Spaces: The Case of Disappearing Science in Integrated Coastal Zone Management." 35 *Coastal Management* 429 – 443 (2007).

Scientific knowledge is central to "good" governance of coastal spaces: developing methods through which the complexities of the coastal zone can be understood by stakeholders to improve the sustainable management of coastal systems. Enhancing our knowledge of the range of processes that shape coastal spaces and define the total behavioural environment of the system remains a primary challenge for the coastal research community. However, this article raises the argument that current approaches to Integrated Coastal Zone Management (ICZM)—the preferred governing framework for the coastal environment, do not give sufficient emphasis to this fundamental need. Improving the basic scientific knowledge that underpins policymaking at the coast is argued to be urgently needed. Issues such as that of developing a communality of the purpose and approach between stakeholders within the coastal zone (through conflict resolution and access to information, for example) seem to claim the rights of the integrated management research agenda. However, the very nature of ICZM as "worthwhile coastal management" requires that integrated management represents more than a governing framework. Successful integration in coastal management must also be underpinned by knowledge of the integrated behavior of the system. Science has an increasingly marginalized position within ICZM and as a result geographers, contributing knowledge of the patterns and processes of the human and environmental landscapes, are also becoming a disappearing breed in integrated coastal management.

Abstract courtesy of Coastal Management

Melnick, Robert S. "Dredging: Making Waves for Commerce or Environmental Destruction." 19 *Villanova Environmental Law Journal* 145 – 168 (2008).

Melnick discusses the environmental impact and economic benefits of dredging. He notes the obstacles faced by the United States Corps of Engineers in making the environment a priority during dredging activities. The article includes an overview of current dredging regulations and explains who has authority when a dredging project is begun and who institutes guidelines for dredging. Melnick then examines the history of dredging and the procedural framework under the National Environmental Policy Act (NEPA), focusing on the New York-New Jersey Port. He also looks at the hindrances for the Corps and the public when dealing with dredging and dredged material. Finally, he analyzes dredging under the current regulatory structure.



Milligan, Jessica. "Governance for Sustainable Coastal Futures." 35 *Coastal Management* 499 – 509 (2007).

The mobile nature of soft coasts means that coastal communities face uncertainty in their property values and peace of mind when the existing coastal defense is lowered or removed. The acceptance by the U.K. government that coastal realignment in areas of low population density and limited ecological value is unavoidable means that the current state of affairs, where coastal residents have broadly come to assume that they will be defended if they make enough fuss, cannot continue. The government is currently unwilling to confront this consternation and continues to refuse to pay compensation for lost property value. This is creating an outcry over loss of fairness of treatment. This dispute raises important questions of governance for coastal change. This participatory research project worked closely with English Nature, North Norfolk District Council, local residents associations, the Environment Agency, and the Department for Environment, Food and Rural Affairs. What emerged in the analysis were unresolved tensions between national strategic frameworks, emerging planning arrangements, changing economic assessments, and the desirability of delivering, through a number of public and voluntary agencies, local flexibility in participation and in coastal design. This article reports on the research process, the challenges for coastal governance, and the scope for creative partnerships between science, planning, policy delivery, and public acceptance.

Abstract courtesy of Coastal Management

Ogburn, Damian M. "The Disappearance of Oyster Reefs from Eastern Australian Estuaries–Impact of Colonial Settlement or Mudworm Invasion?" 35 *Coastal Management* 271 – 287 (2007).

Oysters have been harvested on the east coast of Australia for many thousands of years. Coastal Aboriginal communities used the extensive estuarine oyster resource and may have farmed oysters by establishing shell cultch beds in shallow areas of estuaries. The British colonization of Australia commenced in 1788 and oysters were initially used for food and production of lime. Concerns about unsustainable exploitation led to introduction of legislation that directed the oyster industry to aquaculture in 1884. Translocation of oyster stock for fattening, from New Zealand to Australian east coast estuaries, was encouraged. Here evidence is presented that this activity resulted in "mudworm disease" appearing in oyster farming estuaries on the Australian east coast between 1880 and 1900. The pandemic permanently destroyed natural sub-tidal oyster reefs and forced the oyster industry to adopt avoidance farming techniques including intertidal farming to cope with mudworm.

Abstract courtesy of Coastal Management

Klein, Christine A. "The New Nuisance: An Antidote to Wetland Loss, Sprawl, and Global Warming." 48 *Boston College Law Review* 1155 – 1235 (2007).

Klein shows how the Supreme Court's *Lucas v. South Carolina Coastal Council* decision impacted regulations pertaining to wetland filling, development, and the emission of greenhouse gases. In this decision, the Court established a new defense, which the article refers to as the nuisance doctrine, of governmental liability for regulations that



prohibit all economically beneficial use of land. Klein also explains how the concept of nuisance has evolved and has taken on new substance.

Samonte-Tan, Giselle. "Economic Valuation of Coastal and Marine Resources: Bohol Marine Triangle, Phillipines." 35 *Coastal Management* 319 – 338 (2007).

This article provides results on the net benefits generated from the natural resources in the Bohol Marine Triangle (BMT) in the Philippines. The BMT spans over 112,000 ha and its coastal ecosystems are rich in biodiversity and provide economic opportunities to the coastal communities. With a 10% discount rate, the accumulated total net benefits for the BMT resources over a 10-year period is US\$11.54 million. Tourism and the municipal fisheries are the most important direct use values of the coastal and marine resources of the BMT accounting for 44% and 39% of the total net benefits. Annual revenues attributed to ecosystems were as follows: coral reefs, US\$1.26 million; beach/intertidal area, US\$1.12 million; marine waters, US\$646,501; mangrove, US\$239,561; and seagrass, US\$105,990. The large market values indicate the dependence of the local community on the BMT coastal and marine resources. In the same way, non-market values show the important life-support functions of coastal and marine ecosystems. The net benefits reflect the magnitude of potential losses due to improper management of coastal and marine resources in the BMT. This valuation highlights the importance of the coastal services to the BMT economy and draws attention to the benefits the local stakeholders derive from BMT coastal resources. Policy measures can now take into account these values to justify a sufficient investment in coastal management efforts to sustain the flow of coastal services in the interest of current and future generations.

Abstract courtesy of Coastal Management

Shipman, Brian, and Tim Stojanovic. "Facts, Fictions, and Failures of Integrated Coastal Zone Management in Europe." 35 *Coastal Management* 375 – 398 (2007).

Nearly 40 years on since its first tentative steps in North America, this article considers whether Integrated Coastal Management (ICZM) in Europe has grown to maturity as a form of governance. The article summarizes the findings of recent research concerning the levels of implementation of coastal management in Europe, with particular reference to the UK experience. A research framework is used to identify the different motivations behind the social actor groups involved in coastal management. The application of this framework reveals four major findings about gaps in implementation: (1) the complexity of responsibilities at the coast continues to prevent agencies from taking a "joined-up" approach; (2) a policy vacuum is constraining implementation from national to local scales; (3) informational obstacles are significant in preventing co-ordination between science and policymakers, and between different sectors; (4) a democratic deficit is preventing implementation in the working practices of coastal stakeholders, with little opportunity in decision making for public comment or local accountability, especially offshore. The article also explores different conceptualizations of the role of coastal management and planning held across Europe, providing an analysis using the Strategic Management literature and the experience of the EU Demonstration Programme on Integrated Coastal Zone Management (1996-1999).



Recent arrangements, with the availability of priming funds from the European Commission and emphasis on “pilot” and “demonstration” methods, have tended to encourage a project-based approach to ICZM that may fail to realize long-term objectives. The article seeks to present an analysis of the behaviors of scientists, academics, policymakers, and practitioners, and will be of interest to all those seeking to establish ICZM within the wider system of governance, as supported by the Commission of the European Community (2000) Communication on ICZM (COM 547). Some technical solutions are also offered from the UK experience that will be of use to coastal project officers working at national and regional levels.

Abstract courtesy of Coastal Management

Sorice, Michael G. et. al. “Factors Influencing Behavior in a Boating Speed Zone.” 35 *Coastal Management* 357 – 374 (2007).

The greatest source of human-related mortality for endangered Florida manatees is collisions with watercraft. Regulation of boat speeds is the principal management tool to minimize this threat. Demands on law enforcement limit their ability to monitor boater behavior and managers seek alternative strategies to increase compliance. The purposes of this study were to: (1) explore the effectiveness of an on-site sign to enhance boater compliance in a boating speed zone, and (2) examine the environmental and boating characteristics that influence the probability of compliance. Signs designed to increase compliance were posted halfway through the 18-week study period. The signs were not related to compliance level. Logistic regression models showed that only time of day and boat type were significantly related to compliance. Results suggest that passive methods of persuasion may not be an effective means of influencing boater behavior.

Abstract courtesy of Coastal Management

Thompson, Robert. “Cultural Models and Shoreline Social Conflict.” 35 *Coastal Management* 211 – 237 (2007).

Along the coast we witness property conflicts that would seem strange at inland locations. To understand why property conflicts seem particularly common and intense along shorelines, one must appreciate that property is enacted by real people in specific places. The successful enactment of property requires sufficiently shared expectations for behavior. Expectations are formed by consulting cultural models, which are intersubjectively shared cognitive tools. This article describes seven cultural models of property that can play a role in the enactment of property along the shoreline. These are the sovereignty, community, landscape, ecology, commodity, moral order, and productivity models. A focus on cultural models shows how property conflicts can occur when models are not adequately grounded in real world circumstances, when a cultural model is not shared, or when multiple cultural models conflict. This article argues that all three of these types of failures are more likely to occur along shorelines than with inland property. Finally, even though cultural models of property are not hierarchical, this article argues that too much emphasis is currently being placed on the sovereignty and commodity models, and it suggests ways to reestablish a better balance between all of the cultural models of property.

Abstract courtesy of Coastal Management

 VI.**CORAL REEFS**

Craig, Robin Kundis. “Coral Reefs, Fishing, and Tourism: Tensions in U.S. Ocean Law and Policy Reform.” 27 *Stanford Environmental Law Journal* 3 – 41 (2008).

In the United States, seven states and territorial jurisdictions have coral reefs. Reef-based coastal tourism and recreation provide significant economic benefits to the United States. Craig advocates the increased use of marine protected areas to protect coral reef ecosystems. The article examines recent United States law and policy developments regarding coral reefs and suggests that modification of federal laws is necessary to protect coral reefs in order to promote and sustain coral reef tourism. Specifically, Craig notes that the National Marine Sanctuary Act has been inadequate in protecting United States coral reefs and suggests the necessary improvements.

 VII.**ECOSYSTEM MANAGEMENT**

Paeffgen, Matthew L. “A Ringmaster for the Circus: Using Interstate Compacts to Create a Comprehensive Program to Restore the Chesapeake Bay.” 37 *Environmental Law Reporter* 10888 – 10896 (2007).

Paeffgen proposes an interstate compact to improve efforts to protect and restore the Chesapeake Bay. The article describes the state of the Bay. Paeffgen explores the use of the federal common law of interstate nuisance as a remedy for interstate pollution, concluding that that option for protecting the bay has been foreclosed by judicial decisions. He shows how interstate compacts have been used to address environmental issues, including current compacts in the Chesapeake Bay watershed. Finally, he proposes a framework for a new interstate compact.

Fischman, Robert L., and Angela M. King. “Savings Clauses and Trends in Natural Resources Federalism.” 32 *William and Mary Environmental Law and Policy Review* 129 – 168 (2007).

State cooperation in the management of water and wildlife is vital for achieving most federal objectives regarding those resources. Resource management federalism involves site-specific variation and discretionary disparities. Fischman and King build on prior work exploring federalism in natural resources law to understand how courts interpret congressional directives on the states’ role in resource management.

Hicks, Gregory A. “Managing State Trust Lands for Ecosystem Health: The Case of Washington State’s Range and Agricultural Lands.” 14 *Hastings West-Northwest Journal of Environmental Law & Policy* 1019 – 1055 (2008).

In this second article of a two-article series, Hicks focuses on the recently adopted state land management policies which are intended to restore ecosystem health and wildlife habitat on the interior uplands of Washington State’s Columbia Plain. He also describes the process of adjusting management practices for state trust lands to include habitat and ecosystem health.



Hicks, Gregory A. "Protecting and Promoting Wildlife and Habitat on State and Private Land in Washington's Arid Interior." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 781 – 828 (2008).

This article is the first of a two-article series. Hicks focuses on the habitat work being conducted under the Washington Department of Fish and Wildlife's Upland Wildlife Restoration Program (UWRP). The UWRP is chiefly concerned with private lands and state lands acquired specifically to restore habitat values on farms. The author describes current efforts in the interior uplands of Washington State's Columbia Plain to restore and protect upland wildlife habitat and wildlife species in an agricultural and range landscape. Hicks also depicts the interaction between the landscapes, land owners, and the program design or state-sponsored land habitat projects on farmlands and range-lands in Washington's arid interior.

Kay, Jane. "Bay in Peril: System Out of Kilter." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 171 – 176 (2008).

Kay looks at the decline of several species of fish in the San Francisco Bay, including the king salmon and Chinook salmon. She notes that although several factors have contributed to the decline, the diversion of water has remained the underlying factor in the species' decline. Kay examines the impact of other factors, such as hunting, toxic sewage and waste, and the dumping of dredge spoils. She concludes with the necessary steps that must be taken to stop the decline of these species.

Owen, Dave. "Law, Environmental Dynamism, Reliability: The Rise and Fall of CALFED." 37 *Environmental Law* 1145 – 1215 (2007).

Owen explores the failure of management schemes for scarce, protected, and economically valuable resources. He looks at certain aspects of the "CALFED" program, a comprehensive water management program for the Bay-Delta estuary in California's Central Valley, to show how conceptual understandings have contributed to the failure of the program. Owen proposes an alternative conceptual framework for the improved management of the Bay-Delta region and elsewhere.

Pollak, Daniel. "S.D. Warren and the Erosion of Federal Preeminence in Hydropower Regulation." 34 *Ecology Law Quarterly* 763 – 800 (2007).

The Supreme Court's ruling in *S.D. Warren v. Maine Board of Environmental Protection* affirms that releases of water from hydroelectric dams constitute a "discharge" under the Clean Water Act (CWA). This means that hydropower relicensing will trigger § 401 of the CWA, requiring federal licensees to obtain state certifications that their operations will comply with state water quality standards. Pollak argues that under § 401, the state role should not be limited to its traditional review. Instead, Pollak contends that adaptive management, with its emphasis on long-term monitoring, contingency planning, and responsiveness to new information, is better suited for river ecosystems.

Stone, Jason. "The Law of Ecosystem Restoration: National Policy Implications of the Clark Fork River Basin Natural Resource Damage Program." 28 *Public Land and Resources Law Review* 1 – 20 (2007).



Stone gives an overview of the 30th Annual Public Land Law Conference, which was themed “The Law of Ecosystem Restoration: National Policy Implications of the Clark Fork River Basin National Resource Damage Program.” The article is a summary of the themes, topics, and discussions at the conference. The overview provides a summary of the history of natural resource damage (NRD) programs. Stone explains the policy and laws behind resource damage programs and looks at the national trends and future for natural resource damage programs. The article contains an extensive analysis of the Clark Fork River Basin NRD program, including its litigation history.



VIII. ENDANGERED SPECIES

Benson, Reed D. “Dams, Duties, and Discretion: Bureau of Reclamation Water Project Operations and the Endangered Species Act.” 33 *Columbia Journal of Environmental Law* 1 – 55 (2008).

Benson examines the applicability of section 7(a)(2) of the Endangered Species Act (ESA), which requires federal agencies to ensure their actions do not jeopardize the continued existence of any endangered or threatened species, to the U.S. Bureau of Reclamation’s (USBR) projects. The projects principally involve operation of dams to supply water for a variety of purposes. Specifically, Benson looks at the impact of the Supreme Court’s decision in *National Association of Home Builders v. Defenders of Wildlife* on such decisions.

Camacho, Alejandro E. “Can Regulation Evolve? Lessons from a Study in Maladaptive Management.” 55 *UCLA Law Review* 293 – 358 (2007).

Using data from recent scientific studies, interviews and surveys of agency officials, newspaper reports, and unpublished biological databases, Camacho provides a review of the Habitat Conservation Plan (HCP) of the Endangered Species Act (ESA). He concludes that the program, although pioneering, is ultimately defective. The article provides instances in which the HCP program has allowed developers and agencies to bypass ESA regulations.

Fitzgerald, Edward. “Delisting Wolves: Are the Western Great Lake States Ready?” 37 *Environmental Law Reporter* 10863 – 10872 (2007).

Fitzgerald explores the delisting of the gray wolves in the Western Great Lakes region. The article explains the history of the gray wolf protection and the development of wolf management plans in the region. The author analyzes plans in Michigan, Minnesota, and Wisconsin, and points out the challenges they may face.

Fitzgerald, Edward A. “Dysfunctional Downlisting Defeated: *Defenders of Wildlife v. Secretary, U.S. Department of the Interior*.” 34 *Boston College Environmental Affairs Law Review* 37 – 106 (2008).

Fitzgerald explains why he believes a federal district court, in *Defenders of Wildlife v. Secretary, U.S. Department of the Interior*, correctly invalidated the Department of the Interior’s (DOI) downgrading of the gray wolf. He discusses how the DOI’s interpre-



tation of portions of the Endangered Species Act was inconsistent with the Act's text, intent, and purpose. The article gives an overview of the ESA and explains the history of the gray wolf in the United States. Fitzgerald also analyzes the DOI's implementation of its distinct population segment (DPS) policy. He emphasizes the importance of recovery plans. The author concludes with a look at current and pending regulatory changes concerning the gray wolf since *Defenders of Wildlife*.

Gibel, Lieutenant Commander Keith S. "Defined by the Law of the Sea: 'High Seas' in the Marine Mammal Protection Act and the Endangered Species Act." 54 *Naval Law Review* 1 – 49 (2007).

The Marine Mammal Protection Act (MMPA) protects marine mammals on the "high seas," and the Endangered Species Act (ESA) protects endangered species on the "high seas;" however, the term "high seas" is not defined and has caused much confusion and litigation. The controversy has centered on an area beyond the jurisdiction of the United States, between foreign "territorial seas" and the "high seas," which is referred to as the "foreign exclusive economic zone (FEEZ)." Gibel discusses whether any American conduct in a FEEZ is subject to the MMPA and the ESA.

Long, Andrew. "Defining the 'Nature' Protected by the Endangered Species Act: Lessons from Hatchery Salmon." 15 *New York University Environmental Law Journal* 420 – 492 (2007).

The Endangered Species Act (ESA) seeks to protect "species." The Pacific salmon provided the first example of administrative guidance on the definition of "species" that are protected by the ESA. Long asks whether hatchery-bred salmon are equal to naturally-reproducing salmon in order to assess the species' viability. The author also explains the problem, defines the components of the natural world that the law should protect, and offers suggestions for incorporating this understanding into the existing statutory structure.

Miller, Ben. "Assimilation, Enclaves, and Take: How States Might Protect Wildlife on Federal Reservations." 22 *Journal of Environmental Law and Litigation* 383 – 414 (2007).

Miller explains how state and federal species' protection laws differ. In some situations, the state is unable to enforce its endangered species law because the species' habitat is located on federal lands. This is an issue because species' protections on federal lands are subject to the Endangered Species Act, which preempts state law. Miller presents a new and innovative way to incorporate state endangered species laws on federal lands that gets around the traditional supremacy and preemption problems.

Volkman, John M. "The Endangered Species Act and the Ecosystem of Columbia River Salmon." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 833 – 865 (2008).

Columbia River salmon have been in decline for decades. The Northwest has addressed this issue with various tools including use of the Endangered Species Act. Volkman reviews the Endangered Species Act program on the Columbia River and makes two points. First, the Endangered Species Act process focuses on species recovery, which is



different from ecosystem recovery. Second, even if the Endangered Species Act process took an ecosystem approach, it still would be faced with major economic and political challenges.

**IX.****ENVIRONMENTAL LAW**

Angelo, Mary Jane, and Mark T. Brown. “Incorporating Emergy Synthesis into Environmental Law: An Integration of Ecology, Economics, and Law.” 37 *Environmental Law* 963 – 986 (2007).

Angelo and Brown look at the potential for using emergy synthesis as a tool for environmental decision making that integrates ecology, economics, and law. “Emergy” is a contraction of “embodied energy” and is used to measure the work of nature and humans in generating products and services. The authors look at the advantages that emergy synthesis offers over other decision making tools in environmental law. The article uses examples to explain how emergy synthesis may be implemented, including an analysis of how the mechanism may be used with federal laws such as the Endangered Species Act and the Federal Insecticide, Fungicide, and Rodenticide Act.

Antolini, Denise E., and Clifford L. Rechtschaffen. “Common Law Remedies: A Refresher.” 38 *Environmental Law Reporter* 10114 – 10127 (2008).

Antolini and Rechtschaffen provide an overview of common law theories that may be used to protect the environment. The authors note instances in which environmental statutes would preempt federal and state common law claims.

Barsh, Russel Lawrence. “Coast Salish Property Law: An Alternative Paradigm for Environmental Relationships.” 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 1375 – 1416 (2008).

The Salish region is located between the Cascade and Olympic mountain ranges in the Pacific Northwest. Barsh compares Coast Salish property law to Western property law. He suggests that the Coast Salish property law could provide an alternative paradigm of environmental law. The author bases the article on the work of three scholars of Coast Salish people from the early to mid-twentieth century.

Blumm, Michael C., and Erik Grafe. “Enacting Libertarian Property: Oregon’s Measure 37 and Its Implications.” 8 *Denver University Law Review* 279 – 368 (2007).

Blumm and Grafe look at Oregon’s Measure 37, “a measure promising landowners complete compensation for any regulation reducing any value of land imposed after acquisition by the owner or her family.” The authors look at the history of land use law in Oregon and the events leading to the adoption of Measure 37. The article details the judicial interpretations of the measure. The authors also explain how the measure’s exceptions will affect the implementation of the measure. Blumm and Grafe ponder the viability of such a measure in other states. The authors conclude that “Measure 37 is an unfortunate experiment that ought not to enjoy widespread replication ...”



Boudreaux, Paul. “Biodiversity and a new ‘Best Case’ for Applying the Environmental Statutes Extraterritorially.” 37 *Environmental Law* 1107 – 1143 (2007).

Although the federal courts have adopted a presumption that most environmental statutes do not apply to conduct overseas, Boudreaux makes a “best case” argument for applying United States environmental laws extraterritorially. He uses § 7 of the Endangered Species Act to make his case. Boudreaux says that international conduct inevitably affects interest in the United States, pointing out how protecting endangered species abroad would preserve goods and services for the United States. In his best case, the author also points out how the federal laws may be applied in a way that would provide for a minimum amount conflict between the national and international laws.

Brosnan, Deborah M. “Science, Law, and the Environment: The Making of a Modern Discipline.” 37 *Environmental Law* 987 – 1006 (2007).

Using examples from the Endangered Species Act and recent advances in modern science, Brosnan illustrates how science and law, within the context of environmental law, influence each others’ thinking, direction, and advances. The article calls for the recognition that science and law are intertwined and advocates the development of a new modern discipline that trains students to be fluent in science, law, and policy.

Carson, Avery Emison. “Integrating Conservation Uses into Takings Law: Why Courts Should View Conservation as a Possible Highest and Best Use.” 86 *North Carolina Law Review* 274 –303 (2007).

Carson examines how conservation uses could be factored into the “just compensation” property owners receive when there has been a Constitutional taking. The article first examines the basics of eminent domain and regulatory takings, including the standards courts usually consider in determining just compensation in takings case. Next, the author looks at takings cases in which courts have considered whether or not to take conservation uses into account when valuing property. Carson also outlines current environmental markets and explains how they may be used to protect environmental resources.

Chen, Linus. “*National Association of Home Builders v. Defenders of Wildlife* and the Meaning of Agency ‘Discretion’.” 38 *Environmental Law Reporter* 10039 – 10056 (2008).

Chen looks at the circuit court split over the meaning of discretion and agency authority following the Supreme Court’s decision in *National Association of Home Builders v. Defenders of Wildlife*. He suggests that the Supreme Court incorrectly decided that the Environmental Protection Agency did not have to undergo consultations under § 7 of the Endangered Species Act before delegating CWA permitting authority to the states. He argues that the Court’s decision could increase the use of “discretion” as a defense for agency action or inaction.

Crespi, Gregory Scott. “What’s Wrong with Dumping Radioactive Wastes in the Ocean? The Surprising Ethical and Policy Analysis Implications of the Problem of Person-Altering Consequences.” 37 *Environmental Law Reporter* 10873 – 10887 (2007).



Crespi makes an argument against a commonly cited rationale for environmental protection: the ethical obligation to protect the planet for future resources. He suggests that this rationale may be misguided, since policy decisions could have “person-altering consequences,” meaning that the policy decisions will affect how many and which people make up future generations. He explains that present policy decisions could affect the future generations that will be born.

Granger, Leah C. “The Role of International Tribunals in Natural Resource Disputes in Latin America.” 34 *Ecology Law Quarterly* 1297 – 1347 (2007).

With the proliferation of international tribunals in recent years, some of the tribunals exercise authority over the same jurisdictions. Although conventional wisdom is that this could lead to conflict, Granger argues that the existence of international tribunals that share jurisdiction over the same issue will foster the protection of natural resources. Granger reinforces her argument with an examination of how multiple tribunals have provided a benefit for four natural resource disputes in Latin America.

Haughey, Addie, et. al. “Exploring How Today’s Development Affects Future Generations Around the Globe: World News.” 8 *Sustainable Development Law and Policy* 76 – 77 (2007).

Dividing the globe into six regions, Haughey and coauthors look at recent developments in environmental law. The article includes studies of the Arctic Ocean’s circulation change and notes recent events concerning the loggerhead sea turtle in the United States.

Houck, Oliver A. “Standing on the Wrong Foot: A Case for Equal Protection.” 58 *Syracuse Law Review* 1 – 43 (2007).

Houck explains how the limitation of standing in environmental cases denies equal protection under the law. He looks at the controversy over standing to sue, specifically at the case or controversy test. Houck examines the treatment of the standing issue by the courts, including an analysis of the issue in *Massachusetts v. Environmental Protection Agency*.

Lee, Ruth Jackson. “The Changing Tide of Land Use and Environmental Law.” 23 *Journal of Land Use and Environmental Law* 111 – 133 (2007).

Lee surveys a few court decisions and statutory developments from the past year in land use and environmental law to illustrate attempts to reconcile competing interests.

Matthews, Joan Leary. “2005-2006 Survey of New York Law: Environmental Law.” 57 *Syracuse Law Review* 1081 – 1133 (2007).

In this review of New York environmental law, Matthews provides a look at recent case law and new regulations affecting the state. The article contains information on environmental quality review, water quality and wetlands, and open space protection.

McCarthy, Elena, and Flora Lichtman. “The Origin and Evolution of Ocean Noise Regulation under the U.S. Marine Mammal Protection Act.” 13 *Ocean and Coastal Law Journal* 1 – 46 (2007).



McCarthy and Lichtman review the regulation of ocean noise under the Marine Mammal Protection Act (MMPA). The authors explain how the broadening of the definition of “take” under the MMPA has made administration of the act more challenging. The authors use the example of ocean noise to illustrate the problem. McCarthy and Lichtman recommend several changes to the law, including a wider application of the General Authorization, the use of Marine Protected Areas as a regulatory tool, and an overhaul of the MMPA’s broad definition of harassment.

Sax, Joseph L. “The Unfinished Agenda of Environmental Law.” 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 1 – 11 (2008).

Sax reflects on the infancy of environmental law in the industrialized nations in which it has only been four decades since the basic environmental protections laws were instituted. The article focuses on what changes in the law still must occur to ensure protection of the environment.

Sheldon, Karin P. “Eight Lessons in Search of the Future: Observations on the Occasion of the Silver Anniversary of the Virginia Environmental Law Journal.” 25 *Virginia Environmental Law Journal* 37 – 54 (2007).

Sheldon considers the past and the future of environmental law. She describes how the necessity of environmental law has fallen from the public forefront at a perplexing time: when two environmental threats, climate change and energy consumption, are impending. Sheldon discusses the lessons that have been learned in environmental law thus far.

Smith, Brooks Meredith, and Andrea West Wortzel. “Environmental Law.” 42 *University of Richmond Law Review* 383 – 416 (2007).

In this annual survey, Smith and Wortzel highlight key developments in environmental law in Virginia. The article gives in-depth information on different topics, including water quality, water resources, and natural resources.

Steinberg, Jessica A. “Appraising Conservation Easement Donations: The Need for More Uniform Standards and Greater Oversight.” 37 *Environmental Law Reporter* 10841 – 10854 (2007).

Steinberg advocates for standardized appraisal methods for charitable contributions of conservation easement donations. She explains how a uniform appraisal method and greater oversight by the Internal Revenue Service (IRS) would encourage more landowners to donate conservation easements on their property. Furthermore, a standardized framework would help the IRS to curb abuse of tax laws and guarantee that the conservation easements are donated in perpetuity.

Stensvaag, John-Mark. “Preventing Significant Deterioration under the Clean Air Act: New Facility Permit Triggers.” 38 *Environmental Law Reporter* 10003 – 10020 (2008).

In this third article in a series on preventing significant deterioration under the Clean Air Act, Stensvaag examines the conditions that require a new stationary source to secure a PSD permit. He looks at the benefits of avoiding such a permit and discusses



the relevant statutory and regulatory language for the construction of a new major emitting facility.

Stone, Christopher D. "Is Environmentalism Dead?" 38 *Environmental Law* 19 – 45 (2008).

Environmentalism has recently been criticized as dead. Stone concedes that there are reasons to be frustrated; however, this article attempts to put the criticisms into perspective by comparing the environmental movements with prior social movements. Stone does so by identifying the criteria upon which the movement should be judged and by analyzing the data accordingly.



X.

FISHERIES MANAGEMENT

Blumm, Michael C., and Hallison T. Putnam. "Imposing Judicial Restraints on the 'Art of Deception:' The Courts Cast a Skeptical Eye on Columbia Basin Salmon Restoration Efforts." 38 *Environmental Law* 47 – 85 (2008).

Blumm and Putnam update an article written two years ago examining the restoration efforts for Columbia Basin Salmon. The article concludes that the federal agencies' restoration efforts were not meaningful and predict that the efforts will come under "active and skeptical judicial review." The authors examine several decisions that have in fact reviewed the restoration efforts, including three cases from the Ninth Circuit and two cases from federal district court.

Dutton, Peter H., and Dale Squires. "Reconciling Biodiversity with Fishing: A Holistic Strategy for Pacific Sea Turtle Recovery." 39 *Ocean Development and International Law* 200 – 222 (2008).

Recovery of sea turtle populations requires addressing: multiple sources of mortality; nonmarket, diffuse benefits with costs localized on the poor; and a transboundary resource with incomplete jurisprudence, markets, and institutions. Holistic recovery strategies include: beach conservation protecting nesting females, their eggs, and critical breeding habitat to maximize hatchling production; enhanced at-sea survival of turtles on the high seas and in commercial coastal fisheries; and reduced artisanal coastal fisheries mortality of turtles. The traditional approach of focusing long-term sustained conservation efforts on the nesting beaches has by itself led to increases in several sea turtle populations. However, current conservation is inadequate to reverse declines in other cases such as the critically endangered leatherback populations in the Pacific. Dutton and Squires discuss policy instruments comprising a holistic recovery strategy that reconciles fishing with biodiversity conservation.

Abstract courtesy of Ocean Development and International Law

Eagle, Josh. "A Window into the Regulated Commons: The Takings Clause, Investment Security, and Sustainability." 34 *Ecology Law Quarterly* 619 – 654 (2007).

Under the holding of the U.S. Court of Appeals for the Federal Circuit in *American Pelagic Fishing Co. v. United States*, the government will almost never be held liable for an unconstitutional taking when fisheries regulations reduce the value of commercial fishing permits, vessels, or gear. Eagle argues that conflicts between fishing lobbyists



and the dual roles of government, as both regulator and facilitator, are preventing the Magnuson-Stevens Fishery Conservation and Management Act from achieving its goal of sustainable fisheries.

Edwards, Holly. "When Predators Become Prey: The Need for International Shark Conservation." 12 *Ocean and Coastal Law Journal* 305 – 354 (2007).

In this article, Edwards advocates for international shark conservation. She explains the biological reasons sharks are particularly vulnerable to overfishing and looks at the impact of international trade on shark populations. She provides an overview of the international conservation measures regarding sharks, pointing out their weaknesses. Edwards concludes that improving the enforcement of existing international trade regulations would provide better protection for threatened shark populations.

Jeon, Yongil, et. al. "Is There a Global Market for Tuna? Policy Implications for Tropical Tuna Fisheries." 39 *Ocean Development and International Law* 32 – 50 (2008).

Regional ex-vessel markets for cannery-grade skipjack tuna throughout the globe are spatially integrated by price, but such markets for yellowfin tuna are spatially independent. The Americas exert primary price leadership in ex-vessel skipjack markets, but Bangkok and American Samoa also exert price leadership, and Ivory Coast, Japan, and Spain are largely price followers. Regional ex-vessel markets for skipjack and yellowfin are not integrated by prices. While price effects of this nature are simply evidence of a pecuniary externality, and thereby do not necessarily affect the overall size of global net benefits, in practice such price effects affect distribution among players—who wins and who loses—and in this manner, the eventual formation of, and compliance with, different management policies.

Abstract courtesy of Ocean Development and International Law

Politakis, George P. "From Tankers to Trawlers: The International Labour Organization's New Work in Fishing Convention." 39 *Ocean Development and International Law* 119 – 128 (2008).

The Work in Fishing Convention, adopted at the last session of the International Labour Conference in June 2007, revises and updates a number of earlier International Labour Organization (ILO) instruments concerning the working and living conditions of fishers. The Convention aims to provide decent work for fishers and contribute to a sustainable fishing industry. Together with the Maritime Labour Convention of 2006, it stands as a prominent example of the ILO's continued effort for consolidated, flexible, and easily ratifiable labor standards.

Abstract courtesy of Ocean Development and International Law

Towberman, Christine Goepp. "Fishing for a Solution: The Role of the United States in Preventing Collapse of the Eastern Atlantic Bluefin Fishery." 38 *Environmental Law Reporter* 10102 – 10113 (2008).

The Atlantic bluefin tuna is at risk from overfishing. Towberman notes that the Eastern and Western Atlantic bluefin populations are managed separately; however, overfishing in the eastern Atlantic region is straining the overexploited western Atlantic bluefin. She argues that, although the United States does not harvest or



consume a large amount of eastern Atlantic bluefin, it should protect the species in order to preserve the western Atlantic bluefin. Towberman looks at the issues affecting the eastern Atlantic bluefin tuna and explores the possibility of unilateral trade sanctions by the United States. She concludes with suggestions for U.S. management of the Atlantic bluefin fishery.



XI.

LAW OF THE SEA

Freestone, David. "A Decade of the Law of the Sea Convention: Is It a Success?" 39 *George Washington International Law Review* 499 – 542 (2007).

Freestone asks whether the United Nations Convention on the Law of the Sea (UNCLOS) has been a success, particularly in its efforts to preserve marine areas and other natural resources. The author looks at issues that have cropped up since the text of UNCLOS was finalized in 1982, including issues preceding the 1992 U.N. Conference on Environment and Development. Freestone also analyzes the 1994 and 1995 "Implementation Agreements." The article identifies the most successful elements of UNCLOS, as well as pointing out issues that have developed that were not foreseen in the 1982 agreement.

Keyuan, Zou. "Law of the Sea Issues between the United States and East Asian States." 39 *Ocean Development and International Law* 69 – 93 (2008).

The United States is the sole superpower in the contemporary world and its role in the development of the law of the sea cannot be ignored. Although having not yet acceded to the U.N. Convention on the Law of the Sea, the United States has contributed to the development of the international law of the sea in numerous ways, including responding to the so-called excessive maritime claims in East Asia and creating new rules of maritime enforcement. Keyuan assesses this recent U.S. practice.

Abstract courtesy of Ocean Development and International Law

Kraska, James. "The Law of the Sea Convention: A National Security Success – Global Strategic Mobility through the Rule of Law." 39 *George Washington International Law Review* 543 – 572 (2007).

Kraska provides an overview of the United Nations Convention on the Law of the Sea (UNCLOS). He concludes that the treaty has successfully provided a framework to manage ocean resources, while protecting freedom of the seas. The article explains how the treaty has been a national security success. Kraska warns that for the Convention to maintain its success, efforts must be made not to restructure the navigational regimes in a way that would diminish transit passage.

Macnab, Ron. "Submarine Elevations and Ridges: Wild Cards in the Poker Game of UNCLOS Article 76." 39 *Ocean Development and International Law* 223 – 234 (2008).

Submarine elevations and ridges present an array of definitional uncertainties to coastal states that are engaged in the high-stakes process of delimiting extended continental shelves. Faced with the imprecise terminology of Article 76, with the nonspecific wording of the Scientific and Technical Guidelines of the Commission on the Limits of the



Continental Shelf (CLCS), and with the Commission's rules of confidentiality that hamper the open exchange of information concerning ridge and elevation assessments in previous continental shelf implementations, a coastal state needs to develop its own evaluations of what might and might not pass the "test of appurtenance." Significant components of a continental shelf submission might thus be formulated on the basis of these national evaluations, only to have the CLCS question them, which could necessitate a potentially expensive and time-consuming reworking of the submission. Macnab outlines the ramifications of this wild card effect.

Abstract courtesy of Ocean Development and International Law



XII. MARINE PROTECTED AREAS

Aswani, Shankar, and Takuro Furusawa. "Do Marine Protected Areas Affect Human Nutrition and Health? A Comparison between Villages in Roviana, Solomon Islands." 35 *Coastal Management* 545 – 565 (2007).

The implementation of marine protected areas (MPAs) for fisheries management has increased recently due to the perceived role of MPAs in conserving biodiversity, increasing fish stocks, and enhancing the food security of coastal communities. However, it is unclear whether MPAs may restrict the availability of marine resources and decrease overall food security and the health of the people. In the Roviana Lagoon of the Solomon Islands, we conducted cross-comparisons of villages with MPAs and a village without an MPA to assess whether MPAs influenced local perceptions of governance, environmental change, livelihood strategies, and actual human nutrition and health. Results showed that residents of villages with effective MPAs had higher energy and protein intake than those who had no MPA or an ineffective MPA. We conclude that "no-take" marine reserves do not have adverse effects and that when MPAs are effectively sustained they may enhance local nutrition and health.

Abstract courtesy of Coastal Management

Himes, Amber H. "Performance Indicator Importance in MPA Management Using a Multi-Criteria Approach." 35 *Coastal Management* 601 – 618 (2007).

Much has been written about the usefulness of marine protected areas (MPAs) as a management tool. Their performance has been measured using biological and ecological indicators. However, objectives of management also include economic and social responsibilities. As such, stakeholder objectives in MPA management are frequently incompatible. This has been attributed to the variety of stakeholders with an interest in how MPAs are managed. This article considers the development of a performance indicator hierarchy for the Egadi Islands Marine Reserve, and a multi-criteria approach implemented to define compromise positions between stakeholders in decision-making. Data was obtained from a pairwise comparison survey using the analytic hierarchy process to investigate preferences of stakeholder groups for performance indicators in evaluating marine protected area management. The analysis showed that although there are five key stakeholder groups, none are homogenous in prioritizing performance indicators and that none are clear with respect to what the MPA means for them.

Abstract courtesy of Coastal Management



Obegi, Doug. "Is There a Constitutional Right to Fish in a Marine Protected Area? Analysis of the California Constitution's Right to Fish Provision and Its Impact on the State's Power to Create Marine Reserves and Other Types of Marine Protected Areas (MPAs)." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 1419 – 1447 (2008).

The California Fish and Game Commission adopted regulations prohibiting or restricting fishing in a portion of state waters surrounding the Channel Islands. Fishermen alleged that the regulations violated the California Constitution's Right to Fish provision. Obegi first looks at why Marine Protected Areas (MPAs) are important, including scientific support. He then looks at the state's history and ability to manage marine resources. Obegi analyzes current and potential litigation regarding the Right to Fish provision and the MPAs and looks at the impact of the provision on the state's ability to create MPAs.



XIII.

MARINE SECURITY

Rosenberg, David, and Christopher Chung "Maritime Security in the South China Sea: Coordinating Coastal and User State Priorities." 39 *Ocean Development and International Law* 51 – 68 (2008).

Maritime security concerns in the South China Sea are increasing for several reasons: higher volumes of shipping traffic, protection of exclusive economic zone resources, piracy, terrorist threats, greater international scrutiny of ports and shipping, and the modernization of regional naval and coast guard forces. Coastal states and international user states have many overlapping interests in the South China Sea, for example, in promoting safe navigation through its busy sea-lanes. On other issues, in particular, antipiracy or anti-maritime terrorism measures, they have different views about the seriousness of the threats and the responses necessary to address them. Rosenberg and Chung examine the convergent and divergent maritime security interests of coastal states (China, Indonesia, Malaysia, and Singapore) and international user states (Australia, India, Japan, and the United States) in the South China Sea. It finds that multiple stakeholders pursuing diverse interests have yet to close the gap between goals and means of achieving maritime security.

Abstract courtesy of Ocean Development and International Law

Schofield, Clive, et. al. "Securing Maritime Australia: Developments in Maritime Surveillance and Security." 39 *Ocean Development and International Law* 94 – 112 (2008).

A long coastline and extensive maritime claims mean that Australia benefits from and has responsibility for an enormous maritime jurisdiction. Within this offshore area Australia faces significant, varied, and complex maritime security and ocean policy challenges. In response, Australia has taken a number of innovative steps toward enhancing its maritime security. Schofield and coauthors review Australia's past practice together with some of the more recent developments in this context, particularly efforts to enhance offshore maritime surveillance and enforcement, such as the creation of the Taskforce on Offshore Maritime Security and Border Protection Command, establishment of the Australian Maritime Identification System, and implementation of augmented security patrols.

Abstract courtesy of Ocean Development and International Law



XIV. MARITIME BOUNDARIES

McLaughlin, Richard J. "Hydrocarbon Development in the Ultra-Deepwater Boundary Region of the Gulf of Mexico: Time to Reexamine a Comprehensive U.S.-Mexico Cooperation Agreement." 39 *Ocean Development and International Law* 1 – 31 (2008).

Finding and exploiting oil and gas resources in the ultra-deepwater areas of the Gulf of Mexico is occurring at an accelerated pace. New discoveries have recently been made in a large geological structure known as the Lower Tertiary Wilcox Trend that is located in the U.S.-Mexico Maritime Boundary Region. However, due to the transboundary characteristics of many of these hydrocarbons, some form of bi-national cooperation is necessary to effectively manage the shared resources, protect the oceanic environment and comply with evolving norms of international law before commercial production can begin. Well-established international customary norms prohibit unilateral exploitation of transboundary oil and gas resources. Consequently, it is important for the two nations to address these issues today rather than putting them off until they become a critical political problem in their bilateral relations.

Abstract courtesy of Ocean Development and International Law

Song, Yann-Huei. "The Potential Marine Pollution Threat from Oil and Gas Development Activities in the Disputed South China Sea/Spratly Area: A Role that Taiwan Can Play" 39 *Ocean Development and International Law* 150 – 177 (2008).

Song examines the potential threat of marine pollution caused by offshore oil and gas development activities in the disputed areas of the South China Sea (SCS) and the Spratly Islands. After addressing the potential threat of marine pollution, Song discusses the legal obligations and political commitment of the SCS littoral states regarding the protection of the marine environment in the area. The role that Taiwan can play in these matters is also examined.

Abstract courtesy of Ocean Development and International Law

Tanaka, Yoshifumi. "Reflections on the Conservation and Sustainable Use of Genetic Resources in the Deep Seabed beyond the Limits of National Jurisdiction." 39 *Ocean Development and International Law* 129 – 149 (2008).

Attention is increasingly being given to genetic resources in the deep seabed beyond the limits of national jurisdiction owing to their considerable potential scientific and economic value. At the same time, there are concerns that the increased demand for these genetic resources may result in their unsustainable collection or even in the extinction of species in the deep seabed. At present there is no specific legal framework governing these resources in international law. Thus, Tanaka explores the relevant rules of international law applicable to the conservation and sustainable use of genetic resources in the deep seabed.

Abstract courtesy of Ocean Development and International Law



XV. OCEAN GOVERNANCE

Bondareff, Joan M. "The EU Adopts an Integrated Maritime Policy and Action Plan: Is the U.S. Far Behind or Ahead?" 8 *Sustainable Development Law and Policy* 47 – 52 (2007).

On October 10, 2007, the European Commission adopted a new Integrated Maritime Policy for the European Union. The Integrated Maritime Policy is accompanied by a



detailed action plan, which features different implementation mechanisms. Bondareff reviews the key elements of the action plan and compares it to the United States policy and law on the oceans and coasts.

Lefebvre-Chalain, Helene. "Fifteen Years of Particularly Sensitive Sea Areas: A Concept in Development." 13 *Ocean and Coastal Law Journal* 47 – 69 (2007).

On the fifteenth anniversary of the International Maritime Organization's (IMO) adoption of a resolution setting forth guidelines for designating special zones and identifying particularly sensitive sea areas (PSSAs), Lefebvre-Chalain looks at the effectiveness of PSSAs. The article first looks at the PSSA model, noting its development over the past fifteen years. The author compares the model to other environmental concepts and evaluates the current PSSA model. Lefebvre-Chalain concludes with suggestions on improvements for the PSSA model and identifies potential locations for future PSSAs.

Sivas, Deborah A., and Margaret R. Caldwell. "A New Vision for California Ocean Governance: Comprehensive Ecosystem-Based Marine Zoning." 27 *Stanford Environmental Law Journal* 209 – 269 (2008).

Sivas and Caldwell examine the potential for comprehensive ecosystem-based marine zoning for the state of California. The paper analyzes the existing framework of laws governing the California coast, identifying shortcomings and looking at alternative approaches. The authors suggest a new marine management regime that would facilitate coordination among agencies, reduce uncertainty for coastal users, and provide flexibility to changing uses and circumstances. Sivas and Caldwell outline the necessary components of state legislation that would achieve these goals.



XVI.

POLLUTION

Congdon, Chelsea H., et. al. "Economic Incentives and Nonpoint Source Pollution: A Case Study of California's Grasslands Region." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 215 – 308 (2008).

Effectively controlling water pollution from agricultural drainage in California's San Joaquin Valley has challenged and discouraged regulators, farmers, and environmentalists. Problems associated with agricultural pollution in the San Joaquin Valley are similar to nationwide problems. The agricultural drainage crisis in the Grasslands region provides a good case study for testing the advantages and disadvantages of both incentive-based programs and traditional regulatory programs. Congdon and coauthors examine the feasibility of using economic incentives to control pollution from irrigated agriculture in the Grasslands.

Liu, X. "Consensus Building in Oil Spill Response Planning Using a Fuzzy Comprehensive Evaluation." 35 *Coastal Management* 195 – 210 (2007).

Major accidental oil spills still affect ecologically and economically sensitive marine areas and shorelines, even though environmental programs and policies have led to an increase of ship safety measures. The aim of decision making during oil spill response management is to minimize pollution effects on coastal areas, once spills occur.



However, limited equipments or options prevent such a globally satisfying combat strategy. Thus, often preferences between different coastal areas or uses, respectively, have to be made in an operational way. Such a management issue is here taken as a multigroup multicriteria decision-making problem involving a variety of stakeholders and natural dynamic environments. For solving such a complex problem, this article proposes a second order fuzzy comprehensive evaluation (FCE) model, which takes the influence of multiple criteria and the knowledge of different interested groups into account and further provides a basis for simulating a voting-based decision process. With the combination of oil fate simulations and FCE technique, managers are able to realize an integrated management for oil spill. Through a case study of the Prestige accident off the Spanish coast in 2002, it is demonstrated that the model provides a simple, effective and adaptable method to solve operational management problems related to complex human nature interactions as realized during oil spill management. Moreover, a series of analyses and comparisons are focused on to explore potentials and limitations of the FCE for further applications in the field of multigroup multicriteria decision making.

Abstract courtesy of Coastal Management



XVII. SHIPPING

Kaiser, Mark J. "A Review of Ship Breaking and Rig Scrapping in the Gulf of Mexico." 39 *Ocean Development and International Law* 178 – 199 (2008).

Ship breaking and rig scrapping is the process in which a unit is broken down and recycled into salvageable components, cut into pieces, and transported to a domestic steel mill or exported on a cargo vessel. Breaking is a labor-intensive, low-technology, and relatively homogeneous industry. Work conditions in breaking yards are difficult, dangerous, and potentially hazardous, with operations that are not well suited for mechanization. Ship breaking and rig scrapping share many common features in workflows, worker safety, and environmental issues, but also have notable differences in breaking cost and industry structure. Ship breaking and rig scrapping do not play a major role in the material handled by scrap processors in the United States, but they are part of the unique industrial landscape associated with the offshore energy industry. The purpose of this article is to review the scrap and storage markets for ships and rigs in the Gulf of Mexico. The disposal alternatives, inventory statistics, and the factors that influence breaking and disposal cost are reviewed. The primary environmental protection and worker safety statutes are also outlined.

Abstract courtesy of Ocean Development and International Law



XVIII. SUSTAINABILITY

Brennan, Ruth. "The North Norfolk Coastline: A Complex Legacy." 35 *Coastal Management* 587 – 599 (2007).

The North Norfolk coast is a naturally eroding coastline that has been subject to various management strategies over time, many of which have impeded its natural evolution. The Kelling to Lowestoft-Ness Shoreline Management Plan underpins management of the North Norfolk coast, advocating policies of managed realignment and no



active intervention for much of this coastline. Implementation of these policies would give rise to significant loss of housing in North Norfolk during the course of this century. This has caused intense conflict between local communities and coastal planners, with the former feeling abandoned to the vagaries of natural coastal processes. Coastal planners need to work closely with local communities to implement a long-term vision for a sustainable coast. The issues of conflicting land-use planning policies and compensation for affected communities must be addressed. The wider implications of current management strategies are not fully understood and may, in some cases, be unsustainable.

Abstract courtesy of Coastal Management

Dearden, Philip, et. al. "Perceptions of Diving Impacts and Implications for Reef Conservation." 35 *Coastal Management* 305 – 317 (2007).

SCUBA diving can contribute to both coral reef degradation and conservation. Divers' perceptions of these possible impacts were studied in Phuket, Thailand. The most endorsed impact of diving was a positive one: the educational impact on the divers. Impact perceptions changed after the dive. Perceptions of anchor damage and garbage disposal as negative impacts fell markedly. Following the trip liveaboard divers were more likely than day divers to see the impact of diving as positive. Almost 30% of divers witnessed perceived negative impacts on the reef by their dive group. Divers who saw damage were more likely to feel that diving has a negative impact on the reef than divers who did not see impacts. They were also more likely to take part in a reef conservation project. The results reinforce the potential for diving to be a positive force for reef conservation but indicate the need for greater investment in diver education.

Abstract courtesy of Coastal Management

Foster-Smith, J. et. al. "Human Impacts on Cable Beach, Broome (Western Australia). 35 *Coastal Management* 181 – 194 (2007).

There are concerns that Cable Beach, which is of outstanding natural beauty and a major tourist attraction for Broome and the Kimberley region of northwest Australia, is suffering damage from recreational use, particularly that caused by off-road vehicles. To assess current levels of human impact on the shore and its fauna, the southern-most kilometer of the Beach, covering an area to which vehicles had access and an adjacent area closed to vehicles, was surveyed for human usage and shore crab abundance. Human usage over the recording period was high in the area with high vehicular access. The amount of litter, although considerable, was well below that recorded in some other tourist destinations elsewhere in the world. Burrows of both the ghost crabs *Ocypode* spp, and the sand bubbler, *Scopimera inflata*, were less numerous in areas of high vehicle use than those of low use. Both species may be valuable in monitoring human impacts on Cable Beach.

Abstract courtesy of Coastal Management

Murray, Grant. "Constructing Paradise: The Impacts of Big Tourism in the Mexican Coastal Zone." 35 *Coastal Management* 339 – 355 (2007).

Although coastal tourism is often looked to as a way of generating foreign revenue, it can also engender a range of social and environmental impacts. From an historical



perspective, this article examines the growth of Cancun in the Mexican state of Quintana Roo since the late 1960s. The article documents a range of socioeconomic and environmental impacts associated with the rise of coastal tourism, and suggests that centralized planning and the provision of physical and financial infrastructure does not prevent those impacts. The principal causes of these impacts are also described, including changes in land-use, population, tourism markets, foreign market penetration and control, an emphasis on short-term economic gain, weak regulatory enforcement, and an overall lack of integration of coastal zone management.

Abstract courtesy of Coastal Management

Schlacher, Thomas A., and Luke M.C. Thompson. "Exposure of Fauna to Off-Road Vehicle (ORV) Traffic on Sandy Beaches." 35 *Coastal Management* 567 – 583 (2007).

Driving of off-road vehicles (ORVs) on sandy beaches is common and widespread, but is not universally embraced due to putative environmental impacts on beach biota. For ORVs to impact the beach fauna, traffic areas must overlap with faunal habitat: a fundamental pre-requisite for impact assessments but as yet un-quantified for sandy beaches. Thus, this study quantified the spatial and temporal patterns of ORV traffic on five Australian beaches, and measured the degree to which the distribution of intertidal macro-invertebrates overlaps with traffic zones. Traffic volumes on beaches can be considerable (up to 500 vehicles per day). The position of beach traffic across the beach-face is principally governed by tides and driver behavior. Despite driver education campaigns to the contrary, a considerable fraction of vehicles (16-67%) traverses the soft, upper shore near the foredunes. The majority (65%) of burrowing invertebrate species of the intertidal zone is directly exposed to traffic, save for species inhabiting the swash zone. Because beach traffic presents a formidable management challenge, a fundamental first step in identifying whether ecological impacts are indeed likely, is to assess the potential for spatial and temporal conflict between human pressures (e.g., ORVs) and biological resources (e.g., beach fauna). Although this potential is certainly substantial for sandy shores used by ORVs, the actual ecological impacts on the intertidal fauna can only be predicted in situations where the responses (e.g., direct mortality, behavioral changes) of individual species to beach traffic are known.

Abstract courtesy of Coastal Management

Williams, Angela. "Reconciling Tourism and the Environment: A Task for International Environmental Law?" 9 *Vermont Journal of Environmental Law* 23 – 70 (2007).

Williams discusses the environmental impacts of the tourism industry on environments around the world. The article discusses possible legal mechanisms that could manage tourism in a manner that would protect the environment. Williams focuses on recent efforts to address the adverse impact on tourism and discusses whether these efforts have the potential to achieve environmentally sustainable tourism.



XIX.

WATER LAW

Cosens, Barbara. "Farmers, Fish, Tribal Power, and Poker; Reallocating Water in the Truckee River Basin, Nevada and California." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 1243 – 1293 (2008).



Contemporary water policy increasingly focuses less on water development and more on improvements in management, efficiency, and scientific understanding, which often conflict with the law governing water allocation. Negotiation is playing an increasingly important role in the effort to solve modern problems. By looking at the Truckee River Basin, Cosens shows that locally driven negotiations to resolve problems of water allocation and management are the most efficient means to produce long-lasting solutions.

Davies, Lincoln L. "Just a Big, 'Hot Fuss'? Assessing the Value of Connecting Suburban Sprawl, Land Use, and Water Rights through Assured Supply Laws." 34 *Ecology Law Quarterly* 1217 - 1295 (2007).

As the population grows, land use and water supply issues grow more critical. Davies suggests that it is vital for states and localities to link land use and water supply planning. In this article, he advocates the use of assured supply laws to ensure that sprawl does not create an undue strain on water resources. The author analyzes the costs and benefits of assured supply laws. He suggests ways in which the laws may be most effectively designed to minimize sprawl and protect water resources.

Fullerton, David. "Principles for Agreement on Bay/Delta Standards between the State of California and the Federal Government, as Signed on December 15, 1994." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 179 - 202 (2008).

On December 15, 1994, the state and federal governments, major water users, and environmental groups announced an agreement on the Bay/Delta environmental standards that will govern the Bay/Delta Estuary over the next three years. The Agreement represents the first time that the major interests involved in California water management have agreed to implement a specific list of protective measures for the Estuary; however, the Agreement does not solve the Estuary's environmental or water supply problems in the Estuary. Fullerton describes and discusses the Agreement.

Giuda, Alita. "The Central Valley Project Improvement Act: Who Says Environmental Uses Are Not Beneficial?" 11 *Albany Law Environmental Outlook Journal* 304 - 332 (2007).

Examining *Central Valley Water Agency v. United States*, a case discussing the priority of rights for water allocation among users, Giuda looks at water allocation in the western United States. The author first gives an overview of the development of water law. Next, she looks at current priorities of water uses in California and discusses the Central Valley Project Improvement Act. Finally, Giuda concludes with suggestions for efficient water uses to benefit the western United States' water allocation system.

Gray, Brian E. "Dividing the Waters: The California Experience." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 1297 - 1308 (2008).

Gray provides a review of California's water policy. He notes the role of environmental factors in water division. He then turns to the increasing pressures to reallocate water supplies from agricultural uses to meet the needs of cities, suburbs, and businesses. Gray notes that California will need to improve the efficiency of water use and water allocation. The article includes analysis of court decisions that have shaped California water law.



Gray, Brian E. "The Market and the Community: Lessons from California's Drought Water Bank." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 41 - 102 (2008).

Gray examines the legal issues related to the transfer of water from users in Yolo and Solano Counties to the 1991 Water Bank. The article evaluates the actions taken by the associated agencies in implementing the transfer, questioning their conformity with good public policy. Taking these issues into account, Gray suggests ways in which the state's water transfer laws could be amended to address the inappropriate actions or redress actions "which inappropriately favored some of the competing interests over others."

Leshy, John D. "The Federal Role in Managing the Nation's Groundwater." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 1323 - 1348 (2008).

Groundwater is a vital resource for the United States. In the last half century, the use of groundwater for irrigation and for public water supplies has increased dramatically. Leshy notes that state law has proven inadequate in managing the nation's groundwater and suggests that the federal government should take a more prominent role in managing the resource. The article includes examples of successful groundwater management strategies initiated by the federal government.

Matthews, Nathan. "Rewatering the San Joaquin River: A Summary of the Friant Dam Litigation." 34 *Ecology Law Quarterly* 1109 - 1135 (2007).

In 1988, the Natural Resources Defense Council (NRDC) sued the Federal Bureau of Reclamation in *Natural Resources Defense Council v. Houston*, alleging that water diversions at Friant Dam which dried up sixty miles of the San Joaquin River in California, violated several state and federal environmental laws. In the fall of 2006, eighteen years after the complaint was filed, the parties conditionally approved a settlement that will restore flows to the San Joaquin River. Congress, however, must first pass the settlement's enabling legislation. Matthews describes the process that led to the settlement.

Tarlock, A. Dan, and Sarah B. Van de Wetering. "Growth Management and Western Water Law: From Urban Oases to Archipelagos." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 983 - 1017 (2008).

Western states have experienced extensive population growth and increased rural development, which poses new challenges for land and water planners. Tarlock and Van de Wetering examine one growth management barrier: western water law and policy. The authors look at the possible integration of water law and growth management in the broader context of state governments' traditional control of water allocation.

"A Model Water Transfer Act for California." 14 *Hastings West-Northwest Journal of Environmental Law and Policy* 591 - 620 (2008).

The journal article provides a model water transfer act for California.



XX.

WETLANDS

Lin, Tao, et. al. "Analysis of Coastal Wetland Changes Using the "DPSIR" Model: A Case Study in Xiamen, China." 35 *Coastal Management* 289 – 303 (2007).

Over the past several decades, human activities have had significant impacts on coastal wetlands worldwide. Here, using a model of "Drivers-Pressures-State-Impacts-Responses (DPSIR)" and data collected from coastal wetlands in Xiamen, China, we have analyzed temporal changes in regional coastal wetland ecosystem structure and function from 1950 through 2005. The study period was divided into four parts for comparative analysis: pre-1980s, 1980s, 1990s, and 2000 to present. Our results show that anthropogenic drivers of coastal wetland degradation in this region have increased substantially since 1950, and that this is correlated with a decline in coastal wetland function over the same period.

Abstract courtesy of Coastal Management

Sapp, William W., et. al. "The Historic Navigability Test: How to Use it to Advantage in this Post-Rapanos World." 37 *Environmental Law Reporter* 10797 – 10809 (2007).

Sapp and coauthors discuss the Supreme Court's decision in *Rapanos v. United States*. The article notes that the historic navigability test may be used to establish a significant nexus to a traditional navigable water. The authors provide an overview of historic use cases explaining how the approach may be used.

Smith, Brandon C. "Jurisdictional Donnybrook: Deciphering Wetlands Jurisdiction after Rapanos." 73 *Brooklyn Law Review* 337 – 381 (2007).

For the past decade, there has been rigorous debate over the test that should be applied in determining the Army Corps of Engineers' jurisdiction, under the Clean Water Act, over wetlands. In *Rapanos v. United States*, the Supreme Court presented three different tests to determine jurisdiction with no test prevailing over the others. Smith argues that the *Rapanos* court should have applied the approach, which granted agency deference when an agency's construction of a statute is reasonable, to determine the Corps wetlands' jurisdiction. He further argues that all courts addressing the appropriateness of the Corps' wetlands jurisdiction should implement this approach.

Thigpen, Helen. "The Plurality Paradox: *Rapanos v. U.S.* and the Uncertain Future of Federal Wetlands Protection." 28 *Public Land and Resources Law Review* 89 – 115 (2007).

In an article describing the plurality decision in *Rapanos v. United States*, Thigpen questions the future of federal wetlands protection. The author first explains the issues of the case and examines cases leading up to the decision. Thigpen reviews the opinions in *Rapanos* concluding that the plurality opinion did not create a workable framework for state and federal regulators. Finally, the article examines the impact of Justice Kennedy's concurrence and focuses on what role he may play in future environmental decisions.

