The Coastal Society

TCS BULLETIN
VOLUME 23 (1) 2001

NEW STUDY LOOKS AT THE SOCIOECONOMIC IMPACTS OF MARINE RESERVES IN THE FLORIDA KEYS

by Tanya Dobrzynski & Betsy Nicholson

Marine reserves, discrete ocean areas in which, at a minimum, consumptive activities are prohibited, have the potential to reverse current declines in the marine environment wrought by overfishing, habitat destructive practices, and single-species management measures. At a time when more than 45 percent of U.S. marine fish stocks are either overfished or approaching an overfished condition, and traditional management measures are failing to reverse these trends, marine reserves offer resource managers an important management tool. By placing areas off limits to extractive activities, reserves preserve ecosystem functions, protect biodiversity and habitats, and guard fish and other organisms against depletion in a particular region. Inside reserves, organisms are able to grow to maturity and increase in abundance. Therefore, reserves result in increased reproductive potential of organisms inside their boundaries and may enhance downstream and adjacent fishing grounds via increased larval dispersal and emigration of adults outside their boundaries.

Tanya J. Dobrzynski is currently working as a Marine Policy Analyst at the Ocean Law Project in Washington, D.C. Tanya completed her Master of Environmental Management at Duke University's Nicholas School of the Environment in May 2001.

Betsy Nicholson recently graduated from Duke University with a Masters in Coastal Environmental Management. She received her Bachelor's degree in Environmental Studies at Williams College. Marine protected areas (MPAs) became a major interest during her employment with the Woods Hole Oceanographic Institution Marine Policy Center.

While much is known about the ecological impacts of marine reserves, little is known about their social and economic impacts on human communities. This lack of understanding has likely impeded the establishment of marine reserves in U.S. waters to date, since resource managers and policy makers may be reluctant to promote a management tool whose effects on human communities are so little understood. Many speculate that since reserves displace consumptive users such as commercial and recreational fishers, they will result in negative economic impacts on consumptive users, especially in the short-term. Additionally, some theorize that reserves will have positive economic impacts on nonconsumptive users such as divers and other recreational user groups who are often still permitted to carry out their activities in these areas and may benefit from the reduced disturbance to the environment and reduced competition for space. Over time, many speculate, reserves will result in benefits to all user groups since their long-term fishery and habitat enhancement benefits may offset short-term costs to displaced user groups. Finding answers to these and other questions surrounding the social and economic impacts of reserves may help to promote the use of this important management tool in the future.

For the past two years, as part of our graduate research for Duke University, we worked to enhance the scarce information base on the socioeconomic impacts of marine reserves. Our new study, entitled, *An Evaluation of the Short-term Social and Economic Impacts of Marine Reserves on User Groups in Key*

FLORIDA KEYS,

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WE ARE ON THE MOVE

BUILDING STRENGTH THROUGH PARTNERSHIPS

The Coastal Society is feeling growing pains! In the past few months our board has been moving in high gear—taking care of details that will help us operate more efficiently and establishing priorities that will guide us into the future.

Taking care of details is not always fun and results can take time. Over the past few months our Executive Director, Judy Tucker, has been working closely with board members John Duff and Marc Poirier to amend the Society's bylaws. After two conference calls and a multitude of e-mail exchanges we are happy (and relieved) to present the membership with a set of proposed changes. In the next few weeks, each of you will be mailed these changes and asked to vote to approve/disapprove the proposals. Your review and vote is very important. The bylaws are the rules by which the Society operates and to change these rules, we must have the approval of a simple majority of our membership. So, please don't let the hours of detailed review be in vain, vote and return your ballot.

The Society always is looking for opportunities to better serve our current members and to provide services that will attract prospective members. Kristen Fletcher, the new chair of our Membership Committee, is committed to using innovative ideas to increase our numbers. She will be giving special attention to cultivating student members and to developing regional chapters. And, along these lines, we are happy to announce the formation of a new student chapter at North Carolina's East Carolina University. Thanks to TCS past-president, Lorry King, for planting the seed for the ECU chapter. And setting sites ahead, we hope to use our 2002 conference (TCS18) in Galveston, Texas, as a catalyst for a TCS Gulf of Mexico Chapter patterned after the Cascadia Chapter.

Also, in an effort to better provide information to our student members, TCS recently joined with NOAA's Coastal Services Center in developing an internship/fellowship Website. The impetus for the site is to provide a more dynamic, timely listing of fellowships and internships with direct links to sponsors. For instructions on how to access the site, see page 9 for details. TCS also will be joining forces with the Coastal Services Center at CZ01 to host a fellowship/internship reception. Fostering these types of cooperative partnerships is an important tool in efficiently getting information into the hands of users. Thanks to Hamilton Smillie, Jan Kucklick, and the Coastal Services Center for dedicating the time and energy to make this happen.

Finally, we are moving ahead with planning for TCS18. The conference will be held at the Moody Gardens Resort Hotel in Galveston, Texas, May 19-22, 2002. The overall objective of the conference will be to explore the interrelationships of science, culture, and policy. We have an excellent planning committee co-chaired by Helen Drummond, Galveston Bay Estuary Program and Linda Shead, Galveston Bay Foundation. So mark your calendars now and plan for Galveston in 2002. Look for a call for papers to be announced in mid July.

Walter Clark
TCS President

EDITOR'S PREFACE

We hope you will agree that this issue of the Bulletin is chock full of information, and that you will find it as useful and interesting as we do. In it you have two opportunities to read about ocean management strategies. An article by Tanya Dobrzynski and Betsy Nicholson summarizes the findings of their study of the socioeconomic impacts of marine reserves in the Florida Keys. Tom Bigford takes a stab at giving us the latest status of the executive order, signed by President Clinton last year, on Marine Protected Areas. Linda Maxson shares her observations on a highly successful lecture series that focused on sustainable fisheries, and Marc Poirier offers a detailed analysis of a recent federal district court case from New Jersey that applied the public trust doctrine to address controversy over building public walkways along New Jersey's Hudson River waterfront.

In addition, we have our regular features that will inform you about noteworthy news items, upcoming events, and who has recently joined or renewed their membership with TCS. In particular, please take a look at "Meet the Board," to learn more about the Society's newest leaders. Finally, don't forget to read the president's message. TCS President Walter Clark outlines the many activities that are currently underway with TCS, including new bylaws, ongoing development of regional chapters, and planning for TCS18 to be held in Galveston, Texas, May 19-22, 2002. As Walter states, TCS is on the move! (By the way, the TCS BULLETIN editor is also on the move, as I write this I am surrounded by boxes that will soon move with me to my new home and office in Washington, D.C.)

There's more, and it's for you. Don't miss a single page!

Laura Cantral
TCS Editor-in-Chief

The TCS BULLETIN is published by The Coastal Society to provide information about coastal issues and events. The Coastal Society is an organization of private sector, academic, and government professionals and students dedicated to actively addressing emerging coastal issues by fostering dialogue, forging partnerships, and promoting communication and education.

Contributions to the BULLETIN are encouraged. Inquiries about the BULLETIN or the Society should be addressed to: The Coastal Society, Post Office Box 25408, Alexandria, Virginia, 22313-5408, telephone 703.768.1599, or fax 703.768.1598, or e-mail *coastalsoc@aol.com*.

NEW MEMBERS

TCS would like to welcome the new members who have joined since November 2000:

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Charleston, SC

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Corpus Christi, TX

Kent L. Akers
San Diego, CA

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Olympia, WA

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Linda Duguay
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Nedlands, Western Australia

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NEWS FROM AROUND THE COASTS

Editor's Note: Thanks to Kristen M. Fletcher, Tammy L. Shaw, Mississippi-Alabama Sea Grant Legal Program for preparing these news items.

EPA PROPOSES "SPECIAL OCEAN SITES"

In January, the EPA proposed amendments to existing regulations implementing the ocean protection provisions of Clean Water Act § 403, which provides that permits for discharging into ocean waters must meet EPA guidelines. The EPA proposed the rule to protect coastal waters that are under great threat from industrial and municipal pollution and because "[h]ealthy oceans are essential to the Nation's economy and natural heritage." They are currently under review and, if approved by the new EPA Administrator, will be sent out for public comment. The proposed changes represent what may be the last vestiges of the Clinton administration's efforts to focus federal attention on healthy ocean waters.

The proposed guidance changes would provide for establishment of baseline water quality standards for ocean waters beyond three miles offshore, strengthen the requirements for a permit to discharge into ocean waters, and establish Special Ocean Sites (SOSs), areas within ocean waters that are of outstanding value. The proposed rule notes that offshore ventures such as aquaculture, biotechnology, oil and gas drilling and production, and other industrial activities are expanding into new areas of the ocean and "many will need to discharge wastewater as part of their operations." When discharging into ocean waters, they must obtain a permit and meet the Ocean Discharge Criteria. The proposed rule represents the first significant changes since the criteria was released in 1980. To see the proposed rule and an EPA-prepared Fact Sheet, visit *http://www.epa.gov/owow/oceans/protecting_oceans/*.

MIGRATORY BIRD RULE STRUCK DOWN BY THE U.S. SUPREME COURT

On January 9, 2001, the United States Supreme Court issued a decision that limits the scope of permitting authority granted to the Army Corps of Engineers (Corps.) under Section 404 of the Clean Water Act of 1972 (CWA). In a 5-4 decision in Solid Waste Agency v. U.S. Army Corps of Engineers, 2001 WL 15333, the Court held that the Corps can no longer use the "Migratory Bird Rule" to extend its permitting regulations to isolated, non-navigable, intrastate waters.

The case arose when the Solid Waste Agency of Northern Cook County (SWANCC) sought to develop an abandoned gravel pit for use as a solid waste disposal site. The excavation trenches from the gravel mining activities had evolved into small ponds and would have to be filled in preparation for the waste disposal site. The Corps claimed jurisdiction over the site when it learned that several species of migratory birds inhabited many of the ponds. This jurisdiction stems from Corps guidelines issued in 1986 which declared CWA 404 jurisdiction over intrastate waters which are or could be used as habitat by birds protected by the Migratory Bird Treaty, a rule that has been dubbed the "Migratory Bird Rule." When the Corps refused to grant a 404 permit, SWANCC filed suit charging that the Corps exceeded its authority by asserting jurisdiction over these isolated, non-navigable, intrastate waters.

The Corps argued that expansion of jurisdiction was in keeping with Congress' intent in enacting the CWA and, further, that Congress had acquiesced to the Corps' broad jurisdiction by refusing to invalidate the Agency's expanded definition of "navigable waters." The Court disagreed, holding that the broadening of permitting authority to non-navigable, isolated, intrastate waters based solely on bird habitat is an impermissible expansion of federal authority. The Court held that the Corps failed to establish congressional acquiescence to such jurisdiction and further found that the expansion of jurisdiction raised issues of interference with states' traditional power over waters and land.

FINAL "TULLOCH" REGULATION TO STRENGTHEN WETLANDS PROTECTION

In January, the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) signed a final regulation to strengthen wetlands protection. The new rule (65 Fed. Reg. 4550) clarifies the types of activities that are likely to result in a discharge of dredged materials regulated under the Clean Water Act (CWA).

Section 404 of the Clean Water Act requires a permit before dredged or fill material is discharged into wetlands. Mechanized land clearing, ditching, draining and stream channelization has long been problematic under the CWA because of confusion over whether land and sediment disturbing actions associated with these activities constitutes discharge of materials. In 1993, the EPA and the Corps finalized regulations defining the "discharge of dredged material" to include the fallback of any excavated materials that occurs during dredging

operations. The regulation, known as the "Tulloch" rule, established that the "incidental fallback" of excavated materials required a 404 permit under the CWA.

In 1998, the U.S. District Court of Appeals for the District of Columbia held that the Corps exceeded its authority in regulating the "incidental fallback" associated with dredging and enjoined the Corps from enforcing the rule. Since this decision it is estimated that more than 20,000 acres of wetlands have been destroyed and 150 miles of streams drained and channelized because of confusion over what activities require a permit.

The recent regulation seeks to clear up this confusion, indicating that the Corps and the EPA will regard land-clearing, ditching, channelization, in-stream mining and other mechanized earth moving activities as resulting in a discharge of dredged materials unless project-specific evidence shows the discharge to be only "incidental fallback." The new rule defines "incidental fallback" in keeping with the 1998 court decision and specifically outlines activities the agencies consider likely to result in discharge of dredged materials, thus requiring a 404 permit.

THE COASTAL SOCIETY'S INTERNSHIP AND FELLOWSHIP COLUMN TAKES ON A NEW FORM

In order to more effectively carry out one of The Coastal Society's (TCS) goals to support and further the education of students during their transition to the workforce, TCS has entered into a partnership with the NOAA Coastal Services Center to develop an Internship/Fellowship Opportunities Web page that will replace this column. The Web Page contains more information and is updated frequently to enhance access to opportunities in coastal management related fields.

The new Website can be found at the following URL. *www.csc.noaa.gov/cms/fellows/opportunities.html*

CALL FOR PAPERS: SOLUTIONS TO COASTAL DISASTERS CONFERENCE 2002

The Solutions to Coastal Disasters Conference will be held February 24-27, 2002, in San Diego, CA. It will bring together coastal planners, managers, scientists, engineers, geologists, economists, oceanographers, meteorologists and others to exchange information relating to coastal disasters. The four main conference tracks are Coastal Storms, Seismic Effects, Impacts on Climate Change, and Shoreline Change. The conference will encourage a multi-disciplinary approach to these tracks and it has identified causes, response mitigation, design and engineering, and coastal management as areas of expertise that will be covered in each track.

The formal conference will be held at the Catamaran Hotel, on Mission Bay, San Diego. Field trips are being developed to take advantage of local beaches, bays, estuaries, and flood control projects. San Diego has about 70 miles of beautiful beaches, but also faces threats from coastal storms, seismic events, El Ninos and shoreline erosion. It is an excellent backdrop for detailed discussions on coastal disasters and potential solutions.

Electronic submittal of abstracts is encouraged. Please complete the abstract submittal form on the conference Website: *http://www.asce.org/conferences/cd2002/index.html*. The primary sponsor for this conference is ASCE/Coasts, Oceans, Ports and Rivers Institute. For further conference information, contact the conference co-chairs, Louise Wallendorf (*lou@usna.edu*) or Lesley Ewing (*lewing@coastal.ca.gov*).

BULLETIN BOARD

Tom Bigford, feature editor

Note: If you have information about an upcoming event, please e-mail Tom at thomas.bigford@noaa.gov or call 301.713.2325.

June 18-20, 2001
MANAGING THE INTERFACES
Halifax, Nova Scotia, Canada
Contact: Coastgis2001@agc.bio.ns.ca

June 24-28, 2001
NATIONAL ASSOCIATION OF ENVIRONMENTAL PROFESSIONALS 26TH ANNUAL CONFERENCE:
Environmental Policy and Process—New Directions or Staying on Course?
Arlington, Virginia
Contact: http://www.naep.org

July 8-11, 2001
PACON 2001:
Environmental Technologies for Sustainable Maritime Development
Burlingame, California
Contact: http://www.hawaii.edu/pacon

July 15-19, 2001
COASTAL ZONE 2001:
Hands Across the Water—Linking Land, Lake, and Sea
Cleveland, Ohio
Contact: http://www.csc.noaa.gov/cz2001

August 19-23, 2001
2001: A FISHERIES ODYSSEY:
The Journey of Science and Education Continues
Phoenix, Arizona
Contact: http://www.fisheries.org/aznm/annual2001

September 5-6, 2001
WETLANDS & REMEDIATION
Second International Conference
Burlington, Vermont
Contact: Karl Nehring at nehringk@battelle.org

November 4-8, 2001
ERF 2001: AN ESTUARINE ODYSSEY:
16th Biennial Conference of the Estuarine Research Federation
St. Petersburg Beach, Florida
Contact: http://www.erf.org

March 25-29, 2002
INTERNATIONAL COASTAL SYMPOSIUM
7th Symposia by the Journal of Coastal Research
Northern Ireland
Contact: http://www.scotland.gov.uk/environment/coastalforum

May 19-22, 2002
THE COASTAL SOCIETY'S 18TH INTERNATIONAL CONFERENCE
Converging Currents:
Science, Culture, and Policy at the Coast
Galveston, Texas
Contact: coastalsoc@aol.com

THE COASTAL SOCIETY ANNUAL MEETING

AT COASTAL ZONE 2001
JULY 15
1:30 PM

CASCADIA CHAPTER NEWS

by Robert F. Goodwin

CASCADIA CHAPTER WEBSITE UP AND RUNNING

The Cascadia Chapter now has a Website linked from the TCS homepage. The site provides links to each state's coastal management program as well to related trans-boundary regional, state and provincial agencies, nongovernmental organizations and academic sites in the Cascadia region. Check us out at: *http://www.thecoastalsociety.org/cascadia/index.html*

MEMBERSHIP GROWING

Membership now stands at 33 paid members. We have developed a brochure for membership recruitment; a downloadable membership application form is available on the Website.

SALMON RECOVERY GRANT

The Cascadia Chapter has agreed to facilitate a $100,000 salmon recovery grant from the Marjorie Mosher Schmidt Foundation of Murrieta, California, on behalf of the Snohomish County Marine Resources Committee in Washington State. The chapter will retain a $2,500 handling fee for this service.

BOARD ACTIVITY

The Cascadia Chapter has been meeting regularly through a conference call since September 2000. Much of our energy has been devoted to getting the basic chapter infrastructure in place—Website, brochure, membership form—while simultaneously exploring future program content. The key to successful programming, the Cascadia Chapter believes, will be partnerships with other regional entities—NGOs, academic institutions, agencies—that have compatible and complementary goals.

DUKE UNIVERSITY CHAPTER NEWS

by Amy Carter

A FOCUS ON PROFESSIONAL DEVELOPMENT

After marking its first year anniversary, the Duke Student TCS Chapter can now boast of nearly forty members. We are especially pleased with the enthusiasm the incoming members have shown. In response to student interest, the chapter has particularly concentrated on enhancing opportunities for student professional development. So far, we have hosted a seminar on coastal and marine internship and fellowship opportunities and distributed a calendar of various professional and career development events. We also hope to create a monthly career profile and host a professional speaker series.

One of the expressed goals of the student chapter is to facilitate a dialogue among student and professional TCS members. In service of this goal, several chapter members have committed to working with the national chapter to establish a mentoring program. We hope to create a system to match Duke students with TCS members based on member expertise, career path, and geographic areas of interest. An important aspect of this program will be a campaign to solicit mentors from the national membership.

Finally, we are continuing the process of integrating the TCS student chapter within the larger Duke University community of student organizations and adopting the student chapter bylaws. As the academic year closes, the chapter will also elect new officers to act as event coordinators, secretary, and national chapter liaison for the upcoming year.

TCS BOARD OF DIRECTORS 2001

PRESIDENT-ELECT

JOHN DUFF

John Duff has been involved in coastal resource issues since the 1980s when he reported on matters affecting Boston Harbor and Massachusetts Bay for two Boston area newspapers. In the early 1990s, as an attorney in private practice, he advocated marine resource protection and habitat conservation for clients in New England. He served as General Counsel to the International Wildlife Coalition from 1992-1994 before embarking on an advanced course of study in law and marine affairs at the University of Washington. From 1995 through 1999, he designed and directed the work of the Mississippi-Alabama Sea Grant Legal Program and taught Natural Resources Law and Ocean and Coastal Law courses at the University of Mississippi. In 1998, he was a Fulbright Senior Scholar and visiting lecturer and researcher at the University of Victoria in British Columbia, Canada. In 1999, Mr. Duff joined the faculty at the University of Maine School of Law in Portland, Maine to serve as the co-director of the Marine Law Institute. As a faculty member, Mr. Duff teaches courses in Coastal Zone Management Law and International Law of the Sea. He also serves as faculty advisor to the law school's student-run *Ocean and Coastal Law Journal*. Earlier this year he joined the editorial board of the peer reviewed *Ocean Development and International Law* journal. In January he was appointed to Maine's Submerged Lands Advisory Board by Governor Angus King.

Mr. Duff has been a moderator and speaker at The Coastal Society and Coastal Zone biennial meetings for the past five years and has published a wide range of articles on coastal and marine resource issues over the course of the last twelve years (a number of which have been featured in The Coastal Society BULLETIN). He currently serves as a TCS Board member and sits on the TCS BULLETIN editorial board. In both of those roles he has enhanced efforts in communications and student involvement in TCS. He has directed an effort over the course of the last three years that has led to an increase in the number of TCS members who sponsor new memberships for students and newcomers to the fields of coastal management/policy/study. In July he received the TCS President's Award for service to the organization as a member.

Mr. Duff received a B.S. (Business) from the University of Lowell, a J.D. (Law) from Suffolk University, a LL.M. (Law and Marine Affairs) from the University of Washington and a M.A. (Journalism) from the University of Mississippi. In addition to his work with The Coastal Society, Mr. Duff is a member of the American Fisheries Society, the Coastal Zone Canada Association, the Society for Environmental Journalists and the National Marine Educator's Association. In his spare time he is pursuing a Ph.D. in Public Policy at the University of Southern Maine.

JOELLE GORE

Joelle Gore is a coastal management specialist at the National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management. She is the federal liaison for the states of Delaware, Maine, and Massachusetts, helping further their coastal management and coastal nonpoint pollution programs. She is the contact for all coastal states on ocean governance issues, and recently helped design and organize a regional workshop between NOAA offices and the Gulf of Maine Council on the Marine Environment to help coordinate NOAA projects with Council needs and priorities.

Ms. Gore has been a TCS member since 1994, and has just completed a two-year term on the Board. While on the Board, she chaired the development of the "Integrating Coastal Management" theme for TCS17 in Portland, Oregon. She is currently chairing an ad hoc team to develop TCS's new Website, and also chaired a team in a process to

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develop and choose TCS's new logo. She also currently serves on TCS's Special Projects Committee helping initiate plans for TCS18 in Galveston in 2002.

Ms. Gore also helped create a forum called Vision 2020 to challenge coastal managers to better consider social equity, urban access, and physical and psychological separation of communities from coastal resources which was the foundation of the TCS16 opening plenary. She also helped develop a multimedia presentation, "Edgelife," shown during the opening plenary, and at a Vision 2020 special session and a plenary session at CZ97 in Boston. As a TCS member she served twice as a reviewer of student presentations and posters as part of the Education Committee. She received a Master of Planning at the University of Virginia, and Bachelor of Science in architectural design at the University of Texas.

MICHAEL E. HENDERSON

Michael Henderson has been with NOAA for more than 25 years, serving initially in its fleet of research ships and aircraft, followed by policy positions with the National Ocean Service and the Office of Marine and Aviation Operations, where he is currently the Executive Director. His duties range from policy decisions related to airborne remote sensing for coastal mapping to replacement vessels for near-shore coastal research. He also serves as the NOAA representative to the Interagency Coordinating Committee on Airborne Geoscience Research and Applications, as well as the Interagency Committee on Aviation Policy.

Prior to his present position, he was the Executive Officer of NOAA's Coastal Services Center where he helped develop policy related to the National Ocean Service's strategic planning efforts in promoting safe navigation and sustaining healthy coasts. Before working at CSC, he was staff assistant to the Deputy Under Secretary for NOAA, involved with fleet modernization efforts for research ships and environmental compliance of NOAA's labs. During a two-year Congressional Fellowship with Senator Joseph Lieberman, he was staff assistant on the Senate Persian Gulf Pollution Task Force and helped draft the initial report on the Gulf cleanup for the Library of Congress. He also staffed numerous hearings on clean water, clean air, as well as drafting the initial language for The Marine Navigation Safety Improvement Act of 1993 and The Environmental Innovation Research Act of 1992.

Prior to his fellowship, he was temporarily assigned to the U.S. Embassy in Manama, Bahrain for two months immediately following the Persian Gulf War as the logistics coordinator for airborne research. While in the Gulf, he coordinated the first meeting of U.S. and Gulf-area scientists from eight nations regarding the possible environmental effects of the smoke plume from the burning oil wells and the damage from the Abu Ali oil spill. His operational experience includes four years experience as a coastal hydrographer, as well as six years as a flight navigator on NOAA's WP-3D hurricane research aircraft. He also had the opportunity to be a recruiter for four years for NOAA, visiting more than 30 campuses a year seeking engineers and environmental science-related graduates for the agency.

Mr. Henderson is an active member of the Marine Technology Society (MTS), serving on the Audit Board, and he is a life member of the U.S. Naval Institute and The Retired Officer Association (TROA). He has a B.S. in marine zoology from the University of Georgia and an M.P.A. from Florida International University in public policy.

CHAD NELSON

Chad Nelsen is the Environmental Director for the Surfrider Foundation (*www.surfrider.org*). Since he started at Surfrider in 1998, Mr. Nelsen has been responsible for assisting 50 national chapters with a wide array of coastal environmental issues. He also oversees the operations of Surfrider programs including the Blue Water Task Force: a volunteer water quality monitoring program, Beachscape: a volunteer beach mapping program, Respect the Beach: an educational program for students, and the State of the Beach Report—an annual report of the health of the nation's beaches.

Prior to his work with Surfrider, Mr. Nelsen worked in Oregon for the Oregon Ocean Coastal Management Program as a NOAA CSC Coastal Zone Management Fellow developing the Dynamic Estuary Management Information System (DEMIS) pilot for the Coos Bay watershed. Before attending graduate school, he worked as a GIS analyst for the USGS Western Regional Mapping Division in Menlo Park, California.

Mr. Nelsen graduated from Brown University with a degree in Geology and earned a Masters of Environmental Management from the Nicholas School of the Environment at Duke University. His masters topic was on the Pratte's Artificial Surfing Reef—a Surfrider project constructed this fall.

Mr. Nelsen won the student poster contest at TCS15 in Seattle. He also participated in the Vision 2020 plenary session at TCS16 in Virginia. At TCS16 he also presented, along with Greg Benoit, in the TCS-sponsored "Half Baked Ideas in Coastal Management" on the Coastal Cruiser, a yet to be realized dream.

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KRISTEN FLETCHER

Kristen Fletcher is the Director of the Mississippi-Alabama Sea Grant Legal Program at the University of Mississippi. The Legal Program is the legal research and outreach arm of the Sea Grant College Program in Mississippi and Alabama. As Director, Ms. Fletcher advises Sea Grant constituents, such as marine extension agents and members of Sea Grant colleges, and state and federal agencies on ocean and coastal law issues. She provides legal research and analysis on current issues in the marine law and policy field and publishes papers on ocean and coastal and natural resource law issues. Ms. Fletcher shares her research in the form of ocean and coastal law presentations at regional, national, and international conferences, including TCS meetings. She supervises law student research and writing projects and has served as editor of the *Water Log Legal Reporter* since 1998. Ms. Fletcher has been a member of TCS since 1997.

Ms. Fletcher is involved in the guidance and creation of ocean and coastal policy in the Gulf of Mexico region. Her research on legal methods to control nonindigenous species has contributed to the creation of a Gulfwide management plan for aquatic nuisance species and recent research on Essential Fish Habitat has been distributed nationwide. Her specialty in natural resources law contributed to her selection as a Rotary Fellow in 1999 to participate in a Professional Exchange to Argentina, where she presented information about the U.S. natural resource policies and learned about Argentina's environmental laws and policies. She also teaches Coastal and Ocean Law at the University of Mississippi School of Law and Marine Law and Policy at the Gulf Coast Research Laboratory of the University of Southern Mississippi. Fletcher is currently researching issues related to marine reserves, offshore aquaculture law and policy, and the essential fish habitat regulatory tool.

Ms. Fletcher received a B.A. from Auburn University; a J.D. from the University of Notre Dame Law School and an LL.M. in Environmental and Natural Resources Law from the Northwestern School of Law of Lewis & Clark College. She is licensed to practice law in South Carolina and Mississippi.

JAMES D. GIATTINA

James (Jim) Giattina is the Director of the Gulf of Mexico Program Office (GMPO) with the U.S. Environmental Protection Agency, located at the Stennis Space Center in Mississippi. His work with the GMPO supports the Gulf of Mexico Program which is a unique public and private partnership that includes representatives from state and local governments, federal agencies, business and industry, environmental and public interest groups, agriculture, fisheries, and Governor-appointed citizens. Formed under the Federal Advisory Committee Act, the Gulf Program is coordinating efforts to address significant coastal issues through the voluntary actions of its member organizations.

Prior to becoming the Director of the GMPO in 1996, Mr. Giattina served for four years as the Deputy Director of the U.S. EPA's Great Lakes National Program Office. This Office is responsible for U.S. obligations under the Great Lakes Water Quality Agreement with Canada. From 1984 to 1992, Mr. Giattina managed a variety of nonregulatory and regulatory programs in the U.S. EPA's Regional Office in Chicago. He started his career in 1979 at the Corvallis Environmental Research Laboratory in Oregon and has published a variety of scientific papers on environmental toxicology. Mr. Giattina also has published in the TCS BULLETIN.

Mr. Giattina received his Bachelor of Science degree in biology from the University of Alabama and his Masters of Science degree in aquatic ecology from the Virginia Polytechnic Institute and State University.

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West, seeks to address the questions surrounding the impacts of marine reserves on human communities. Our research provides an assessment of the social and economic impacts of recently-established marine reserves in the Florida Keys National Marine Sanctuary (FKNMS) on dive and snorkel operators, commercial fishers, and charter fishing operators in Key West. This article briefly describes how marine reserves came about in the FKNMS, our basic methods for data collection, and our major findings and conclusions with respect to the impacts of the reserve system on user groups in Key West. Finally, the article contains a set of recommendations for resource managers undertaking marine reserve establishment initiatives.

BACKGROUND

In 1990, the Florida Keys National Marine Sanctuary (FKNMS) was established by the Florida Keys National Marine Sanctuary and Protection Act (FKNMSPA, P.L. 101-605) to protect 2,800 square nautical miles of biologically productive and culturally unique waters surrounding the Florida Keys archipelago. These waters contain mangrove forests, several historical shipwrecks, and the most extensive living coral reef in the continental United States. The FKNMS was established by an act of Congress in response to three major ship groundings that occurred along the Florida Keys coral reef tract over a three-week span in 1989.

Even nonconsumptive user groups such as divers, whose access to these areas would be preserved, were concerned that the Zoning Action Plan would give the federal government an excessive hold over the resources in this area.

In addition to demarcating the boundaries for the Sanctuary, the FKNMSPA mandated that managers consider the use of "temporal and spatial zoning" in the development of their management plan to achieve the resource protection and multiple use goals of the National Marine Sanctuary Act, the federal law that authorizes the designation and management of national marine sanctuaries around the country. Zoning is the setting aside of ocean areas in zones of varying protection to balance commercial and recreational uses with resource protection and the need for a sustainable ecosystem. This management tool may be used to establish areas, such as no-take marine reserves, that limit certain uses, while allowing others.

In July 1997, in accordance with the zoning mandate, the FKNMS established the first planned marine reserve system in U.S. federal waters via implementation of their Final Zoning Action Plan. The Plan set aside approximately 0.5 percent of the Sanctuary's total area, or 14.2 square nautical miles, in a system of 23 no-take marine reserves. Activities that result in the extraction of marine resources, such as commercial and recreational fishing, tropical fish collecting, treasure salvage operations, and shell collecting, are prohibited in reserve areas. Additionally, anchoring on coral or hardbottom substrate is prohibited in reserves. Given these restrictions on certain uses, and the relative infancy of this management tool in the U.S., marine reserve establishment in the Florida Keys was met with extreme opposition by some user groups, such as commercial and recreational fishers, who feared the impact of being displaced from historical fishing grounds. Even nonconsumptive user groups such as divers, whose access to these areas would be preserved, were concerned that the Zoning Action Plan would give the federal government an excessive hold over the resources in this area.

While the reserve system extends along the coral reef tract from Key West in the Lower Keys to Key Largo in the Upper Keys, the majority of the system (70 percent) is concentrated in the Key West region, a major hub for commercial and recreational fishing and water-dependent tourism activities. In fact, the Key West region is home to the Western Sambo Ecological Reserve, the largest single reserve in the system at nine square nautical miles; three Sanctuary Preservation Areas; and one Special Use Area, which is reserved primarily for research. We focused our study in Key West assuming that the reserve system's effects would be most visible in this region.

METHODS

We interviewed dive and snorkel operators, commercial fishers, and charter fishing operators in the Key West region using relatively open-ended survey instruments to construct a sketch of the short-term social and economic impacts of the marine reserve system. Additionally, we investigated user group perceptions of changes in ecosystem conditions since marine reserve establishment and attitudes toward the concept and practical application of marine reserves.

We conducted face-to-face interviews at user groups' places of business from September 1999 to January 2000, more than two years after implementation of the FKNMS' marine reserve system. For

instance, we interviewed commercial fishers on their vessels at their affiliated fish houses. We used site-intercept sampling—in which the researcher samples a population at a place they routinely frequent and interviews individuals as they arrive on site—as our primary sampling method to reach all three user groups. We found this method to be more effective than making appointments with interviewees given the often erratic nature of user groups' weather-dependent work schedules.

RESULTS

Economic Impact

Our findings indicate that user groups have experienced minimal economic impact since the marine reserves were established. Specifically, the majority of dive and snorkel operators, still permitted to conduct business inside reserves since they are nonconsumptive users, reported no change in fleet size, number of employees, the number of trips taken per week, or gross annual income since the reserves were established. While the majority of dive and snorkel operators reported serving more customers per week and increasing trip fees since the reserves were implemented in 1997, they did not think the establishment of marine reserves had had any impact on customer demand. Additionally, the majority (52 percent) of dive and snorkel operators reported they did not think the reserves had had any economic impact whatsoever on their dive and snorkel operations to that point. Still, a large number of dive and snorkel operators (41 percent) reported that they thought the reserves had had a positive economic impact on their operation. They attributed this to the ability to use the marine reserves as an additional sales tool to lure tourists to the Key West region and to the positive ecological effects, such as increased fish abundance, that had already resulted from reserve establishment.

The majority of commercial fishers and charter fishing operators, prohibited from conducting business inside reserves since they are extractive industries, also reported minimal changes in economic and business-related factors since the reserves were established. For instance, the majority of commercial fishers and charter fishing operators reported no change in landings or income since the reserves were established. Additionally, the majority of those commercial fishers and charter fishing operators who said they used to fish inside the areas now zoned as no-take marine reserves (i.e., who were specifically displaced), also reported they had not experienced any change in landings or income.

The majority of respondents in both groups, however, reported an increase in effort needed to land their desired catch since the reserves were established. Specifically, they reported spending more time on the water to obtain their desired catch and attributed this to the need to transit through reserve areas and find new suitable fishing grounds. While the majority of respondents in each of these consumptive user groups said they did not think the reserves had had any economic impact on their operations up to that point, substantial percentages of commercial fishers (39 percent) and charter fishing operators (48 percent) thought the reserves had had a negative economic impact on their businesses. Note the direct contrast of this finding with that of the Key West dive and snorkel industry, in which a large percentage of respondents perceived a positive economic impact from reserves.

One of the goals of the FKNMS in establishing the reserve system was to decrease conflicts among user groups by separating activities in space.

Social Impact

The reserves seem to have had a higher relative social impact than economic impact on user groups interviewed. For instance, all three user groups reported an increase in the incidence of crowding and its effect on their businesses since the reserves were implemented. Commercial fishers, in particular, reported that they thought crowding in the waters around Key West had nearly doubled since 1997. Many fishers attributed this to the displacement of fishers from reserve areas and the resulting increased crowding of extractive users in open fishing grounds.

Increased crowding on the water can lead to increased conflict as user groups compete for less and less available space to conduct their operations. One of the goals of the FKNMS in establishing the reserve system was to decrease conflicts among user groups by separating activities in space. Interestingly, while dive and snorkel operators reported that the majority of their conflicts had decreased since the reserves were implemented, commercial fishers and charter fishing operators reported that the majority of their conflicts with other user groups had either increased or stayed the same. Both of these consumptive user groups reported specifically that their conflicts with dive and snorkel operators had gotten worse since the reserves were established. Many attributed this to their view that the dive and snorkel industry is growing beyond the region's capacity to support it,

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and that dive and snorkel operators still access areas outside reserves considered to be prime fishing spots, despite their permission to access reserve areas. These groups expressed animosity toward dive and snorkel operations for their ability to access all areas of the region. They frequently complained that the FKNMS had acted unfairly and unwisely in prohibiting only consumptive activities from reserves when the effects of nonconsumptive activities—citing specifically the impacts of large numbers of inexperienced divers and snorkelers standing on and brushing up against coral reefs each day—are largely unknown.

Ecosystem Conditions

To test whether user groups think the FKNMS marine reserves have produced any ecosystem benefits thus far, we asked user groups what kinds of changes they have seen on the water, if any, since the reserves were established. Specifically, we asked user groups to compare pre- and post- reserve conditions for a variety of environmental factors, such as marine life abundance, organism size, and biodiversity, in the areas where they conduct their operations.

All user groups explained the discrepancy in support levels by criticizing the closed manner in which the FKNMS designed and implemented the system.

Dive and snorkel operators gave us insight into the conditions inside reserves, since they are still permitted to carry out their activities in these areas. The majority of dive and snorkel operators reported increases in the abundance and size of marine life, particularly spiny lobster and reef fish, inside reserves. When asked what they thought was responsible for these changes, the majority attributed these benefits to the creation of reserves in the region. The majority of dive and snorkel operators reported no change in biodiversity inside reserves.

We asked all user groups whether they have seen changes in environmental factors outside reserves. For the most part, all user groups reported no change in fish abundance, biodiversity, and fish and marine life (anything other than fish) size outside reserves. Interestingly, however, the majority of commercial fishers reported an increase in the abundance of marine life, and specifically reported an increase in spiny lobsters, outside reserves. When asked what they thought was responsible for this change, none of the commercial fishers attributed the increase in marine life abundance to the presence of reserves. Rather, they said that spiny lobster abundance had increased because of the frequent occurrence of hurricanes in the region in the past few years, which, they contended, had rejuvenated the bottom habitat, making living conditions more hospitable for spiny lobster.

Attitudes Toward Marine Reserves

In order to explore user group attitudes toward marine reserves, we first asked user groups whether they supported the concept of marine reserves. Second, we asked whether they supported the reserve system implemented by the FKNMS. The majority of respondents in each user group reported that they supported the concept of marine reserves in general, and specifically, the need to set aside areas in which organisms and habitat could replenish themselves. However, each user group expressed less support for the actual reserve system implemented by the FKNMS' Zoning Action Plan. While 100 percent of dive and snorkel operators supported the concept of marine reserves, only 71 percent supported the reserves implemented by the Plan. Fifty percent of commercial fishers said they supported the concept of marine reserves, while only 23 percent supported the reserves implemented by the Plan. Similarly, while 86 percent of charter fishing operators said they supported the concept of marine reserves, only 43 percent said they supported the reserves in the Plan.

All user groups explained the discrepancy in support levels by criticizing the closed manner in which the FKNMS designed and implemented the system. User groups said that while the FKNMS held numerous meetings to gather local public input, they incorporated very little of this input into the Final Zoning Action Plan. User groups also complained that the Sanctuary did not design the reserve system in a manner that would necessarily maximize ecological benefits. They charged that the Sanctuary chose areas that were politically easy to designate instead of areas that made ecological sense to protect, such as spawning aggregation sites for the area's prime commercial and recreation species. Commercial fishers and charter fishing operators also noted the lack of social equity achieved by this particular system of reserves, asserting that in order to truly protect these areas, all uses should be prohibited, not just consumptive uses.

CONCLUSION

The continuously declining state of marine resources should compel resource managers to consider management tools outside the realm of traditional measures. While marine reserves represent such a

tool, their use in the U.S. has been largely circumscribed. The lack of understanding for the social and economic impacts of marine reserves may be contributing to their limited use in the U.S. We hope that our study, which assesses the social and economic impacts of the FKNMS' marine reserve system on user groups in Key West, will fill in some of these gaps in understanding and encourage resource managers to use marine reserves more widely to fulfill a variety of management needs.

The FKNMS reserve system, implemented in July 1997, has had only minimal economic impact on user groups in the short-term, thus far not translating into major losses or gains for any of the user groups we interviewed. While some dive and snorkel operators reported positive impacts in terms of being able to use the reserves as an additional sales tool, some commercial fishers and charter fishing operators complained of slight negative economic impacts associated with spending more time on the water to find new suitable fishing grounds. However, even those commercial fishers and charter fishing operators who were directly displaced by the reserves reported no change in landings and income since the system went into effect in 1997. The small size of the reserve system—14.2 square nautical miles or 0.5 percent of the Sanctuary's total area—is likely the primary reason for the low economic impact.

Creation of the reserve system seems to have had a higher relative social and psychological impact on user groups. For instance, all three user groups reported that crowding has increased and consumptive user groups complained that conflicts among user groups had also risen as a consequence. Additionally, the reserve system seems to have had a psychological impact on consumptive user groups in the Key West region. Commercial fishers, in particular, expressed concern that the establishment of reserves signals a death knell for the future of their industry in Key West. The majority of them said they would not encourage their children to pursue commercial fishing in this region in the future and expressed concern that the Sanctuary would not stop until the entire FKNMS was made into a no-take marine reserve.

User groups have already perceived positive ecological changes in the Key West environment. Dive and snorkel operators, in particular, reported that they think the reserves are responsible for the increased abundance and size of marine life that they have been seeing inside reserves. For the most part, user groups did not report the same types of changes outside reserves. It may still be too early to tell whether increased larval dispersal or the spillover effect has enhanced areas outside these reserves.

All user groups expressed a sense of discontentment for the manner in which the Sanctuary designed and implemented the reserve system, regardless of whether they supported the system. User groups emphasized the need for not only more opportunity to participate in the process, but also, greater ability to actually shape the process. They noted that the reserve system would have been more successful if the FKNMS had incorporated more of their on-the-water expertise in the process of marine reserve design, for instance, by placing reserves in known spawning aggregation sites for valuable commercial and recreational species.

As the Sanctuary proceeds with future reserve establishment initiatives, such as implementation of the much larger Tortugas ecological reserve expected later this year, they should take our findings into consideration. In particular, the FKNMS should work to repair the perception that they did not incorporate local expertise into the Final Zoning Action Plan. Additionally, the FKNMS should publicize the perception that marine reserves are already producing some of the expected ecological benefits inside their boundaries and should implement a monitoring system to routinely assess the ecological changes inside and outside their boundaries, to determine whether or not fisheries and habitat enhancement is occurring. In tandem with the monitoring of ecological impacts, to further enhance the understanding of the social and economic impacts of reserves on human communities, the Sanctuary should institute a system to monitor changes in landings, income, crowding, conflicts, and a variety of other socioeconomic factors over the long term. Ultimately, increased understanding of the socioeconomic impacts of reserves will provide an important feedback loop for resource managers to design reserve systems to maximize ecological and economic benefits while minimizing losses, making this important management tool more politically viable in the future.

Use of marine reserves in the U.S. has been largely circumscribed. The lack of understanding for the social and economic impacts of marine reserves may be contributing to their limited use in the U.S.

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RECOMMENDATIONS TO RESOURCE MANAGERS

In addition to the above recommendations, we offer the following more detailed list of recommendations to resource managers undertaking reserve establishment initiatives, based on our findings in the Florida Keys.

1. *Ensure local stakeholder input.*
   Resource managers should do more than merely inform local stakeholders about a proposed action or plan. Additionally, they should incorporate local stakeholder input and expertise into each phase of the reserve establishment process—design, implementation, monitoring, and enforcement—and provide actual opportunities for stakeholders to influence the outcome of the process.
2. *Use marine zoning more extensively.*
   Resource managers should use marine zoning to investigate the relative impacts of a greater variety of human activities (such as, diving and cruise ship transit), and not simply those related to consumptive activities. This will help foster a sense of social equity among user groups as well as help resource managers determine the appropriate management approaches for a greater variety of human impacts.
3. *Publicize reserves' earnings and losses.*
   Since marine reserves represent a type of investment of public resources, we recommend that resource managers attempt to quantify reserve impacts and then regularly publicize their earnings and losses in the form of annual reports documenting changes in landings, annual tourist expenditures, or increased resource stewardship, for example. This may help promote the sense that reserves are a sound and responsible public investment that are yielding actual returns.
4. *Ensure that resulting resource use patterns do not offset benefits.*
   Managers should estimate the carrying capacity in reserve areas and take steps to regulate the permitted activities inside and along the boundaries of reserves so that their resource protection and conflict minimization goals are maintained.
5. *Balance scientific, social, and economic factors.*
   Resource managers should consider ecological, socioeconomic, and other factors in establishing marine reserve so that the experience gained from investigating a balanced variety of reserve impacts can be applied to future reserve establishment initiatives.

STATUS OF THE EXECUTIVE ORDER ON MARINE PROTECTED AREAS

by Thomas E. Bigford

NOAA Fisheries, Office of Habitat Conservation

Executive Order 13158 on Marine Protected Areas (MPAs) was issued May 26, 2000 by President Clinton to help protect and sustainably use America's valuable ocean and coastal resources. The executive order directed federal agencies to work closely with state, territorial, local, tribal, and other stakeholders to strengthen and expand a national system of MPAs, and gave agencies several specific tasks to help fulfill this goal. Several efforts are underway, and much remains to be done. This article summarizes the executive order's tasks, provides a status report, and highlights areas for input and participation. At the time this was written, the order was one of many topics under review by the Department of Commerce.

EXECUTIVE ORDER 13158

"Marine Protected Area" (MPA) is a general term used worldwide to describe places that are given special protections for natural or historic marine resources by local, state, federal, or other authorities. Over the past century, many different kinds of MPAs have been established in U.S. waters, including some state beaches, national parks, national marine sanctuaries, and a variety of fishery management areas. Different types of MPAs have been used as tools by federal and state agencies to help rebuild and sustain fisheries, protect fish habitats, ensure biodiversity, provide recreational opportunities, and preserve other natural or historic resources. Growing demands on ocean resources and declines in some species and habitats have driven the need for additional management tools such as MPAs to help sustain valuable marine resources. The executive order specifically addresses this need by tasking federal agencies with assessing how to most effectively and efficiently design and implement MPAs to serve a wide variety of different needs, now and in the future.

The MPA Executive Order directed federal agencies to work with government and nongovernmental partners to increase protection and sustainable use of ocean resources by strengthening and expanding a national system of MPAs. The order does not change existing MPAs, and does not establish new MPAs. The responsibility for designating and managing MPAs remains with the agencies or entities that currently have these authorities. The executive order directs federal agencies to consider appropriate actions to strengthen management or establish MPAs, but leaves decisions on such actions to the discretion of agencies under existing authorities. It also directs federal agencies to "avoid harm" to the resources currently protected by existing MPAs to the maximum extent practicable and permitted by law.

To increase coordination and the effectiveness of MPAs, the executive order charges the Department of Commerce and the Department of the Interior with several specific tasks, including: (1) creating a list of existing U.S. MPAs; (2) creating a national MPA Website to provide information on MPAs; (3) establishing a national MPA Center to provide science, tools, and strategies for MPA effectiveness; (4) establishing an MPA advisory committee to provide nonfederal recommendations; and (5) consulting with government and nongovernmental stakeholders.

The executive order defines MPA's as "any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part of all of the natural and cultural resources therein." Under this definition, MPAs could include a variety of sites already established for different purposes in areas of coastal and ocean waters, the Great Lakes and their connecting waters, and submerged lands in areas of U.S. jurisdiction. For example, under this definition, National Marine Sanctuaries, National Estuarine Research Reserves, some National Parks and National Wildlife Refuges, some state parks and local marine reserves, some fishery management areas, and other areas with management measures in effect could be considered MPAs.

Based on this definition, the executive order directs federal agencies to take a number of specific actions to strengthen existing MPAs as part of the process to build a national system of MPAs. For a copy of the MPA Executive Order and more information on these efforts, please log onto *http://mpa.gov/*.

LIST OF EXISTING U.S. MPAS

The executive order directs the Department of Commerce and the Interior to make a list of all existing U.S. MPAs, and make this list and other information available via a national MPA Website. The goal is to take stock of the location, purpose, and effectiveness of existing MPAs, and provide this information to local communities, states, tribes, regional fishery management councils, federal agencies, and other groups to allow them to deter-

For more information

To read about recent activities, visit the official "Marine Protected Areas of the United States" Website at: http://mpa.gov or contact Roger Griffin in the NOAA Office of Policy and Strategic Planning at: 202.482.5034, by fax at: 202.501.3024, or by email to: roger.b.griffis@noaa.gov.

MARINE PROTECTED AREAS, *continued on page 20*

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mine if any changes are needed. This process, and the executive order in general, would not designate any new MPAs. Changes to existing MPAs, or the designation of any new MPAs, remain the responsibility of federal, state, or other groups with those authorities. The MPA list could be used to help reduce redundancy in current regulations, assess and improve effectiveness of existing sites, and provide a baseline for future marine resource management.

Several states (e.g., California and those bordering the Gulf of Maine), regional fishery management councils, and other groups have already initiated inventories of MPAs within their areas as the first step to addressing how to best use MPAs, and how to design networks of MPAs. These efforts are key starting points for the overall nationwide inventory. To date, the Department of Commerce/NOAA and the Department of the Interior have begun to inventory existing U.S. marine managed areas and to develop criteria for defining which of those areas may meet the definition of MPA in the executive order. This effort is also developing a database to provide information on the existing MPAs. Input is needed from the public and stakeholders on both the criteria and the database to help make the inventory and list of MPAs a useful tool. To provide input, please visit *http://.mpa.gov/*.

When completed, this effort will provide the first comprehensive list of existing U.S. MPAs. The goal is to provide useful information on existing MPAs to agencies, managers, stakeholders, the public, and others. It will also help federal agencies determine how to meet the executive order directive to avoid harm to the natural and cultural resources protected by an MPA, to the extent permitted by law and to the maximum extent practicable. Preparing a list of existing U.S. MPAs will not change the regulations and authorities governing these sites. It will help agencies consider the impacts of their actions on existing MPAs. Agencies are currently reviewing the "avoid harm" section of the executive order to determine how to address this directive in agency decision making.

MPA ADVISORY COMMITTEE

The Executive Order directs the Department of Commerce to establish an MPA Advisory Committee to provide input from a broad range of nonfederal interests on how to best implement the order. This is one of many opportunities for nonfederal entities to help shape the future of MPAs, and help evaluate the U.S. system of MPAs. The MPA Advisory Committee charter is listed at *http://mpa.gov/mpabusiness/fac.html*. Last year, approximately 300 nominations were received to serve on the committee and 26 finalists were invited to serve pending final approval by the Secretary of Commerce. The finalists for the Committee represent different geographic regions, resource managers (state, territory, and tribal levels), natural and social scientists, industry sector representatives (recreation and tourism, marine transportation, oil and gas production, and commercial and recreational fishing), and other sectors. As of early May 2001, formation of an MPA advisory committee was under review by the Department of Commerce to ensure the balanced membership required by federal law.

NATIONAL MPA CENTER

The order also directs NOAA to establish a national MPA center to help provide the science, tools, and strategies to build a national system of MPAs. While there is strong scientific evidence for the benefits of MPAs (see National Academy of Science Report at *http://www.nap.edu/catalog/9994.html/* and scientific consensus study at *http://www.compassonline.org/*), there are still gaps in our understanding of how best to design MPAs as tools for resource management and other uses. The MPA center has been tasked with building partnerships to help fill these gaps and provide new science and information, to provide training and technical assistance, and to develop the blueprint for a science-based system of U.S. MPAs. Late last year, initial steps were taken to launch the MPA Center and begin building partnerships to address priority needs. An Institute for Marine Protected Area Science was established in partnership with NOAA's National Marine Fisheries Service and the University of California at Santa Cruz to help identify key science needs. And an Institute for Marine Protected Area Training and Technical Assistance was established as part of the NOAA Coastal Services Center in Charleston, South Carolina to help identify training and technical needs of MPA managers and stakeholders.

FUNDING REQUESTED IN FY2002 PRESIDENT'S BUDGET

The initial efforts discussed above to implement the executive order have been supported by existing staffs and without new resources to the Departments of Commerce or the Interior. Funding is needed to continue and complete these efforts. President Bush's budget proposal for fiscal year 2002 includes an increase of $3 million for the Department of Commerce/NOAA to continue these tasks and improve understanding of the utility of MPAs to sustaining and protect America's valuable marine resources (see fact sheet at *http://www.publicaffairs.noaa.gov/budget02/mpa_factsheet.html*). The request will provide

managers, industry, and the public with new information and tools to help ensure effective use of MPAs. As part of the Coastal Conservation Initiative, NOAA's request will support work with all levels of government and stakeholders to:

- prepare the first comprehensive inventory of U.S. MPAs,
- begin assessments of the effectiveness of the current system of U.S. MPAs, and
- provide new science, information and tools to help guide efficient and effective use of MPAs.

CURRENT FOCUS

The MPA Executive Order has generated much discussion about MPAs—how effective they are, how should they be used, how they benefit specific user groups, and how future efforts should proceed. While there are many different opinions on MPAs, the concept of using different types of protected areas to help manage marine resources is not new. MPAs have been used by resource managers in a variety of ways for years to help sustain marine resources. For example, NOAA's National Marine Fisheries Service has established areas for decades that are subject to varying regulation and management, including areas closed to all fishing, others closed to certain types of fishing, and some areas where only certain types of fishing gear are allowed. Most of these protective measures are temporary, such as those based on seasonal spawning cycles or those targeted to specific species. Most commercial and recreational fishermen already have some experience with these types of marine managed areas through rules implemented by NOAA's National Marine Fisheries Service and the network of eight regional fishery management councils. In most cases protected areas have been useful management tools helping sustain and rebuild fisheries and habitats.

Other types of MPAs have been successfully established to provide recreational opportunities, protect fragile shipwrecks, or provide other valuable services. There are many different kinds of MPAs that provide important services to commercial and recreation users of America's marine resources. History shows that marine management areas can be a variety of sizes, serve several functions, and provide multiple benefits.

CONCLUSION

The executive order is a challenging opportunity to assess the existing system of U.S. MPAs and consider how to most effectively use MPAs as management tools to sustain healthy marine resources. To do this, agencies and citizens will need to fill gaps in our collective understanding of how to best design and implement different kinds of MPAs for different purposes, build strong partnerships, share information, and take regional approaches. One of the major challenges is to build on existing efforts to evaluate and design regional MPA networks to fit different goals and meet regional needs. The executive order charges federal agencies to address these needs and provide many opportunities for participation and partnerships.

SUSTAINABLE FISHERIES

by Linda Maxson

I remember the first time I told a friend in National Marine Fisheries Service (NMFS) about the project I was working on. His reaction, "Oh, no, sustainable fisheries has been done to death!" But I hadn't done sustainable fisheries, nor, I would venture to guess, had it been done in quite this way.

I was in a new job: Director of Development and Community Relations for the College of Ocean and Fishery Sciences at the University of Washington. A donor had given money to the School of Aquatic and Fishery Sciences, within the college, with the understanding that something special would be done with the gift. Ideally that something special would honor her late husband, who had been a pivotal member of both the faculty and administration in the school's past. Ultimately an energetic young faculty member was inspired to create a lecture series. My task was to work with the donor, the faculty member organizing the series, and the community. My goal was to play mid-wife to a creation that would bring many people together.

Can we continue to take over 80 million metric tons of seafood from the world's oceans annually?

The lecture series asked fundamental questions: Can we continue to take over 80 million metric tons of seafood from the world's oceans annually? Given coastal development, pollution, introduced species and the destruction of marine habitats, is setting safe harvest levels enough? How much is too much, and when is it not enough?

Beyond the topic of sustainable fisheries, the organizing principle of the lecture series was simple: presenters had to be good public speakers who would not whine. The diversity of speakers from across the University of Washington and around the world was quite inspiring. Some of the speakers were also quite challenging; there were times I wondered what the Series' namesake would think of the presentations!

The series, by any set of standards, was a fabulous success. In spite of rain and dark, the auditorium in the new fisheries building was often filled to capacity each week when the presentation started at 4:30. Sometimes it was standing room only! Usually a good group stayed after to talk with the speaker and each other at the weekly reception hosted by the graduate students. The presentations were thought-provoking and nobody whined.

Ultimately, both the power behind the presentations, and the consistent thread amongst them, was the same: people. The diverse audiences composed of undergraduates, graduates, friends and colleagues from across campus as well as state and federal agencies and an interested public created a palpable energy. Each presentation explored human-centered social, economic, and political systems clashing and meshing with ecological systems. The best summary of this might be Wendell Barry's "Our problem, exactly, is that the human and the natural are indivisible and yet are different."

I consider the following to be some of the highlights of the series. Bob Francis (UW) asked, "what are we really talking about?" Science is only part of the answer, he offered, we must look elsewhere as well. It reminded us that Camus said, "A man's work is nothing but this slow trek to rediscover, through the detours of art, those two or three great and simple images in whose presence his heart first opened." Bob suggested substituting the word "science" for "art" and asked us all to consider what those great and simple images might be for each of us.

Bill Burke (UW) stated that the campaign to ban all commercial whaling is driven by politics rather than science. While the mismatch between politics and science has been explored on more than one occasion, he pointed out that in this case the result is the imposition of one society's set of values upon another society. He challenged the audience to look beyond the emotional reaction to whaling to see the dangerous precedent such an imposition sets.

Steve Murawski (NOAA) defied the expectations of many in the audience by moving beyond a mere recitation of the tragedy of the New England groundfisheries. He asked us to consider what would long term sustainability look like. How can we measure sustainability? How can we take into account spatial and temporal changes, such as fish populations that move between deep and shallow waters?

Jim Lichatowich (Alder Fork Consulting) suggested that we need to discard the myths that have guided our relationship with natural resources since the late 19th century and develop new management models appropriate to the problems we face in the 21st century. He defined "crisis" as that state when one's world view is no longer useful to maintain

what we value. He also pointed out that a problem can't be fixed by replacing links if the chain still has other broken links. He also asked if scientists should be managers.

Mike Sutton (Packard Foundation) called both science and public policy into question, as both have largely failed to arrest the decline of fish stocks. He suggested that a different way to approach the science and public policy arena is to take advantage of existing consumer preferences in order to facilitate ocean conservation. Ultimately consumer awareness may influence the politics of fisheries management by creating the necessary political will to lead to action.

Several speakers discussed marine protected areas, but it was Juan Carlos Castilla (Catholic University of Chile) who placed them in the context of people. He discussed the important role of artisanal fishers, and focused on the human dimension in the co-management approaches used in Chile.

Bob Johannes (Johannes Consulting) discussed the "un-natural" science of social science. He explained his background in both anthropology and fishery science. He stated that, "Local fishers are precise, practical, and encyclopedic in their knowledge of fish species, habitat, and behavior." Consequently, should scientists ignore anecdotal information from local fishers? Often older fishers are the only source of information on historical change in local marine stocks and marine environmental conditions. This information can play a key role in siting marine protected areas.

HUDSON RIVER WALKWAY PROJECT SURVIVES TAKINGS CHALLENGE, THANKS TO THE NEW JERSEY PUBLIC TRUST DOCTRINE

by Marc R. Poirier

Professor of Law, Seton Hall University School of Law. *The author advised informally on an amicus brief supporting the state in this controversy. Thanks to Professors Ann Alexander and Mel Durchslag for their helpful comments.*

A federal district court has applied the New Jersey Public Trust Doctrine largely to uphold a state regulation designed to create a public walkway along New Jersey's Hudson River waterfront. In *National Association of Home Builders v. New Jersey Department of Environmental Protection*,[1] the court rejected a major aspect of a regulatory takings challenge to a New Jersey regulation that imposes construction, maintenance, easement, and public access requirements on waterfront property owners as a condition of development permits.

DISCUSSION

The court held that most of the properties along the 17.4 mile waterfront, having once been submerged lands, were subject to a continuing public right to use the property. The remainder of the properties, although never submerged, were also subject to a public trust-based public access requirement, under the doctrine announced in *Matthews v. Bay Head Improvement Ass'n:*[2] the public must be given access to and use of privately-owned property as reasonably necessary to exercise its right to use the foreshore. The court also ruled that the reasonableness of the public access requirement under *Matthews* need not be determined parcel by parcel. Further, the "rough proportionality" scrutiny given to individual exactions, pursuant to *Dolan v. City of Tigard*,[3] did not apply to this essentially legislative public access scheme. Nevertheless, whether the state's requirement of public access over lands never submerged was reasonably necessary under the circumstances to protect the general right of public access to the shore remained a question of fact, and could not be decided on summary judgment.

The underlying regulatory scheme at issue in the case, the Hudson River Waterfront Area Rule ("Rule"),[4] governs development along the Hudson River Waterfront Area[5] in New Jersey. The permit required for waterfront development is only available on the following conditions:[6]

1) the owner of the property must construct and maintain at its own expense a thirty foot wide walkway ("Walkway") along the entire waterfront of the property, built to specified standards;

2) the owner must convey to the New Jersey Department of Environmental Protection a conservation easement for the Walkway;

3) the owner must allow perpendicular access to the Walkway.

Since the rule's enactment in 1988, approximately ten miles of the Walkway have been developed or permitted for development, with an additional five miles to be developed when currently existing uses change or cease.[7]

This Rule was challenged in 1998 in a suit brought by both the National and New Jersey Associations of Home Builders. They claimed that the permit conditions were facially unconstitutional as a taking without compensation. Both plaintiffs and defendants sought summary judgment. The court ruled for the most part in the state's favor, and plaintiffs have recently abandoned their appeal. The 1999 District Court decision is thus now final.

The court approached the issues by noting that most of the property at issue had once been submerged in the Hudson River and had been artificially filled in. The court called this the "public trust property." A smaller portion of the private property, various discrete parcels required to build the Walkway, had never been submerged. The court also identified a third category of properties upon which perpendicular accessways to the Walkway had been built or would be built. The court called the second and third categories the "non-public trust property."[8]

The "public trust property" constituted 88.7 percent of the property at issue, the court found. The court held that under New Jersey law, this property originally belonged to the state. Even when such property is alienated to private owners, the public's right to use and enjoy the property remains.[9] The court concluded that the plaintiff owners therefore did not have the right to exclude the public from the public trust property. Moreover, the Rule's requirement that the owners grant the state a conservation easement "merely memorializes the state's role in protecting the public's right to use and enjoy the property under the Public Trust Doctrine."[10]

The remainder of the properties at issue, the so-called "non-public trust properties," involved

scattered small portions of the Walkway constructed on uplands, as well as some upland properties required to allow 20-foot perpendicular access paths to the Walkway. Here the court turned to the New Jersey Supreme Court's opinion in *Matthews v. Bay Head Improvement Ass'n*,[11] which states in dictum that owners of private properties adjoining the public beach could be required to allow reasonable public access across their property in order to support the public trust right to use the foreshore. In *Matthews* itself, the court found that for the time being there was adequate public access to the public beach without imposing on private property owners.

The plaintiffs in *National Association of Home Builders* argued that in applying the *Matthews* limitation on the upland owners' right to exclude, the court must make an individualized determination or whether public access across private property was reasonably necessary. The court rejected the argument. It relied in part on the fact that when New Jersey articulated its public trust right of beach access in the 1970s, it rejected parcel-by-parcel determinations based on the theory of dedication to public use in favor of a more sweeping public trust theory. Apparently, the court reasoned, if public access itself is based on a broad public trust right, the reasonableness of perpendicular access across private property must also be.[12] This holding seems in some tension with *Matthews* itself insofar as that case determined on the facts that no additional access across private property would be required at the time because access across public property in the vicinity was adequate.

The court also rejected the argument that the individualized determination required by *Dolan v. City of Tigard*[13] in the exactions context carried over to the particulars of New Jersey's public trust doctrine. Whatever the larger relevance of *Dolan* to the takings claim (see below), this holding seems correct.

In examining the reasonableness under New Jersey public trust law of imposing access on the non-public trust property, the court found that the record was not clear on several issues, and therefore denied both sides' motions for summary judgment. The court wanted to know the exact amount of non public trust private property utilized for the Walkway and for access to the Walkway. It wanted to know how many accessways were planned on private property and their relation to the Walkway. It also wanted more information about the nature and extent of the public demand for the Walkway and the usage of the upland areas by private owners.[14] Apparently the court expected that additional factual argument would be made about the project as a whole, rather than on a parcel-by-parcel basis.

The case contains a couple of other important points. Even where the property involved is filled land and is therefore subject to a continuing *jus publicum* servitude, the Rule's requirement that those seeking permits construct and maintain portions of the Walkway might seem to go well beyond mere access by imposing ongoing costs on the owners. The court brushes this objection aside. It finds that the "construct and maintain" requirement of the Rule is the equivalent of the most standard kind of land use regulations, like those imposing minimal building setbacks, parking and lighting conditions, landscaping requirements and other design conditions.[15] It is thus "well within the state's land use police power."[16]

Indeed, when one separates out the two elements, the court is right. The more problematic element of the Rule is the intrusion upon the right to exclude, not the systematic requirement of some low-grade maintenance of an already public space.

Also noteworthy is the case's disregard of *Dolan v. City of Tigard*[17] and its predecessor, *Nollan v. California Coastal Comm'n*.[18] *Nollan* might have seemed particularly relevant, as it involved an attempt to condition a permit to rebuild a beach house upon the owners' allowing the public to pass along privately owned beach next to the house. The state was in fact trying to establish a public walkway along that part of the California seacoast, not unlike the Hudson River Walkway. The Court in *Nollan* held that a land use agency may not impose conditions on a permit simply as a quid pro quo; conditions must be "substantially related" to the problems posed by the activity being permitted. In *Nollan*, the majority found the activity of constructing a beach house not related to the condition relating to passage across the property. Insofar as the Rule at issue in *National Association of Home Builders* imposes conditions that do protect a preexisting public right of access to the shore from projects that might cut off access, it would seem that *Nollan*'s "essential nexus" test may well be satisfied. But the court did not discuss it.

That leaves *Dolan*, however. *Dolan* is the Supreme Court's latest word on exactions in permit conditions. *Dolan* leaves the *Nollan* test for exactions in place and adds another level above it. In that case, the local land use authority sought to impose conditions on a permit to redevelop the site of a hardware store. It required dedication of a portion of the property for improvement of a storm drainage system and dedication of an additional strip of property for a pedestrian and bicycle pathway. The dedications would have comprised about 10 percent of the owner's property.[19] The Court was particularly concerned because the conditions sought to be imposed affected the owner's right to exclude.[20] The Court found that the conditions were in general related

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to the proposed land use, thereby satisfying *Nollan*: the changes in land use could cause flooding and increased traffic congestion. But the Court required more, a "rough proportionality" between the problems created and the conditions imposed.[21] An articulation of this rough proportionality was missing from the studies and justifications presented in the *Dolan* case.[22]

Dolan's primary holding is not really ever applied in the *National Association of Home Builders* case. To be sure, *Dolan* is discussed, but only in the context of its bearing on whether the reasonableness of imposing on private property owners under New Jersey's public trust doctrine must be examined on a case-by-case basis.[23] This does not mean the court was wrong; but its treatment of the aspects of takings doctrine raised by *Dolan* are considerably less explicit than they could be.

Two explanations account for this omission. Consider that in *Lucas v. South Carolina Coastal Council*,[24] the Court held that background limitations inherent in the property will affect the nature of the property interest. *Lucas*' analysis of regulatory takings claims thus requires an antecedent inquiry into the nature of the property interest.[25] Although *Lucas* had foremost in mind the background limitation imposed by private nuisance, other types of inherent limitations will also limit takings complaints by property owners. (Indeed, one scholar has observed that if the intent of the *Lucas* majority was to limit regulatory actions through the takings doctrine, it "made a major error"[26] in crafting a background principles exception, for it "misapprehended the continued robustness of old maxims, ... and thus potentially created an exception much wider than intended."[27]) Where shore property subject to a public trust is involved, the public trust doctrine can be such a background limiting principle, depending on the exact contours of state law.[28] This is reasoning the underlying the court's discussion of the New Jersey public trust doctrine. As applied to the formerly submerged lands, *there can be no taking*, for the conditions the state imposed in the Rule fall within background limitations on the property rights held by the plaintiffs. They have lost nothing. The state has gained nothing. Therefore, whether to apply the *Dolan* standard of review is irrelevant.

As for what the court called the "non-public trust properties," the background limitation test has not been resolved. The court denied the summary judgment motions on both sides as to whether *Matthews v. Bay Head Improvement* Co. supported the state's incursions on private property. If it does, there is no takings inquiry. This, once again, is a background limitation based on New Jersey's public trust doctrine.

If it does not, there is another reason why *Dolan* may not apply. *Dolan* raised the issue of extortionate exactions in the context of a decision on a particular piece of property, and one where the conditions imposed included intrusions on the owner's right to exclude. After *Dolan*, advocates of increased judicial scrutiny of land use decisions argued that its standard applied across the board,[29] while other courts distinguished general conditions imposed by regulations, such as the Rule at issue in New Jersey, from the case-by-case imposition of conditions.[30] A similar argument addressed whether "in lieu of fees" should be examined under the tougher *Dolan* standard.[31] A fractious California Supreme Court decision in *Ehrlich v. City of Culver City*[32] developed both arguments, upholding a 1 percent art fee routinely charged to all developers, while applying the heightened *Nollan/Dolan* standard to a fee imposed on a particular developer to help replace recreational facilities that would be lost under the new development plan. A more recent California Supreme Court opinion upholding Santa Monica's rent control law was equally splintered around *Dolan*.[33]

In 1999 the issue was discussed and perhaps decided, almost in passing, by the United States Supreme Court. In *City of Monterey v. Del Monte Dunes*,[34] the Court explained that the scrutiny applied by *Nollan* and *Dolan* should be limited to cases involving case by case exactions rather than expanded to all takings contexts. The Court went on to state that it was unnecessary for the Court of Appeals below to have discussed the *Dolan* standard and that a holding on *Dolan* was irrelevant to the court's decision.[35] Because of this gesture towards the lack of need for the *Dolan* holding, arguably the issue of the scope of *Dolan* remains open despite *Monterey*. Several lower courts have however read the *City of Monterey* opinion as a clear holding limiting the scope of *Dolan* review.[36] Given the tendentiousness of many takings plaintiffs, one can anticipate another attempt to broaden the reach of the *Dolan* standard sooner or later.

The opinion in *National Association of Home Builders* was handed down on August 12, 1999, some ten weeks after *City of Monterey*. It does not raise the general issue of *Dolan*-level scrutiny, nor does it cite *Monterey*. The issue was briefed to the court. It is hard to know what to make of this gap in the opinion. Technically, perhaps, the court need not have addressed the heightened standard of review, per *Dolan*, as the issue on remand is still one of consideration of the background limitations on the non-public trust property. Nevertheless, the court acted as though heightened *Dolan* review were limited, and its own somewhat tangential rejection of *Dolan* (along with its invocation of *Culver City*) suggest that it may have been trying to align itself with the general view limiting *Dolan*. Perhaps it held back because the Supreme Court's own discussion did not entirely clarify whether its opinion on *Dolan* was more than dictum.

CONCLUSION

Somewhat surprisingly, the *National Association of Home Builders* case has been all but overlooked in the literature that tracks takings cases. As of the time of this writing its citation appears in but two law review articles. The case is more important than that. First of all, its result should encourage state and local agency efforts to provide both longshore and perpendicular access to the shore in states with strong public trust doctrines. Second, it provides a solid example of how the antecedent inquiry into background property limitations, formalized by *Lucas*, can be used to defeat certain kinds of takings claims. Third, it takes seriously the possibility of actually applying the public access servitude articulated in *Matthews v. Bay Head Improvement Ass'n* . Moreover, it does all of these things in a context that may actually make access to the water a reality for a heavily populated and underserved set of river shore communities. While one or two of the towns crossed by the Walkway are exclusive, most tend towards the opposite extreme. The concept of a publicly accessible river walkway from Fort Lee to Bayonne is utterly democratic, in keeping with the best egalitarian underpinnings of the public trust doctrine.

ENDNOTES

1. 64 FSupp. 2d 354 (D.N.J. 1999).
2. 471 A.2d 355 (N.J. 1984).
3. 512 U.S. 374 (1994).
4. N.J.A.C. 7:7E-3.48, promulgated pursuant to New Jersey's Waterfront Development Law, N.J.S.A. 12:5-1 et seq.
5. The area as defined runs from the George Washington Bridge in Bergen County to the Bayonne Bridge in Hudson County, and includes the communities of Bayonne, Jersey City, Hoboken, Weehawken, West New York, Guttenberg, North Bergen, Edgewater, and Fort Lee. National Association of Home Builders, 64 FSupp.2d at 356.
6. Id.
7. Id.
8. Id. at 357.
9. Id. at 357 - 358 (citing Borough of Neptune City v. Borough of Avon-by-the-Sea, 294 A.2d 47 (N.J. 1972); Matthews v. Bay Head Improvement Ass'n, 471 A.2d 355 (N.J. 1984)).
10. National Association of Home Builders, 64 FSupp.2d at 358 n.1.
11. 471 A.2d 355 (N.J. 1984).
12. National Association of Home Builders, 64 FSupp.2d at 359 - 360 (citing Borough of Neptune v. Borough of Avon-by-the-Sea, 294 A.2d 47 (N.J. 1972); Van Ness v. Borough of Deal, 393 A2d 571 (N.J. 1978).
13. 512 U.S. 374 (1994).
14. National Association of Home Builders, 64 FSupp.2d at 360.
15. Id. at 359 n. 2 (quoting Ehrlich v. City of Culver City, 911 P.2d 429, 450 (Cal. 1996)).
16. National Association of Home Builders, 64 FSupp.2d at 359 n.2.
17. 512 U.S. 374 (1994).
18. 483 U.S. 825 (1987).
19. 512 U.S. at 392 - 396.
20. Id. at 393 - 394.
21. Id. at 391.
22. Id. at 391 - 395.
23. National Association of Home Builders, 64 FSupp.2d at 359 - 360.
24. 505 U.S. 1003, 1029 (1992).
25. See, e.g., M & J Coal Co. v. United States, 47 F.3d 1149, 1153 - 1154 (Fed. Cir. 1995); Carson Harbor Village Ltd. v. City of Carson, 37 F.3d 468, 473 n.4 (9th Cir. 1994); Kim v. City of New York, 681 N.E.2d 312, 314 - 315 (N.Y. 1997).
26. Hope M. Babcock, Should Lucas v. South Carolina Coastal Council Protect Where the Wild Things Are? Of Beavers, Bob-o-Links, and Other Things that Go Bump in the Night, 85 Iowa L. Rev. 849, 856 (2000).
27. Id. at 855. See Glenn P. Sugameli, Lucas v. South Carolina Coastal Council: The Categorical and Other "Exceptions" to Liability for Fifth Amendment Takings of Private Property Far Outweigh the A Rule," 29 Envtl. L. 939 (1999).
28. Compare Matthews v. Bay Head Improvement Ass'n, 471 A.2d 355 (N.J. 1984), Karam v. New Jersey Dep't of Envtl. Protection, 705 A.2d 1221, 1228 - 1229 (N.J. Super. App. Div. 1998), Barry v. Grela, 361 N.E.2d 1251 (Mass. 1977) and Just v. Marinette Cy., 201 N.W.2d 761 (Wis. 1972) with Opinion of the Justices, 313 N.E.2d 561 (Mass. 1974), Opinion of the Justices, 649 A.2d 604 (N.H. 1994) and Bell v. Wells, 557 A.2d 168 (Me. 1989).
29. See Parking Ass'n of Georgia v. City of Atlanta, 515 U.S. 1116, 1117 - 1118 (1995) (Thomas, J., dissenting from denial of certiorari); Del Monte Dunes at Monetery v. City of Monterey, 95 F.3d 1422, 1430 & 1432 (9th Cir. 1996), aff'd on other grounds., 526 U.S. 667 (1999); Manocherian v. Lenox Hill Hospital, 643 N.E.2d 479, 483 (N.Y. 1994); Rent Stabilization Ass'n of New York City, Inc. v. Higgins, 630 N.E.2d 626, 63334 (N.Y. 1994). Contra, Bonnie Briar Syndicate, Inc. v. Town of Mamaroneck, 721 N.E. 2d 971 (N.Y. 1999) (applying City of Monterey v. Del Monte Dunes, 526 U.S. 667 (1999)).
30. See, e.g., Home Builders Ass'n v. City of Scottsdale, 930 P.2d 993, 1000 (Ariz. 1997); Parking Ass'n of Georgia v. City of Atlanta, 450 S.E.2d 200 (Ga. 1994). But see
31. See, e.g., Garneau v. City of Seattle, 147 F.2d 802, 815 - 816 (9th Cir. 1998) (O'Scannlain, J., concurring in part and dissenting in part).
32. 911 P.2d 429 (Cal. 1996).
33. Santa Monica Beach, Ltd. v. Superior Court of Los Angeles County, 968 P.2d 993 (Cal. 1999). Compare id. at 1000 - 1003 (plurality opinion) and 1007 - 1013 (Kennard, J. concurring) with 1041 - 146 (Brown,. J., dissenting).
34. 526 U.S. 687, 702 - 703 (1999).
35. Id.
36. Tahoe Sierra Preservation Council v. Allison, 216 F.3d 764, 772 n. 11 (9th Cir. 2000); Kittay v. Giuliani, 112 FSupp. 2d 342, 351 n.8 (S.D.N.Y. 2000); Jim Sowell Construction Co. v. Coppell, Tex., 2000 U.S. Dist. LEXIS 9869 at 13 (N.D. Tex. July 12, 2000); Recreational Developments of Phoenix, Inc. v. Phoenix, 83 FSupp. 2d 1072 , 1100 n. 14 (D. Az. 1999); Bonnie Briar Syndicate, Inc. v. Town of Mamaroneck, 721 N.E. 2d 971 (N.Y. 1999).

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