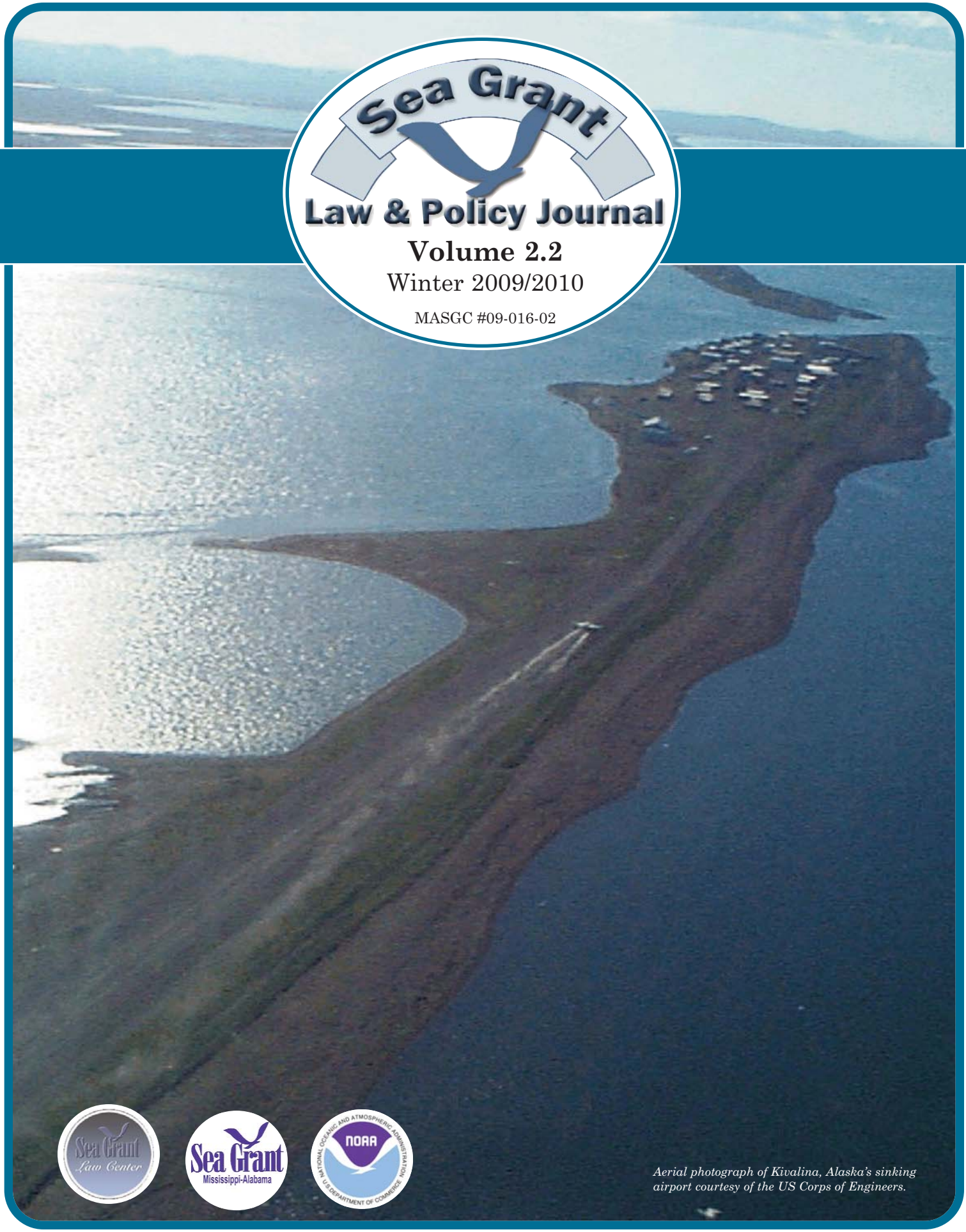

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Aerial photograph of Kivalina, Alaska's sinking airport courtesy of the US Corps of Engineers.

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Ecosystem-Based Management Under the Magnuson-Stevens Act: Managing the Competing Interests of the Gulf of Mexico Red Snapper and Shrimp Fisheries

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I. Introduction

The U.S. commercial fishing industry's value exceeds $28 billion, while the recreational saltwater fishery is valued at around $20 billion annually.[2] Yet recent stock assessments estimate that approximately twenty-three percent of evaluated fisheries are overfished.[3] In the mid-1990s, two significant national ocean policy studies questioned the fate of United States' marine resources: the Pew Oceans Commission[4] and the U.S. Commission on Ocean Policy.[5] Both Commissions agreed that better management of marine resources necessitates implementation of an ecosystem-based approach through regionally coordinated mechanisms.[6] And more recently, the Interagency Ocean Policy Task Force created by President Obama echoed these sentiments in its Interim Report.[7] Although U.S. fishery management law provides authority for applying ecosystem-based management (EBM), decision-makers are often reluctant to invoke such measures.

The struggle to regulate effectively the competing interests of the Gulf of Mexico red snapper and shrimp fisheries embodies the challenges of achieving an ecosystem-based management approach under the existing regulatory framework. As early as 1988, scientists recognized that the Gulf of Mexico red snapper was overfished and depleted; identifying shrimp trawl bycatch as the primary source of mortality.[8] However, the Gulf Council continued to manage the fishery with complete disregard for regulation of shrimp bycatch until mandated to address the issue by a federal court in 2007.[9] As a Coastal Conservation Association (CCA) consultant to the Gulf Council remarked, "[t]rying to manage red snapper without addressing shrimp trawl bycatch is like trying to lower your electric bill by buying a more efficient toaster oven. Your electric bill isn't high because of

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[2] U.S. COMM'N ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY: FINAL REPORT, 2 (2004), *available at* http://www.oceancommission.gov [hereinafter USCOP REPORT].

[3] NATIONAL MARINE FISHERIES SERVICE, 2008 REPORT TO CONGRESS: STATUS OF U.S. FISHERIES, 1 (2009), *available at* http://www.nmfs.noaa.gov/sfa/statusoffisheries/booklet_status_of_us_fisheries08.pdf . This does not account for stocks with an unknown status. *Id.*

[4] PEW OCEANS COMM'N, AMERICA'S LIVING OCEANS: CHARTING A COURSE FOR SEA CHANGE (2003), *available at* http://www.pewtrusts.org/pdf/env_pew_oceans_final_report.pdf [hereinafter PEW REPORT].

[5] USCOP REPORT, *supra* note 2.

[6] PEW REPORT, *supra* note 4, at 103-06; USCOP REPORT, *supra* note 2, at 5-9.

[7] THE WHITE HOUSE COUNCIL ON ENVIRONMENTAL QUALITY, INTERIM REPORT OF THE INTERAGENCY OCEAN POLICY TASK FORCE (2009), *available at* http://www.whitehouse.gov/administration/eop/ceq/initiatives/oceans/Interimreport [hereinafter IOPTF INTERIM REPORT].

[8] SOUTHEAST DATA, ASSESSMENT, AND REVIEW 7, GULF OF MEXICO RED SNAPPER STOCK ASSESSMENT REPORT, 2 (2005), *available at* http://www.sefsc.noaa.gov/sedar/ [hereinafter SEDAR REPORT].

[9] Coastal Conservation Association v. Gutierrez, 512 F.Supp.2d 896, 899 (S.D. Tex. 2007).

your toaster oven; it's the large and leaky air conditioning unit running around the clock."[10] Both fisheries need cohesive joint management that incorporates principles of ecosystem-based management. The Gulf of Mexico red snapper and shrimp fisheries provide an illustrative case study of the inadequacies of single-species management.

Looking through the lens of these two fisheries, this article will first examine current domestic fishery management laws and recent proposals for improvement. Section II provides an overview of current U.S. fishery regulations. Section III discusses the role of EBM in fishery regulation and its key tenets, along with legal authority and impediments to implementation. Section IV provides a history of red snapper management efforts in the Gulf and the challenges of regulating the competing interest of the two fisheries. Finally, Section V examines efforts toward EBM in the Gulf of Mexico red snapper and shrimp fisheries including proposals for further advancement.

II. U.S. Fishery Management

As discussed in more detail below, domestic fisheries in the U.S. are regulated separately at the state and federal level. Decisions at the federal level involve regional management councils, whereas states generally regulate fisheries without consideration for impacts to the fishery in neighboring waters. Regional commissions, however, provide some level of federal/state coordination.

A. Federal Management

1. Magnuson-Stevens Fishery Conservation and Management Act of 1976

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) governs fishery management in federal waters within the U.S. Exclusive Economic Zone (EEZ).[11] Enacted in 1976, the MSA established "[a] national program for the conservation and management of fisheries resources in the United States" with the purpose "to prevent overfishing, to rebuild overfished fish stocks, to insure conservation, and to realize the full potential of the Nation's fishery resources."[12] The MSA charged the Secretary of Commerce, by and through the National Marine Fisheries Service (NMFS), to regulate domestic marine fisheries when "necessary and appropriate."[13] Eight regional councils were created to develop fishery management plans (FMPs) for those fisheries requiring "conservation and management."[14]

2. Sustainable Fisheries Act of 1996

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[10] Remarks of Russell Nelson, CCA consultant to the Gulf Council, CCA, *Gulf Red Snapper – The State of the Fishery,* http://www.joincca.org/Snapper%20position.html (last visited Dec. 16, 2009).
[11] JOSEPH J. KALO, ET AL., COASTAL AND OCEAN LAW, 390 (3rd ed. 2007). The U.S. EEZ extends 200 nautical miles offshore. The U.S. proclaimed its 200-mile EEZ in 1983 and extended its territorial sea to 12 miles in 1998. These actions followed the adoption of the 1982 Convention at the close of UNCLOS (United Nations Convention on the Law of the Sea) III. *Id.*
[12] 16 U.S.C. § 1801(a)(6).
[13] *Id.* §§ 1811, 1853.
[14] *Id.* §§ 1852(h)(1), 1854(c)(1)(A); *see also id.* § 1802(5) (defining "conservation and management").

In response to the collapse of several important domestic fisheries, Congress amended the MSA through the 1996 Sustainable Fisheries Act (SFA).[15] Under the SFA, the focus of the MSA shifted "from 'Americanization' of all U.S. fisheries to the conservation and rebuilding of overfished stocks."[16] To achieve this goal, the SFA added new requirements: (1) conserve fish stocks, address overfishing, and minimize bycatch; (2) assure fair and balanced regional management council membership; (3) impose a moratorium on new individual fishing quota programs; (4) improve social benefits for traditional small-scale fishers; and (5) provide increased protection of fish habitat.[17] These measures were intended to incorporate the precautionary approach and sustainable development into fishery management.[18] Unfortunately, the overarching emphasis remained on allowance of fishing[19] doing little to curtail what has been characterized as "a national addiction to unsustainable fishing."[20]

3. Magnuson-Stevens Reauthorization Act of 2006

Passed by Congress in 2006 and signed into law in early January 2007, the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (FCMRA) is the latest effort to address the national fish crisis.[21] To that end, the FCMRA addresses the timeline for rebuilding overfished stocks;[22] establishes a regional cooperative research and monitoring program and a regional ecosystem study;[23] strengthens the role of science in decision-making;[24] develops new measures for fish habitat;[25] and authorizes limited access privilege programs (LAPPs).[26] On its face, FCMRA represents a step towards incorporation of ecosystem-based management into fishery conservation plans. Critics, however, point to shortcomings such as discretionary research provisions that lack sufficient substance "to overcome lingering Council resistance to conservation … [and] to implement ecosystem-based management."[27]

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[15] Sustainable Fisheries Act of 1996, Pub. L. No. 104-297, 110 Stat. 3559 (1996) (amended 2007).
[16] Madeline June Kass, *Fishery Conservation and Management Act Reauthorization: "A" for Effort, "C" for Substance*, 21-SPG NAT. RESOURCES & ENV'T 52, 52 (2007) (citing JOSEPH J. KALO, ET AL., *supra* note 11, at 436).
[17] Sustainable Fisheries Act of 1996, *supra* note 15. *See also* Eugene H. Buck & Daniel A. Waldeck, *The Magnuson-Stevens Fishery Conservation and Management Act: Reauthorization Issues*, CRS Report for Congress, 7 (2005).
[18] Robin Kundis Craig, *Coral Reefs, Fishing, and Tourism: Tensions in U.S. Ocean Law and Policy Reform*, 27 STAN. ENVTL. L.J. 3, 16 (2008).
[19] *Id.*
[20] Kass, *supra* note 16, at 52. *See also* PEW REPORT, *supra* note 4, at 35-36.
[21] Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479, 120 Stat. 3575 (2007).
[22] *Id.* at § 104.
[23] *Id.* § 204, 208, 210.
[24] *Id.* § 103.
[25] *Id.* § 105.
[26] *Id.* § 106. LAPPs allow for issuance of individual fishing quotas (IFQs) and represent a market-based approach to fishery management. *See generally*, THE PEW ENVIRONMENT GROUP, DESIGN MATTERS: MAKING CATCH SHARES WORK (2009) (discussing the use of LAPPs).
[27] Kass, *supra* note 16, at 53.

B. State Management

Within its own jurisdictional waters, each state regulates fisheries at its discretion.[28] State jurisdiction applies to fishery resources within state waters.[29] In most instances, state waters extend three nautical miles (nm) from shore.[30] In the Gulf of Mexico, however, Texas and Florida have jurisdiction extending nine nm.[31] Although state laws often mimic federal regulations, states are not required to do so.[32] States may use a variety of tools to manage fisheries, including conservation and management regimes, statutes, and judicial decisions.[33] Inconsistencies often occur as a result, potentially thwarting federal management efforts (habitat, seasons, bag limits) and leading to confusion and enforcement difficulties.

C. Regional Commissions

Prior to 1950, Congress created three regional Commissions to better utilize the coastal Atlantic, coastal Pacific, and Gulf of Mexico fisheries: 1) the ASMFC;[34] 2) the GSMFC;[35] and 3) the PSMFC.[36] The Commissions function to make "joint fishery regulation recommendations to the member states through detailed FMPs."[37] The Commissions' jurisdiction is primarily limited to state waters but Commissions also work with MSA Regional Councils for fisheries abundant in both state and federal waters.[38] With the exception of the ASMFC,[39] the Commissions play only advisory roles in state fishery management and lack authority to compel states to adopt their recommendations.[40]

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[28] Sarah Bittleman, *Toward More Cooperative Fisheries Management: Updating State and Federal Jurisdictional Issues*, 9 TUL. ENVTL. L.J. 349, 357 (1996).

[29] H.R. Rep. No. 445, 94th Cong., 2d Sess., at 29 (1976), reprinted in 1976 U.S.C.C.A.N. 593, 602. *See also* Bittleman, *supra* note 28, at 361.

[30] Closure of the 2008 Gulf of Mexico Recreational Fishery for Red Snapper, 73 Fed. Reg. 15674 (March 25, 2008) [hereinafter 2008 Red Snapper Closure Rule].

[31] *Id.* After the passage of the Submerged Lands Act, Texas successfully claimed a "historic boundary" that extended nine nautical miles. *United States v. Louisiana*, 363 U.S. 1 (1960); *See also United States v. Louisiana*, 389 U.S. 155 (1967); *United States v. Louisiana*, 394 U.S. 1 (1969). Florida was equally successful in extending its jurisdiction in the Gulf of Mexico but its Atlantic Ocean boundary extends only three miles. *United States v. Florida*, 363 U.S. 121 (1960); *United States v. Florida*, 420 U.S. 531 (1975). Mississippi, Louisiana, and Alabama unsuccessfully made similar claims. *See also* KALO, ET AL., *supra* note 11, at 422.

[32] Bittleman, *supra* note 28, at 357.

[33] Joseph A. Farside, Jr., *Atlantic States Marine Fisheries Commission: Getting a Grip on Slippery Fisheries Management*, 11 ROGER WILLIAMS U. L. REV. 231, 235 (2005).

[34] Atlantic States Marine Fisheries Commission Compact, Pub. L. No. 77-539, 56 Stat. 267 (1942), *available at* http://www.asmfc.org/publications/revisedCompactRules&Regs0304.pdf .

[35] Gulf States Marine Fisheries Commission Compact, Pub. L. No. 81-66, 63 Stat. 70 (1949), *available at* http://www.gsmfc.org/compact.html . The GSMFC is comprised of Florida, Alabama, Mississippi, Louisiana, and Texas, as is the Gulf Regional Council under the MSA.

[36] Pacific States Marine Fisheries Commission Compact, Pub. L. No. 80-232, 61 Stat. 419 (1947), *available at* http://www.psmfc.org/ .

[37] Farside, *supra* note 33, at 237.

[38] *Id.* at 238.

[39] *See* 16 U.S.C. § 5101, *et seq.*

[40] Corey Hall, *The Menhaden Reduction Fishery: Capping the Catch*, 16 PENN ST. ENVTL. L. REV. 279, 290 (2007).

D. Regulatory Framework

1. Regional Councils

The MSA delegated fishery management to eight regional councils comprised of state and federal officials as well as regional fisheries stakeholders.[41] The regional councils are charged with the development of fishery management plans (FMPs) and implementation of regulations necessary to manage the fisheries.[42] By including these stakeholders, "[t]he original hope … was that people who spend time on, near, and working in ocean-related careers would be well positioned to inform the agency about real, current problems with fish and fishing and suggest potential management solutions."[43]

Under the MSA, councils have vast authority to regulate fishery management within their respective regions, including "primary responsibility for developing and amending FMPs."[44] The councils also propose regulations necessary for the implementation of FMPs which are then enacted through NMFS with limited oversight.[45] Specifically, NMFS lacks authority to "revise a council-submitted FMP, amendment, or propose regulation to suit its own policy preferences, or to write regulations that undercut council policy intent, except when they conflict with other applicable laws."[46] NFMS may, however, approve, partially approve, or disapprove FMPs submitted by the Councils.[47] As will be seen in the Gulf red snapper case study, this limited oversight can result in conservation plans developed by fishery stakeholders that are counterintuitive to the plain language of the statute.

2. Fishery Management Plans

The MSA establishes both required and discretionary FMP components.[48] Pursuant to the mandatory provisions, FMPs must include: (1) provisions "necessary and appropriate for the conservation and management of the fishery, to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery;"[49] (2) a description of the fishery;[50] (3) specification of "the maximum sustainable yield and optimum yield" from the fishery;[51] (4) description and identification of essential fish habitat and measures to minimize adverse effects to the extent practicable;[52]

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[41] 16 U.S.C. § 1852(a) (regional councils); §§ 1854(a)-(c) (federal supervision).
[42] *Id.* §§ 1852(h) and 1853.
[43] Marianne Cufone, *Will There Always Be Fish in the Sea? The U.S. Fishery Management Process*, 19 SUM NAT. RESOURCES & ENV'T 28, 29 (2004).
[44] Scott C. Matulich, et al., *Policy Formulation Versus Policy Implementation Under the Magnuson-Stevens Fishery Conservation and Management Act: Insight from the North Pacific Crab Rationalization*, 34 B.C. ENVTL. AFF. L. REV. 239, 240 (2007).
[45] *Id.* at 240-41.
[46] *Id.* (citing 16 U.S.C. § 1854).
[47] 16 U.S.C. § 1854(a).
[48] *Id.* §§ 1853(a) (1)-(14) (required); §§ 1853(b)(1)-(12) (discretionary).
[49] *Id.* § 1853(a)(1)(A).
[50] *Id.* § 1853(a)(2).
[51] *Id.* § 1853(a)(3).
[52] *Id.* § 1853(a)(7).

(5) measurable criteria for identifying overfished fishery and measures to prevent or end overfishing and rebuild the stock;[53] and (6) a fishery impact statement.[54]

In addition, ten national standards guide FMP promulgation.[55] National Standard 1 requires management measures that "prevent overfishing while achieving, on a continuous basis, the optimum yield from each fishery for the United States fishing industry."[56] The MSA defines optimum yield as "maximum sustainable yield from the fishery."[57] Maximum sustainable yield is defined by regulation as "the largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological and environmental conditions."[58] Other national standards include: use of best available science,[59] valuation of fishing communities,[60] reduction of adverse impacts on such communities,[61] and bycatch minimization. [62]

3. Overfished Stocks

Under the MSA, each Council must annually report to Congress on the status of fisheries within its jurisdiction, identifying stocks that are overfished or approaching overfished status.[63] When a fishery is declared overfished, the Council must, within one year, produce a plan that will "end overfishing in the fishery and rebuild affected stocks of fish."[64] The plan must "provide for rebuilding to a level consistent with" maximum sustainable yield.[65] The timeframe must be "as short as possible, taking into account the status and biology of any overfished stock of fish, the needs of fishing communities, … and the interaction of the overfished stock of fish within the marine ecosystem."[66] In balancing these factors, courts have interpreted this provision as requiring NMFS to give priority to conservation measures.[67] Where biologically possible, overfished stocks must be rebuilt within ten

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[53] *Id.* § 1853(a)(10).
[54] *Id.* § 1853(a)(9).
[55] *Id.* §§ 1851(a)(1)-(10).
[56] *Id.* § 1851(a)(1).
[57] *Id.* § 1802(28)(b).
[58] 50 C.F.R. § 600.310(1).
[59] 16 U.S.C. § 1851(a)(2). National Standard 2: "Conservation and management measures shall be based upon the best scientific information available."
[60] *Id.* § 1851(a)(8). National Standard 8: "Conservation and management measures shall, consistent with the conservation requirements of this chapter (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities … in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities."
[61] *Id.*
[62] *Id.* § 1851(a)(9). National Standard 9: "Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch."
[63] *Id.* § 1854(e)(1).
[64] *Id.* § 1854(e)(3). If the council plan is inadequate, NMFS has an additional nine months to promulgate a legally sufficient plan. *Id.* § 1854(e)(5).
[65] *Id.* § 1802(28)(c).
[66] *Id.* § 1854(e)(4)(A)(i).
[67] National Resources Defense Council v. National Marine Fisheries Service, 421 F.3d 872, 879 (9th Cir. 2005).

years.[68] If not possible, the species must be rebuilt within a time period in which the species would naturally rebuild in the absence of any fishing mortality (referring to the cessation of the directed fishery), "plus a period of one mean generation time … based on the species' life history characteristics."[69] This time period varies by species.

4. Bycatch

As established in National Standard 9, FMPs must address bycatch to the extent practicable. "Bycatch" is statutorily defined as "fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards."[70] To comply with this provision, FMPs must establish "standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery."[71] FMPs are further required, to the extent practicable, to include conservation and management measures that "in the following priority (A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided."[72]

E. Fishing Regulations: Problems and Solutions

In the last decade, concerns over potential fishery collapse prompted several reviews of domestic fishery management. Both the Pew Ocean Commission and the Bush-era U.S. Commission on Ocean Policy conducted in-depth studies of current management tactics. The Commission led to the U.S. Ocean Action Plan. Most recently, President Obama established an Interagency Ocean Policy Task Force which has released interim findings.

1. Pew Oceans Commission

In 2003, the Pew Oceans Commission (Pew Commission) assessed the current status of U.S. fishery management practices in its report entitled *America's Living Oceans: Charting a Course for Sea Change*.[73] The Pew Commission was comprised of "a bipartisan, independent group of American leaders" representing "science, fishing, conservation, government, education, business, and philanthropy."[74] The Pew Commission determined that the "hodgepodge of individual laws" regulating marine resources resulted in a geographically fragmented regulatory system.[75] Federal/state jurisdictional divisions of management further compounded the problem.[76] The Pew Commission recognized overfishing as a primary culprit of marine ecosystem decline, recognizing that "overfishing has been

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[68] 16 U.S.C. § 1854(e)(4)(A)(ii).
[69] 50 C.F.R. § 600.310(e)(4)(ii)(B)(3). "For example, suppose a stock could be rebuilt within 12 years in the absence of any fishing mortality, and has a mean generation time of 8 years. The rebuilding period, in this case, could be as long as 20 years." *Id.*
[70] 16 U.S.C. § 1802(2).
[71] *Id.* § 1853(a)(11).
[72] *Id.*
[73] PEW REPORT, *supra* note 4.
[74] *Id.* at ix.
[75] *Id.* at 26. *See also* Donna R. Christie, *Implementing an Ecosystem Approach to Ocean Management: An Assessment of Current Regional Governance,* 16 DUKE ENVTL. L. & POL'Y F. 117, 120 (2006).
[76] PEW REPORT, *supra* note 4, at 26.

depleting marine biodiversity for decades."[77]

According to the Pew Commission, implementation of ecosystem-based management requires adopting a new perspective that includes understanding these five elements: "(1) there are limits to our knowledge; (2) marine ecosystems are inherently unpredictable; (3) ecosystems have functional, historical, and evolutionary limits that constrain human exploitation; (4) there is a fundamental trade-off in fishing that must be balanced between fish for human consumption and fish for the rest of the ecosystem; and (5) ecosystems are complex, adaptive systems."[78] Particularly, the concept of "overfishing" must be rethought to include consideration of the ecosystem effects rather than just the target species level.[79]

2. U.S. Commission on Ocean Policy

The Oceans Act of 2000 created the U.S. Commission on Ocean Policy (U.S. Commission) to "establish findings and develop recommendations for a coordinated and comprehensive national ocean policy."[80] In 2004, the U.S. Commission released its findings in *An Ocean Blueprint for the 21st Century*.[81] Therein, the U.S. Commission determined that existing marine regulation was generally inadequate to effectuate long-term positive objectives.[82] Specific problems identified as inhibiting effective action included lack of communication and coordination, and a lack of strong sense of partnership.[83]

The U.S. Commission recommended incorporation of ecosystem-based management with focus on three themes: "(1) a new, coordinated national ocean policy framework to improve decision making; (2) cutting edge ocean data and science translated into high-quality information for managers; and (3) lifelong ocean-related education to create well-informed citizens with a strong stewardship ethic."[84] The U.S. Commission identified guiding principles including the use of best available science and information, use of adaptive management, and preservation of marine biodiversity.[85] Other recommendations include strengthening the federal agency structure, greater investment in science, and the creation of a national ocean education office to spearhead improved educational awareness.[86]

The U.S. Commission proposed enhanced regional management through "voluntary establishment of regional ocean councils, developed through a process supported by the National Ocean Council, [that] would facilitate the development of regional goals and priorities and improve responses to regional issues."[87] Specific to fisheries management, the

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[77] Craig, *supra* note 18, at 28 (citing PEW REPORT, *supra* note 4, at 2).
[78] PEW REPORT, *supra* note 4, at 44.
[79] *Id.*
[80] USCOP REPORT, *supra* note 2, at 3; Oceans Act 2000, Pub. L. No. 106-256, § 3(a), 114 Stat. 644, 645 (2000).
[81] USCOP REPORT, *supra* note 2, at 3.
[82] *Id.* at 5.
[83] *Id.* at 77.
[84] *Id.* at 5.
[85] *Id.* at 6.
[86] *Id.* at 10-14.
[87] *Id.* at 86. *See also* Kristen M. Fletcher, *Regional Ocean Governance: The Role of the Public Trust Doctrine*, 16 DUKE ENVTL. L. & POL'Y F. 187, 191 (2006).

U.S. Commission made six recommendations for achieving sustainable fisheries including greater emphasis on science in decision-making, strengthening regional fishery councils and diversifying membership, and adopting an ecosystem-based management approach to address essential fish habitat and bycatch.[88]

3. U.S. Ocean Action Plan

To address the need for the "development and dissemination of regionally significant research and information" necessary to support ecosystem-based management, the U.S. Ocean Action Plan (USOAP) supported "creation of regional collaborations on oceans, coasts, and Great Lakes policy in partnership with states, local governments, and tribes."[89] The USOAP placed particular emphasis on regional partnerships in the Great Lakes and Gulf of Mexico.[90] Following the 2004 USOAP, the Administration committed support for a Gulf of Mexico regional partnership to provide "increased integration of resources, knowledge and expertise to enhance ecological and economic health of the Gulf of Mexico."[91] The resulting partnership led to the creation of the Gulf of Mexico Alliance "whose objective was to provide an integrated management approach for the Gulf of Mexico led by surrounding states."[92]

4. Interagency Ocean Policy Task Force

In June 2009, President Obama created an Interagency Ocean Policy Task Force charged with, among other things, developing recommendations for a national policy to ensure "protection, maintenance, and restoration of the health of ocean, coastal, and Great Lakes ecosystems and resources."[93] The Task Force released its *Interim Report* in September 2009 in which it identified nine priority objectives for a national policy; ecosystem-based management topped this list.[94] Other priorities included greater coordination and support among regulators; regional ecosystem protection and restoration; and resiliency and adaptation to climate change and ocean acidification.[95]

III. Ecosystem-Based Approach to Fishery Management

A. Key Tenets of Ecosystem-Based Management

[88] USCOP REPORT, *supra* note 2, at 20.
[89] Fletcher, *supra* note 87, at 191 (citing COUNCIL ON ENVTL. QUALITY, U.S. OCEAN ACTION PLAN: THE BUSH ADMINISTRATION'S RESPONSE TO THE U.S. COMMISSION ON OCEAN POLICY 10-11 (2004), *available at* http://ocean.ceq.gov/actionplan.pdf [hereinafter USOAP]).
[90] USOAP, *supra* note 89.
[91] *Id.* at 5, 11. *See also* Katherine W. McFadden & Cassandra Barnes, *The Implementation of an Ecosystem Approach to Management Within a Federal Government Agency*, 33 MARINE POLICY 156 (2009).
[92] *Id.* at 159.
[93] IOPTF INTERIM REPORT, *supra* note 7, at 2.
[94] *Id.* at 7.
[95] *Id.*

Essentially EBM refers to a "more holistic approach" to governance beyond the single-species approach often found in current management regimes.[96] That is, fishery practices that affect an entire ecosystem should go beyond mere governance of the target species and take into account "the wide-range of horizontal and vertical ecological relationships that exist between and among organisms."[97] The overarching goal of an ecosystem-based approach is to "maintain an ecosystem in a healthy, productive and resilient condition so that it can provide the services humans want and need."[98]

Partially in response to the USOAP, NOAA has made strides towards incorporating EBM into its management practices.[99] NOAA defines an ecosystem approach to management[100] as:

> An ecosystem approach to management (EAM) is one that provides a comprehensive framework for living resource decision making. In contrast to individual species or single issue management, EAM considers a wider range of relevant ecological, environmental, and human factors bearing societal choices regarding resource use.[101]

NOAA identifies the following as defining characteristics of EAM:

> (1) geographically specified, (2) adaptive in its development over time as new information becomes available or as circumstances change, (3) takes into account ecosystem knowledge and uncertainties, (4) recognizes that multiple simultaneous factors may influence the outcomes of management (particularly those external to the ecosystem), and (5) strives to balance diverse societal objectives that result from resource decision making and allocation. Additionally, because of its complexity and emphasis on stakeholder involvement, the process of implementing EAM needs to be (6) incremental and (7) collaborative.[102]

Other organizations have adopted similar approaches to ecosystem-based fishery management. Particularly, the United Nations Food & Agriculture Organization describes an approach that incorporates social objectives, recognizes the value of ecosystem services, and integrates multiple uses:[103]

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[96] Howard S. Schiffman, *Moving From Single-Species Management to Ecosystem Management in Regional Fisheries Management Organizations*, 13 ILSA J. INT'L & COMP. L. 387, 387-88 (2007).
[97] *Id.* at 388.
[98] K.L. MCLEOD, ET AL., SCIENTIFIC CONSENSUS STATEMENT ON MARINE ECOSYSTEM-BASED MANAGEMENT 1 (2005) (signed by 219 academic and policy experts).
[99] McFadden & Barnes, *supra* note 91, at 2.
[100] EAM is the acronym used by NOAA. For purposes of this paper, EAM and EBM are interchangeable.
[101] NOAA, ECOSYSTEM SCIENCE CAPABILITIES REQUIRED TO SUPPORT NOAA'S MISSION IN THE YEAR 2020, TECHNICAL MEMORANDUM NMFS-F/SPO-74, 2 (S.A. Murawski & G.C. Matlock eds., 2006) [hereinafter NOAA TECHNICAL MEMORANDUM].
[102] *Id.*
[103] Steven A. Murawski, *Ten Myths Concerning Ecosystem Approaches to Marine Resource Management*, 31 MARINE POLICY 681, 682 (2007).

> An ecosystem approach to fisheries strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.[104]

Similarly, the President's Interagency Ocean Policy Task Force described EBM as the integration of "ecological, social, economic, commerce, health, and security goals" and recognition that "humans [are] key components of the ecosystem and healthy ecosystems [are] essential to human well-being."[105]

While a precise definition of EBM remains elusive, all definitions exhibit certain universally agreed upon essential elements: regional governance, adaptive management, moving beyond single species management, and increasing the role of science. A detailed description of these key tenets follows.

1. Regional Governance

Creation of a regional management framework represents a fundamental and widely accepted aspect of EBM.[106] Currently, federal fisheries are managed within a regional system while states individually manage fishery resources within their jurisdictional waters. This delineation of management denotes a significant impediment to ecosystem-based fishery management in the United States.[107] As will be seen below in the management challenges of the red snapper and shrimp fisheries, arbitrary jurisdictional boundaries that cut across fishery habitats hinder cohesive management by allowing states to adopt practices which conflict, and at times undercut, federal efforts. EBM necessitates integrated interagency fishery management.

2. Move Beyond Single Species

Management of fisheries on an ecosystem level necessitates moving beyond traditional single species management. EBM requires assessment of the "interconnectedness within systems" including the interactions of harvested and non-harvest species.[108] Moving beyond single species management measures allows regulators to address the broader spectrum of ecosystem issues, like bycatch and habitat protection, when creating FMPs and corresponding regulations.[109] Fishery bycatch results in significant impact to marine ecosystems.[110] By considering "the role of habitat in resource and system productivity and the effect of environmental forcing on system dynamics," regulators are provided "a more

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[104] FISHERIES DEP'T, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, THE ECOSYSTEM APPROACH TO FISHERIES (2003), *available at* http://www.fao.org/fishery/topic/13261 .
[105] IOPTF INTERIM REPORT, *supra* note 7, at 12.
[106] Christie, *supra* note 75, at 118.
[107] *Id.*
[108] Deborah A. Sivas & Margaret R. Caldwell, *A New Vision for California Ocean Governance: Comprehensive Ecosystem-Based Marine Zoning*, 27 STAN. ENVTL. L.J. 209, 245 (2008). *See also* NOAA TECHNICAL MEMORANDUM, *supra* note 101, at 21.
[109] Schiffman, *supra* note 96, at 389.
[110] Jennie M Harrington, et al., *Wasted Fishery Resources: Discarded By-Catch in the USA*, 6 FISH AND FISHERIES 350, 350 (2005).

inclusive and necessary ecosystem perspective."[111] In addition, a focus on single-species regulation often places too great an emphasis on economically valuable species and increased catches. In time, the singular focus on economically important species may undermine "any regulatory attempt to preserve the resource or the supporting ecosystem because there is insufficient economic, and hence political, opposition to the continuation of that use."[112]

3. Adaptive Management

Adaptive management has been referred to as "learning while doing."[113] Adaptive management techniques allow managers to learn from past mistakes and respond with innovative alternatives.[114] Moving away from the conventional regulatory approach, adaptive management "emphasizes the need for learning and reevaluation" combining "precaution with science."[115] Implementing adaptive management provides greater flexibility and speed with which managers may respond to emerging problems. This increased response time may prove invaluable in coping with the effects of climate change on natural resources.

Adaptive management is not synonymous with EBM. It is, however, a necessary component of EBM because an adaptive management framework provides regulators with the necessary leeway to respond to ever changing states within the ecosystems they manage.[116] For instance, NOAA, in defining EBM, specifically identified the need for ecosystem management to be adaptive in nature.[117] Incorporating this approach into EBM allows development of management practices that evolve along with the ecosystems they seek to regulate.

4. Increased Role of Science

Increased development and reliance upon science represents an essential component of EBM: "[E]cosystem perspectives require information about the interrelationships among ecosystem components as a basis for informing policy choices."[118] Scientists must provide fishery managers with accurate scientific information to achieve successful implementation of adaptive management and to transition beyond single species management.[119] Increased

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[111] NOAA TECHNICAL MEMORANDUM, *supra* note 101, 21.
[112] Robin Kundis Craig, *Valuing Coastal and Ocean Ecosystem Services: The Paradox of Scarcity for Marine Resources Commodities and the Potential Role of Lifestyle Value Competition*, 22 J. LAND USE & ENVTL. L. 355, 394 (2007).
[113] Holly Doremus, *Precaution, Science, and Learning While Doing in Natural Resource Management*, 82 WASH. L. REV. 547, 568 (2007).
[114] Annecoos Wiersema, *A Train Without Tracks: Rethinking the Place of Law and Goals in Environmental and Natural Resources Law*, 38 ENVTL. L. 1239, 1250 (2008).
[115] Doremus, *supra* note 113, at 568.
[116] *See* IOPTF INTERIM REPORT, supra note 7, at 12.
[117] NOAA TECHNICAL MEMORANDUM, *supra* note 101, at 2.
[118] Murawski, *supra* note 103, at 683.
[119] Margreta Vellucci, *Fishing for the Truth: Achieving the "Best Available Science" By Forcing a Middle Ground Between Mainstream Scientists and Fishermen*, 30-SPG ENVIRONS ENVTL. L. & POL'Y J. 275, 282 (2007).

scientific study is necessary for the better understanding of "complex biological relationships that exist in the marine environment."[120]

B. Legal Authority for Ecosystem-Based Fishery Management

Existing U.S. fishery legislation provides ample authority for the incorporation of EBM into management decisions. National Standard 2 mandates use of "best available science" in promulgating FMPs.[121] Other national standards provide additional support for an ecosystem-based approach to fishery management by mandating an end to overfishing and the minimization of bycatch.[122] The recently reauthorized MSA contains expanded authorities for considering ecosystem impacts.[123] This includes creation of scientific and statistical committees, ecosystem study, and deadlines for ending overfishing.[124]

Through the use of regional councils, legal authority for regional management exists under the MSA within federal waters. However, true regional management efforts are stymied by the heavy influence of fishery stakeholders and the federal/state jurisdictional boundary. First, scientists and environmentalists rarely are represented on regional councils.[125] While the MSA requires representation of commercial and recreational fisheries, others like conservation interests and recreational users are not afforded the same representation.[126] As a result, government officials and fishery stakeholders generally comprise council membership.[127] This has led commentators to criticize the councils for being "slow to adopt significantly restrictive catch limits" and being "overly dependent on fishing interests."[128] The reauthorized MSA includes greater conflict of interest disclosure requirements but has not affected council composition.[129] As acknowledged by the U.S. Commission, regional councils are transitioning towards an ecosystem-based approach but regional councils must extend considerations beyond fisheries, incorporating other resources and activities into fishery conservation measures.[130]

Second, states' three-nm jurisdiction "presents an additional challenge to transitioning to much-needed comprehensive marine ecosystem management."[131] Although the MSA

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[120] Schiffman, *supra* note 96, at 389.
[121] 16 U.S.C. § 1851(a)(2).
[122] *Id.* § 1851(a)(1) (overfishing); § 1851(a)(9) (bycatch reduction). *See also* ECOSYSTEM PRINCIPLES ADVISORY PANEL, ECOSYSTEM-BASED FISHERY MANAGEMENT: A REPORT TO CONGRESS, 11 (1999), *available at* http://www.nmfs.noaa.gov/sfa/EPAPrpt.pdf .
[123] Murawski, *supra* note 103, at 684.
[124] *See* 16 U.S.C. § 1801, *et seq.*
[125] André Verani, *Community-Based Management of Atlantic Cod By the Georges Bank Hook Sector: Is It a Model Fishery?*, 20 TUL. ENVTL. L.J. 359, 366 (2007).
[126] JOSH EAGLE, ET AL., TAKING STOCK OF THE REGIONAL FISHERY MANAGEMENT COUNCILS, 13 (2003).
[127] Verani, *supra* note 125, at 366.
[128] Rachael E. Salcido, *Offshore Federalism and Ocean Industrialization*, 82 TUL. L. REV. 1355, 1430 (2008). *See also* Teresa M. Cloutier, *Conflicts of Interest on Regional Fishery Management Councils: Corruption or Cooperative Management?*, 2 OCEAN & COASTAL L.J. 101, 101-03 (1996) (explaining the background to council development and potential changes to address continued overfishing).
[129] Peter Van Tuyn & Valerie Brown, *A Look Within: Executive Branch Authority to Ensure Sustainable Fisheries,* 14 OCEAN & COASTAL L.J. 1 (2008).
[130] Christie, *supra* note 75, at 127.
[131] Salcido, *supra* note 128, at 1370.

provides federal preemption authority in certain instances, states continue to exercise primary control over fisheries within the territorial sea. [132] Federal regulators may assume control over "fisheries management in state waters if state action 'will substantially and adversely affect' a federal fishery management plan for a fishery that occurs in both state and federal waters."[133] Through these provisions, regional councils could expand control of migratory fisheries that are jeopardized by state action eventually leading to greater management cohesion.

Ultimately, existing regulations afford sufficient support for achieving EBM in domestic fisheries. However, councils comprised of fishery stakeholders lack motivation to implement discretionary measures which impedes progress.[134] As a result, critics argue that discretionary aspects, such as ecosystem studies, lack sufficient substance "to overcome lingering Council resistance to conservation, to assure that the most-needed data gets collected in the timeliest fashion, or to implement ecosystem-based management."[135] While the MSA mandates immediate action to end overfishing, in actuality councils can postpone taking action well into 2011, some two and half years after passage of the reauthorization.[136] The MSA requires technical expertise for catch limit determinations, but leaves conservation measure decisions to the more politically motivated councils.[137] While providing authority for incorporation of EBM, the MSA falls short of mandating the incorporation of these principles into FMPs.

IV. Dynamics of the Gulf of Mexico Red Snapper and Shrimp Fisheries

Although the MSA employs a regional approach to fishery management, the challenges of the red snapper and shrimp fisheries in the Gulf of Mexico highlight the shortcomings of the MSA in achieving EBM. As explained by Chris Dorsett, formerly with the Gulf Restoration Network, "[t]wo of the most valuable fisheries in the Gulf are always at each other's throats because shrimp trawls catch too many juvenile red snapper as bycatch. We could stop all directed catches of red snapper tomorrow and they still wouldn't bounce back in the near future unless juvenile mortality from shrimp trawling is reduced significantly."[138] The Gulf Council oversees both fisheries but has historically failed to address the devastating effects of the shrimp trawl bycatch on the overfished red snapper; a problem further compounded by overlapping habitat and inadequacies of effective bycatch reduction devices.

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[132] Bittleman, *supra* note 28, at 361-62.
[133] Craig, *supra* note 18, at 40 (citing 16 U.S.C. § 1856(b)).
[134] Roger Fleming & Dr. John D. Crawford, *Habitat Protection Under the Magnuson-Stevens Act: Can It Really Contribute to Ecosystem Health in the Northwest Atlantic?*, 12 OCEAN & COASTAL L.J. 43, 85 (2006).
[135] Kass, *supra* note 16, at 53.
[136] *Id.* at 52.
[137] *Id.* at 54. *See also* Jennifer C. White, *Conserving the United States' Coral Reefs: National Monument Designation to Afford Greater Protection for Coral Reefs in Four National Marine Sanctuaries*, 32 WM. & MARY ENVTL. L. & POL'Y REV. 901, 910 (2008) (noting the effectiveness of council management to meaningfully limit commercial fishing).
[138] PEW REPORT, *supra* note 4, at 44.

A. Overview of the Fisheries

To better understand the complexities facing fishery managers, a brief overview of each fishery and the regional variances is provided below. As explained in more detail below, both red snapper and shrimp migrate during their lifetimes. This dynamic results in juvenile red snapper sharing the same water column as sub-adult brown shrimp during shrimping season, particularly in the western Gulf of Mexico. Although the Gulf of Mexico shrimp fishery manages four different shrimp varieties, particular attention is paid to brown shrimp due to its overlapping habitat with juvenile red snapper.

1. The Shrimp Fishery

Catch statistics for the commercial shrimp fishery were first reported in 1880. White shrimp dominated the market until 1947 when major concentrations of brown shrimp were discovered off Texas and became marketable.[139] Brown shrimp have consistently gained market share since that time and are now the predominant shrimp species in domestic landings. In recent years, commercial landings of brown shrimp ranged from 61 to 103 million pounds.[140] In 2008, brown shrimp landings in U.S. waters totaled 86 million pounds, primarily off the Texas, Louisiana, and Alabama coasts.[141]

Brown, white, and pink shrimp are all shallow-water shrimp, and in the Gulf of Mexico, they are primarily found inside sixty fathoms along the continental shelf.[142] A 1977 survey revealed that the highest concentrations of brown shrimp were found off coastal Texas and extended eastward into Alabama.[143] White shrimp were found in shallower waters of the same area with highest concentrations west of the Mississippi River delta.[144] Both white and brown shrimp migrate from inland estuaries into deeper waters during juvenile to sub-adult stages.[145]

Harvesting white shrimp, commonly found inside the ten-fathom contour, has limited impact on juvenile red snapper because of the small quantity of red snapper found at that depth.[146] Brown shrimp habitat, however, frequently overlaps with juvenile red snapper habitat and shrimpers fishing for brown shrimp in the western Gulf of Mexico frequently

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[139] DAVID J. ETZOLD & J. Y. CHRISTMAS, A COMPREHENSIVE SUMMARY OF THE SHRIMP FISHERY OF THE GULF OF MEXICO UNITED STATES: A REGIONAL MANAGEMENT PLAN, 18 (Gulf Coast Research Laboratory, 1977).

[140] GULF OF MEXICO FISHERY MANAGEMENT COUNCIL, OPTIONS PAPER: AMENDMENT 15 TO THE SHRIMP FISHERY MANAGEMENT PLAN, 18 (2006) (Under development) (on file with author).

[141] NMFS, Fishwatch - U.S. Seafood Facts: Brown Shrimp, http://www.nmfs.noaa.gov/fishwatch/species/brown_shrimp.htm (last visited Dec. 4, 2009).

[142] ETZOLD & CHRISTMAS, *supra* note 139, at 14.

[143] *Id.*

[144] *Id.*

[145] GULF OF MEXICO FISHERY MANAGEMENT COUNCIL, FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE GENERIC ESSENTIAL FISH HABITAT AMENDMENT OF THE GULF OF MEXICO, 3-126 to 3-127 (2004) [hereinafter EFH EIS].

[146] GULF OF MEXICO FISHERY MANAGEMENT COUNCIL, FINAL AMENDMENT 27 TO THE REEF FISH MANAGEMENT PLAN AND AMENDMENT 14 TO THE SHRIMP FISHERY MANAGEMENT PLAN SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT, 37 (2007) [hereinafter AMENDMENT 27/14 FSEIS].

net juvenile red snapper. Brown shrimp range extends offshore approximately 40 fathoms with most catches made from June through October.[147]

The Gulf Council first began regulation of the Gulf of Mexico shrimp fishery in 1981 and included brown, white, pink, and royal red shrimp.[148] Unlike the red snapper, Gulf shrimp stocks are not subject to overfishing.[149] Instead, regulations are designed to optimize yield and protect habitat.[150] Since 2005, the offshore shrimping effort has undergone a substantial decline.[151] Externalities such as heightened fuel costs, reduced shrimp prices, foreign import competition, and hurricanes have resulted in a fifty to sixty percent reduction from the baseline shrimping level (2001-2003 period) in prime red snapper habitat.[152] Researchers expect these reductions to continue until at least 2012.[153] While detrimental to the shrimp fishermen, these unanticipated economic impacts may aid red snapper recovery.

2. Red Snapper Fishery

The Gulf of Mexico red snapper fishery originated off the coast of Pensacola, Florida more than 150 years ago and had evolved into a distinct industry by 1872.[154] Dwindling stocks and the availability of ice prompted fisherman to expand their range.[155] By 1892, the fishery extended to the western Gulf of Mexico and the Campeche Banks in Mexico.[156] However, historical studies suggest that western Florida and the Campeche Banks were the primary fishing grounds until the 1950s.[157] Around that time, harvests from the western Gulf of Mexico began equaling the eastern Gulf harvests.[158] By 2005, when NMFS compiled the SEDAR Stock Assessment, catches from the western Gulf surpassed eastern landings by six to seven times.[159]

Red snapper are a long lived species, with the maximum age reported for the Gulf of Mexico being 57 years.[160] Although mature red snapper are generally associated with reef

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147 *Id.* at 56.
148 *Id.* at 11.
149 EFH EIS, *supra* note 145, at 3-124.
150 AMENDMENT 27/14 FSEIS, *supra* note 146, at 11.
151 *Id.* at 37.
152 *Id.* at 37, 57.
153 *Id.* at 37.
154 B.J. Gallaway, et al., *Estimates of Shrimp Trawl Bycatch of Red Snapper (Lutjanus campechanus) in the Gulf of Mexico, in* FISHERY STOCK ASSESSMENT MODELS, ALASKA SEA GRANT COLLEGE PROGRAM, 818 (1998).
155 Robert L. Shipp & Stephen A. Bortone, *A Prospective of the Importance of Artificial Habitat on the Management of Red Snapper in the Gulf of Mexico*, REVIEWS IN FISHERIES SCIENCE, 17[1]:41-47, 42 (2009).
156 Gallaway, et al., *supra* note 154, 818.
157 Shipp & Bortone, *supra* note 155, 42-43 (citing C.I. Camber, *A Survey of the Red Snapper Fishery of the Gulf of Mexico, with Special Reference to the Campeche Banks*, STATE OF FLORIDA BOARD OF CONSERVATION MARINE LABORATORY, TECHNICAL SERIES NO. 12 (1955)).
158 Shipp & Bortone, *supra* note 155, 43.
159 *Id.* at 43. But recent surveys indicate red snapper are moving east after displacement from hurricanes and other factors. *Id.*
160 NMFS, FishWatch – U.S. Seafood Facts: Red Snapper, http://www.nmfs.noaa.gov/fishwatch/species/red_snapper.htm (last visited Dec. 4, 2009).

structures, juvenile red snapper inhabit the water column, predominately ten to thirty fathoms below the surface.[161] Female red snapper reach reproductive maturity as early as two years of age, but do not "reach peak reproductive productivity until approximately 15 to 20 years of age."[162] Most red snapper harvested in the Gulf of Mexico average between two to four years of age.[163]

Between 1965 and 1980, red snapper landings experienced "an almost uninterrupted decline."[164] Following the first red snapper assessment in 1988, scientists concluded the red snapper was significantly overfished and called for mortality reductions of sixty to seventy percent.[165] In a 1990 study, researchers determined that the red snapper commercial harvest fell from 7.2 million pounds in 1983 to 2.9 million pounds in 1989.[166] Studies indicate that Gulf red snapper populations are approximately three percent of historic levels.[167]

Three distinct sources contribute to red snapper mortality: recreational fishing, commercial fishing, and bycatch.[168] Charter boats and private recreational boats comprise the recreational fishery and are allocated forty-nine percent of the total allowable catch while fifty-one percent goes to commercial fishers.[169] Taken together, the recreational and commercial fisheries comprise the directed red snapper fishery (those caught intentionally). Until 2007, the directed fishery accounted for 9.12 million pounds of Gulf red snapper annually.[170]

3. Bycatch and Regional Variance

Bycatch from the shrimp fishery bears primary responsibility for the current depletion of the Gulf red snapper fishery.[171] As explained above, most bycatch occurs in the brown shrimp fishery which is concentrated in the western Gulf of Mexico. As noted by Galloway and Cole, the abundance of juvenile red snapper off the coast of Texas dramatically increased during the fall because of "young of the year recruitment," thereby greatly increasing bycatch rates.[172] Shrimp trawl bycatch accounts for approximately ninety

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[161] AMENDMENT 27/14 FSEIS, *supra* note 146, at 37.
[162] Petition for Emergency Rulemaking for Red Snapper, 70 Fed. Reg. 53,142, 53,145 (Sept. 7, 2005) (to be codified at 50 C.F.R. pt. 622) [hereinafter *Red Snapper Emergency Rulemaking Petition*].
[163] AMENDMENT 27/14, *supra* note 146, at 67 (citing C.A. Wilson & D.L. Nieland, *Age and Growth of Red Snapper,* Lutjanus Campechanus, *from the Northern Gulf of Mexico off Lousiana*, 99 FISHERY BULLETIN 653, 653-64 (2001)).
[164] *Id.* at 52 (estimating reductions from 14 million pounds per year to 5 million pounds per year).
[165] SEDAR 7, *supra* note 8, at 2.
[166] *See* C.P. Goodyear & P. Phares, *Status of Red Snapper Stocks of the Gulf of Mexico – Report for 1990*, NMFS (1990).
[167] *See* SEDAR 7, *supra* note 8, at 2.
[168] AMENDMENT 27/14 FSEIS, *supra* note 146, at 1.
[169] *Id.* at 2.
[170] *Id.* at 51.
[171] Red Snapper Emergency Rulemaking Petition, *supra* note 162.
[172] Benny J. Galloway & John G. Cole, *Reduction of Juvenile Red Snapper Bycatch in the U.S. Gulf of Mexico Shrimp Trawl Fishery*, 19 NORTH AMERICAN JOURNAL OF FISHERY MANAGEMENT, 342, 344 (1999).

percent of juvenile red snapper mortality.[173] Juvenile red snapper are uniquely affected by shrimping activities because they share the same habitat as sub-adult brown shrimp until they reach maturity. Shrimp inhabit the same area resulting in significant bycatch in shrimp trawl nets during the shrimping season.[174] Most red snapper bycatch from shrimp trawls range in age from zero to one.[175] Juvenile red snapper are particularly difficult to eliminate from shrimp nets because they are comparable in size to shrimp.[176]

B. Past Management Efforts

1. Regulation prior to Amendment 22

The Reef Fish Fishery Management Plan, implemented in 1984, was intended to address the declining fish stocks including the Gulf red snapper.[177] After assessments in 1988 and 1990, scientists recommended closure of the entire directed fishery and reduction in bycatch in shrimp trawl nets.[178] In response, NMFS, in 1991, lowered the annual directed catch by one million pounds, disregarding altogether regulation of shrimp bycatch.[179] When this measure resulted in early closure of the commercial fishery in 1992, "the Gulf of Mexico Fishery Management Council implemented an emergency rule which reopened the red snapper fishery for additional catch above the optimum yield when the quota had been fulfilled in only fifty-three days."[180] The following year NMFS raised the total allowable catch (TAC) by two million pounds, totaling six million.[181] The TAC was raised yet again in 1996 from 6.0 million to 9.12 million pounds, in disregard of scientific knowledge "that red snapper were still depleted and likely declining."[182] Catch limits remained at this level until temporary measures, in response to litigation, reduced limits in 2007.[183]

While consistently raising the TAC, the Gulf Council, through amendments, continuously extended the target rebuilding date for red snapper stock. In 1990, the target rebuilding date was set at 2000. In 1991, it was extended to 2007. The date was again extended in 1993 to 2009. This target was moved to 2019 in 1996. In 2005, the date was extended to

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[173] M.J. SCHIRRIPA & C.M. LEGAULT, STATUS OF THE RED SNAPPER FISHERY IN THE GULF OF MEXICO: UPDATED THROUGH 1998, 86 (1999).
[174] Galloway & Cole, *supra* note 172, at 342.
[175] Joint Amendment to the Fishery Management Plans for the Shrimp (Amendment 14) and the Reef Fish Fisheries (Amendment 27) of the Gulf of Mexico, 73 Fed. Reg. 24,669 (May 5, 2008) [hereinafter *Joint Amendment*].
[176] AMENDMENT 27/14 FSEIS, *supra* note 145, at 67.
[177] *Id.* at 4.
[178] Marianne Cufone, *Will There Always Be Fish in the Sea? The U.S. Fishery Management Process*, 19 SUM NAT. RESOURCES & ENV'T 28, 32 (2004).
[179] *Id.*
[180] Bittleman, *supra* note 28, at 356.
[181] Cufone, *supra* note 178, at 32.
[182] *Id. See also* AMENDMENT 27/14 FSEIS, *supra* note 146, at 51 (allocating 4.65 million pounds to the commercial fishery and 4.47 million pounds to the recreational fishery).
[183] Amendment 27/14, 73 Fed. Reg. 5117, 5122 (Jan. 29, 2008) (to be codified at 50 C.F.R. pt. 622). As well as TACs, the directed fishery is regulated through the use of quotas, seasons, and size and bag limits.

2032.[184] While these amendments increased the allowable catch and lengthened the rebuilding deadline, the amendments simultaneously ignored regulation of shrimp bycatch.

Through the SFA, Congress mandated scientific review of the red snapper's status by independent scientists.[185] The report was released in 1997 and led to the official listing of red snapper as "overfished" in the first *Report to Congress on the Status of United States Fisheries (First Congressional Report)*.[186] Only after this listing did NMFS attempt to regulate shrimp bycatch through the separate 1998 implementation of Amendment 9 to the Shrimp FMP, which required that shrimp trawls install certified bycatch reduction devices (BRDs).[187] This amendment was adopted in response to the SFA's mandate to reduce bycatch.[188] Based upon the adoption of BRDs, the Council maintained the TAC of 9.12 million pounds.[189] The BRDs were assumed to achieve a forty percent reduction in red snapper bycatch from shrimp trawl nets.[190] In actuality, the BRDs reduced bycatch by less than twelve percent.[191]

2. Amendment 22

On March 29, 2005, the Coastal Conservation Association (CCA) filed a petition for emergency rulemaking to stop overfishing of Gulf red snapper with the U.S. Department of Commerce.[192] Therein, CCA asserted that ineffective bycatch reduction devices (BRDs) used by the commercial shrimp fishery made "the recovery of the Gulf red snapper fishery unlikely and ensure[d] years of continued overfishing."[193] Although acknowledging the necessity of shrimp bycatch reduction, the Department denied CCA's petition on September 7, 2005.[194]

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[184] Coastal Conservation Association v. Gutierrez, 512 F.Supp.2d 896, 899 (S.D. Tex. 2007). *See also* AMENDMENT 27/14 FSEIS, *supra* note 146, at 5-8. The Council originally proposed the target date of 2032 in a proposed plan submitted in 2001. NMFS rejected that amendment, instructing the Council to "further explore alternative rebuilding plans based on more realistic expectations concerning bycatch in the shrimp fishery." *CCA v. Gutierrez*, 512 F.Supp. at 899.

[185] Cufone, *supra* note 178, at 33.

[186] *Id.*

[187] Amendment 9, 63 Fed. Reg. 18,139 (April 14, 1998) (to be codified at 50 C.F.R. pt. 622).

[188] *Id.*

[189] Cufone, *supra* note 178, at 32.

[190] AMENDMENT 27/14 FSEIS, *supra* note 146, at 35.

[191] *Id.* NMFS admitted that "red snapper recovery efforts to date have been premised on at least a forty-four percent (44%) reduction … of mortality … [and] that prior to approval of Amendment 22 preliminary studies indicated that currently approved BRDs [reduced] red snapper bycatch … by about twelve percent." Memorandum in Support of Plaintiff Coastal Conservation Association's Motion for Summary Judgment at fn. 12, Coastal Conservation Association v. Gutierrez, 2006 WL 1791886 [hereinafter CCA Memorandum]. *See also* NOAA, STATUS OF BYCATCH REDUCTION DEVICE (BRD) PERFORMANCE AND RESEARCH IN NORTH-CENTRAL AND WESTERN GULF OF MEXICO, SEDAR7-DW-38 (2004).

[192] Red Snapper Emergency Rulemaking Petition, *supra* note 162. *See also* Petition for Action to Stop Overfishing of Red Snapper by the Gulf of Mexico Shrimp Fleet, March 29, 2005, *available at* http://www.joincca.org/CCA%20Petition.pdf .

[193] Red Snapper Emergency Rulemaking Petition, *supra* note 162, at 53,142.

[194] *Id.*

In the interim, Amendment 22 was published on June 2, 2005, more than sixty days after the approval date of March 9, 2005.[195] Amendment 22 instituted an observer program and made minor modifications to fishing vessel licensing requirements.[196] While purporting to "contribute to ending overfishing and rebuilding the red snapper resource,"[197] Amendment 22 lacked any new regulations to address shrimp trawl bycatch "or otherwise curtail and reverse the decline in red snapper stocks."[198] Amendment 22 did, however, set a target date for ending overfishing of the red snapper between 2009 and 2010.[199]

Most notably, the Gulf Council found that "[b]ased on [the] assessment and the best scientific information available at the time, no additional management measures would be required to rebuild the stock."[200] The Gulf Council based this conclusion on the following three assumptions: "(1) that the commercial shrimp fishery accounts for ninety percent of red snapper mortality; (2) that bycatch reduction devices (BRDs) are forty percent effective in reducing red snapper mortality in the shrimp fishery; and (3) that shrimping efforts in the Gulf of Mexico will be reduced by fifty percent during each of the years of the rebuilding plan."[201]

The rule was challenged in federal court by several environmental organizations, including CCA, arguing that NMFS violated the Administrative Procedures Act (APA) and the MSA by approving Amendment 22.[202] The Court agreed and found that adoption of Amendment 22 violated the law in two respects: (1) "The stock rebuilding plan … is inconsistent with the scientific data cited by the Gulf Council and has a less than fifty percent chance of rebuilding red snapper stocks by 2032;"[203] and (2) "Amendment 22 … violates [16 U.S.C. §] 1853(a)(11) by not, to the extent practicable, minimizing bycatch."[204]

i. The Stock Rebuilding Plan

The plan adopted by Amendment 22 depended upon a fifty percent reduction in shrimping effort. The court found this presumption inconsistent with the available science for two reasons. First, the relied upon economic studies only reflected an estimated thirty-nine percent reduction in shrimping effort.[205] Second, the relevant studies projected the

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[195] Red Snapper Rebuilding Plan, 70 Fed. Reg. 32,266 (June 2, 2005) (to be codified at 50 C.F.R. pt. 622); *See also* CCA Memorandum, *supra* note 191, at 12 (alleging that the publication was intentionally withheld to "stymie judicial review of the new regulations").
[196] Red Snapper Rebuilding Plan, *supra* note 195, at 32,267.
[197] *Id.*
[198] CCA Memorandum, *supra* note 191, at 12.
[199] Amendment 27/14, *supra* note 183, at 5119.
[200] Red Snapper Rebuilding Plan, *supra* note 195, at 32,267.
[201] *CCA v. Gutierrez*, 512 F.Supp.2d at 899 (citing 70 Fed. Reg. at 32,267).
[202] *Id.* at 900. Plaintiffs also alleged that NMFS violated NEPA and CCA argued that NMFS violated the APA and MSA by denying its petition for emergency rule making. The Court rejected these arguments. *Id.*
[203] *Id.*
[204] *Id.* at 901.
[205] *Id.* at 900. "These analysis predict a thirty-nine percent decrease in the number of full-time equivalent vessels (FTEVs) and a thirty-four percent decrease in nominal fishing effort in the shrimp fishery to occur by 2012." *Id.* at fn.7.

shrimping reduction to culminate in 2012.[206] By contrast, Amendment 22, relying upon these studies, projected its success based upon a fifty percent reduction beginning in 1999 and continuing until 2032.[207] Additionally, Amendment 22 established a target rebuilding date that was the longest legally permissible timeframe, placing "a premium on the accuracy of [the Council's] predictions."[208] Simply put, the court found these conclusions were unwarranted and contradicted by evidence before the Council and NMFS.[209]

ii. Shrimp Bycatch Reduction

The court also found that Amendment 22 failed to address bycatch. Pursuant to applicable law, FMPs must include "conservation and management measures that, to the extent practicable and in the following priority – (A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided."[210] Instead, the Gulf Council avoided altogether "measures to reduce red snapper bycatch in the shrimp fishery by saying they will address the issue in the Shrimp Fishery Management Plan."[211] The court found this omission to be "contrary to the plain meaning of the statute."[212] Stating that the matter would be dealt with separately by the shrimp fishery plan was insufficient to comply with U.S. fishery management laws.

Having found Amendment 22 in violation of the law, the court remanded the matter to NMFS requiring that they, within nine months, promulgate a new plan that will have at least a fifty percent chance of success and will consider and adopt, to the extent practicable, measures to reduce shrimp trawl bycatch of red snapper.[213] Due to the complexity of the interrelated management programs, the court allowed NMFS to maintain the status quo while the new plan was developed.[214]

C. Recent Management Efforts

After a clear directive from the Court in *Coastal Conservation Association v. Gutierrez*, NMFS took significant steps to jointly manage the Gulf of Mexico red snapper and shrimp fisheries, including measures to meaningfully address bycatch.[215] Temporary rules were established to meet the court-mandated deadline of a new plan to end overfishing within nine months (December 9, 2007).[216] NMFS then issued the Joint Amendment 27 to the Reef

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[206] *Id.* In 2012, the shrimping effort decline is expected to reach an equilibrium. *Id.* at fn. 8.
[207] *Id.* at 901.
[208] *Id.*
[209] *Id.*
[210] 16 U.S.C. § 1853(a)(11).
[211] *CCA v. Gutierrez*, 512 F.Supp.2d at 901.
[212] *Id.*
[213] *Id.*
[214] *Id.* at 902.
[215] *Id.* at 899.
[216] Gulf Red Snapper Management Measures, 72 Fed. Reg. 15,617 (April 2, 2007) (to be codified at 50 C.F.R. pt. 622); Extension of Effective Date of Gulf Red Snapper Management Measures, 72 Fed. Reg. 54,223 (Sept. 24, 2007) (to be codified at 50 C.F.R. pt. 622). Measures included reducing the recreational quota to 3.185 million pounds and reducing the recreational season to April 21 through October 31.

Fish FMP and Amendment 14 to the Gulf of Mexico Shrimp FMP (Amendment 27/14) on January 29, 2008.[217]

1. Amendment 27/14

The stated objective of Amendment 27/14 is "to reduce the red snapper catch, bycatch, and discard mortality in the reef fish and shrimp fisheries, end overfishing of red snapper by 2010, and rebuild the red snapper stock by 2032."[218] NMFS projects that the plan has a probability of slightly greater than fifty percent of ending overfishing if managers strictly adhere to each element of the plan.[219] The commercial quota is reduced from 4.65 million pounds to 2.55 million pounds and the recreational quota from 4.47 million pounds to 2.45 million pounds.[220] The total directed fishery is thereby reduced to 5.0 million pounds. Amendment 27/14 also reduces minimum size in the commercial fishery, reduces recreational bag limits, and implements minor gear restrictions.[221]

At the same time that reductions in the directed fishery are occurring, access to the fishery is also being limited. By 1992, the red snapper fishery had devolved into a derby-style fishing situation with fishermen racing to catch a share of the quota.[222] For instance, a fifty percent increase in the commercial quota between 1990 and 2000 still resulted in a three-quarter reduction in season length (from 365 days to 76 days).[223] As a result, the Gulf Council developed options for an individual fishing quota (IFQ) program for this fishery and through Amendment 26 to the Reef Fish FMP, implemented a commercial IFQ program in January 2007.[224] Although anticipated benefits include bycatch reduction and the elimination of quota overages, bycatch remains a problem.[225]

To address bycatch, Amendment 27/14 establishes an administrative process through which closures may be implemented, if necessary. Specifically, the Amendment "provides for implementing seasonal closures of the Gulf shrimp fishery to reduce red snapper bycatch based upon the seventy-four percent bycatch reduction target established."[226] The projected reduction includes those obtained through BRDs and reduced mortality resulting from a reduced fishing effort.[227] Reliance on BRDs for bycatch reduction was questioned by the Environmental Protection Agency (EPA) when conducting its National Environmental

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[217] Amendment 27/14, *supra* note 183, at 5117.
[218] *Id.* at 5120.
[219] Closure of the 2008 Gulf of Mexico Recreational Fishery for Red Snapper, 73 Fed. Reg. 15,674, 15,675 (March 25, 2008) (to be codified at 50 C.F.R. pt. 622) [hereinafter 2008 Recreational Closure].
[220] Amendment 27/14, *supra* note 183, at 5122.
[221] *Id.* at 5117.
[222] SEDAR 7, *supra* note 8, at 11.
[223] *Id.*
[224] GULF OF MEXICO FISHERY MANAGEMENT COUNCIL, FINAL AMENDMENT 26 TO THE REEF FISH MANAGEMENT PLAN TO ESTABLISH A RED SNAPPER INDIVIDUAL FISHING QUOTA PROGRAM, 19 (2006); *See also* PEW ENVIRONMENT GROUP, *supra* note 26, at 13.
[225] NMFS, 2008 GULF OF MEXICO RED SNAPPER INDIVIDUAL FISHING QUOTA ANNUAL REPORT, 18 (2009), *available at* http://sero.nmfs.noaa.gov/sf/pdfs/2008RedSnapperIFQAnnualReport1.pdf; *See also* PEW ENVIRONMENTAL GROUP, *supra* note 26.
[226] Amendment 27/14, *supra* note 183, at 5117-18. Referring to seventy-four percent below the benchmark years of 2001-2003. *Id.* at 5121.
[227] *Id.* at 5122.

Policy Act (NEPA) review prior to the issuance of the final rule: "We are pleasantly surprised that the improved BRDs in shrimp trawls are expected to dramatically reduce the bycatch of juvenile red snapper. However, we recommend that the function and effectiveness of these improved BRDs be explained in the FSEIS as they relate to reducing juvenile red snapper bycatch."[228] NMFS accordingly addressed the matter by noting that new BRD certification criterion would be established in 2007.[229]

Overall, NMFS determined that current external factors such as destructive hurricanes, rising fuel costs, and an economic downturn sufficiently reduced the shrimping effort to the extent that no current shrimp fishery closures were warranted.[230] Shrimping effort decline is expected to continue through 2012.[231] Consequently, NMFS reduced the red snapper directed fishery effort but found no need for current reductions in the shrimping effort. Should these projections underestimate the bycatch reductions, NMFS may later implement seasonal closures in the shrimp industry.

2. Post-Amendment 27/14

The assumptions of Amendment 27/14 proved unreliable as early as March 25, 2008 when NMFS issued an early closure of the recreational red snapper fishery.[232] Under Amendment 27/14, the recreational red snapper quota was reduced to 2.45 million pounds,[233] the bag limit was set at two fish per person, and the federal fishing season was limited to June 1 through September 30.[234] In promulgating Amendment 27/14, NMFS relied upon the unrealized assumption that the five Gulf States would adopt regulations compatible with the federal red snapper FMP.[235]

Florida reduced the bag limit but the Florida Fish and Wildlife Conservation Commission (FWC) allowed for a recreational fishing season seventy-eight days longer than the federal season.[236] Texas maintained a renegade attitude, continuing with a year-round fishing season and a four-fish bag limit.[237] Based on these state actions, NMFS reevaluated projected red snapper landings and determined federal recreational landings would account for seventy-two percent of the total quota while state recreational fisheries would land nearly forty-one percent of the total recreational quota, resulting in a thirteen percent

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[228] AMENDMENT 27/14 FSEIS, *supra* note 146, at app. F, F-5 (Letter from Heinz J. Mueller, NEPA Program Office Chief, U.S. Environmental Protection Agency, to Dr. Roy E. Crabtree, Regional Administrator, National Marine Fisheries Service (May 22, 2007)).

[229] AMENDMENT 27/14 FSEIS, *supra* note 146, at 35. "Based on a new BRD certification criterion to be established in 2007, new and more effective BRDs will be certified for use in the fishery."

[230] *Id.* at 37. "This is because the economic downturn in the shrimp fishery, coupled with increased fuel costs and hurricane damage to vessels and infrastructure, reduced effort from the benchmark years by nearly 60 percent in 2005 and 65 percent in 2006." 73 Fed. Reg. at 5121.

[231] AMENDMENT 27/14 FSEIS, *supra* note 146, at 37.

[232] 2008 Recreational Closure, *supra* note 219, at 15,674.

[233] 50 C.F.R. § 622.42(a)(2).

[234] 2008 Recreational Closure, *supra* note 219, at 15,674. The recreational quota of 2.45 million pounds includes fish landed from both federal and state waters.

[235] *Id.* at 15,674-75.

[236] *Id.* Florida's 2008 recreational red snapper fishing season extends from April 15 through October 31.

[237] *Id.*

overage.[238] NMFS further acknowledged "the projections are likely to represent an underestimate of the quantity of red snapper expected to be landed by the recreational fishery during 2008."[239] As a result, NMFS, acting in accordance with 50 C.F.R. § 622.43(a), effectuated an early closure of the 2008 recreational red snapper fishery, thereby reducing the planned 122-day season by 57 days, almost half.[240] Less than two months after the issuance of the final rule, the lack of cohesive regional management resulted in ineffective federal management efforts.

V. Application of EBM to the Red Snapper and Shrimp Fisheries

A. Regional Management

While regional councils under the MSA provide geographic consistency within federal fisheries, true consistency cannot be achieved without state coordination. As illustrated by the early closure of the 2008 recreational red snapper fishery, lack of cohesion between state and federal management plans presents potentially insurmountable hurdles to stock rebuilding. To overcome this impediment, federal and state agencies must work together to structure a rebuilding plan for red snapper.

Coordination may be achieved by increasing the role of the Gulf States Marine Fishery Commission (Gulf Commission) and placing the Gulf red snapper fishery and shrimp fishery under its authority. As recommended by the 2004 Ocean Commission Report,[241] providing the Gulf Commission with statutory authority similar to that of the ASMFA would allow for development of interstate management plans that adhere to the MSA.[242] Through this framework, the ASMFC has successfully managed fisheries under its jurisdiction[243] suggesting that a similarly authorized Gulf Commission would enjoy equal success.

B. Moving Beyond Single-Species Approach

Although Amendment 27/14 affects both the shrimp and red snapper, the general application is still one of single-species management. Amendment 27/14 takes incremental steps towards bycatch reduction, addressing bycatch in the directed fishery and reducing the overall bycatch reduction level to seventy-four percent.[244] The Amendment did not address new BRD device certification. By separate measure, NMFS revised BRD certification for the western Gulf of Mexico, effective March 14, 2008.[245] The new rule certifies the Modified Jones-Davis BRD and provisionally certifies two other devices.[246]

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[238] *Id.* at 15,674.
[239] *Id.*
[240] *Id.* at 15,675.
[241] USCOP REPORT, *supra* note 2, at 241.
[242] Farside, *supra* note 33, at 231.
[243] *Id.* at 237.
[244] Amendment 27/14, supra note 183, at 5117.
[245] Revisions to Bycatch Reduction Devices and Testing Protocols, 73 Fed. Reg. 8219 (Feb. 13, 2008) (to be codified at 50 C.F.R. pt. 622) [hereinafter BRD Revisions].
[246] *Id.* at 8222.

In adopting the final rule, the Council changed its current bycatch reduction criterion status quo – the juvenile red snapper fishing mortality reduction.[247] NMFS found that "[m]aintaining the status quo will result in the decertification of all currently certified BRDs except the Jones-Davis BRD."[248] NMFS acknowledged that two of the three certified devices insufficiently reduce juvenile red snapper mortality: "Current data indicate these BRDs do not meet the status quo bycatch reduction criterion."[249] The criterion change is justified on the basis that decertification under the status quo would result in "greater [shrimp] industry-wide replacement costs" than the final rule.[250] Under the new rule, the controversial fisheye BRD, which achieves less than a twelve percent reduction in juvenile red snapper bycatch, may continue to be used, although in a different configuration.[251]

Had the Gulf Council promulgated these measures jointly within Amendment 27/14, the relationship to red snapper mortality would have to be explained.[252] Instead, this separate rule under the shrimp FMP allows the Gulf Council to amend BRD standards to favor shrimpers to the peril of the red snapper without sufficiently addressing the issue. Multispecies management would necessitate consideration of both species in making this type of management decision. While multi-species management may not prevent decisions like the new BRD rule, it would encourage consideration of other species when making determinations.

C. Adaptive Management

Though Amendment 27/14 has its limitations, the regulation successfully incorporates adaptive management principles. Specific instances of adaptive management include provisions for reevaluating the fisheries' status and implementation of regional shrimp closures when necessary.[253] The final rule specifically provides for an annual assessment of the shrimp effort and associated red snapper bycatch and establishes a framework procedure and authority "to adjust the target shrimp bycatch reduction and effort levels and time-area closures."[254] The new BRD certification rule equally incorporates adaptive management by providing for provisional certification of devices while studying their effectiveness.[255]

D. Increased Role of Science

Under the MSA, Councils are required to use "the best available science" when developing conservation measures.[256] However, the development of conservation measures remains in

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[247] *Id.*
[248] *Id.*
[249] *Id.*
[250] *Id.*
[251] *Id.* "[T]he cheapest and currently most commonly used BRD, a fisheye-type BRD, could continue to be used in a different configuration." *Id.* Effects of the new configuration on juvenile red snapper are currently unknown.
[252] AMENDMENT 27/14 FSEIS, *supra* note 146, at app. F.
[253] Amendment 27/14, *supra* note 183, at 5121.
[254] *Id.* at 5123; *See also* 50 C.F.R. 622.34 (establishing procedure for seasonal closures).
[255] BRD Revisions, *supra* note 245, at 8222.
[256] 16 U.S.C. § 1851(a)(2) (2007).

the hands of the politically motivated Councils rather than scientists and/or agency technical experts more qualified to base decisions on ecological considerations.[257]

As previously discussed, regional management councils are comprised of a variety of individuals, including stakeholders. The Gulf Council is no exception. Of the seventeen voting members of the Gulf Council, eight members are directly affiliated with the fishing industry (either recreational or commercial), six members are representatives of state fishery programs, two members belong to the scientific community, and NMFS has one voting member.[258] Industry stakeholders outnumber scientists four to one. Past failures to address shrimp bycatch within the red snapper fishery could be attributed to this Council composition. In addition, the Gulf shrimp fishery is one of the most economically important fisheries within the United States providing fishery stakeholders further disincentive to regulate shrimp bycatch .[259]

Statutory language governing council membership calls for "individuals who, by reason of their occupational or other experience, scientific expertise, or training, are knowledgeable regarding the conservation and management, or the commercial or recreational harvest, of the fishery resources of the geographical area concerned."[260] While this language has been historically interpreted to limit council membership to recreational and commercial fishing interests, the language should be used to select council members from a broad spectrum of interests.[261] Councils should be diversified to include public interests including conservationists and persons with greater expertise for developing scientific consensus.[262] Diversifying council membership could increase support for new conservation measures and management objectives.[263] A less economically, or politically, motivated council would be more likely to implement decisions based on sound scientific research.

E. Lessons

The competing interests of the Gulf of Mexico red snapper and shrimp fisheries illustrate the need for stronger mandatory MSA provisions that incorporate the guiding principles of EBM. The current Gulf Council makeup lacks political will to meaningfully address juvenile red snapper bycatch in the shrimp industry. Past regulatory efforts failed because the interactions of the two fisheries were not addressed. Amendment 27/14 and subsequent administrative rules addressing seasonal closures and BRD certification represent a substantial step towards EBM of these competing fishery interests. While some existing management tools addressing red snapper recovery are newly implemented and untested, recent stock assessments show signs of recovery in the Gulf red snapper fishery.[264]

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[257] Kass, *supra* note 16, at 54.
[258] Gulf Council membership, *available at* http://www.gulfcouncil.org/ (last visited Dec. 18, 2009).
[259] SEDAR 7, *supra* note 8, at 14.
[260] 16 U.S.C. § 1852(b)(2)(A).
[261] Cufone, *supra* note 178, at 35.
[262] Fleming & Crawford, *supra* note 134, at 85.
[263] *Id.; See also* Cufone, *supra* note 178, at 35. Cufone advocates another proposed solution: transfer the decision making to NMFS's technical experts. *Id.* This author is unconvinced by this argument because it would discourage regional management.
[264] Press Release, NOAA, Gulf of Mexico Red Snapper Recovering (Dec. 11, 2009), *available at* http://www.noaanews.noaa.gov/stories2009/20091211_redsnapper.html .

However, the Gulf Council avoided hard decisions with respect to the shrimp fishery because effort was suppressed by unrelated economic conditions. As the shrimp market recovers over time, the regulatory mettle of the Gulf Council may again be tested should additional measures be needed to end overfishing of the Gulf red snapper.

Implementing EBM within the Gulf red snapper and shrimp fisheries requires transitioning from current incongruent single-species management to multi-species management. New management regimes should increase scientific study and address bycatch reduction on a regional basis, coordinating state and federal efforts. To improve the role of science, regional councils must reduce the influence of fishery stakeholders while heightening the role of scientists in management decisions.

A Rising Tide: Wave Energy in the United States and Scotland

Holly V. Campbell[1]

I. Introduction

Increasing population, rising energy consumption, climate change and peak oil are accelerating the search for practical alternative energy sources to fossil fuels. Some renewable sources of energy, such as wind and solar, are well known, use reliable technology, and have established markets. Other renewable technologies that are still in development show promise for meeting a portion of future electricity needs.

Many governments are encouraging this search by instituting mandatory goals for diversification of their energy resources by certain deadlines and pledging to dedicate a larger proportion of their energy consumption to renewables.[2] The European Union,[3] England,[4] Wales,[5] Ireland,[6] and Scotland[7] all have mandatory renewable standards in

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[2] For example, China has announced a target of 15% renewable energy by 2020. Timothy B. Hurst, *China Sets 15% Renewable Energy Target, Ups Ante on US*, July 8, 2009, http://www.celsias.com/article/china-15-renewable-energy-target-ups-ante-us/ (last visited Nov. 8, 2009).

[3] The European Union's renewable energy goal is 20% share of renewables in overall EU energy consumption by 2020. Europa, Press Release, *Memo on the Renewable Energy and Climate Change Package*, Jan. 23, 2008, http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/33 (last visited Jan. 13, 2010).

[4] 10% by 2010, although as of July 2009, England was reportedly only meeting 50% of their goal. England seen missing 2010 renewable energy target, Reuters, July 13, 2009, http://www.reuters.com/article/environmentNews/idUSTRE56C28W20090713 (last visited Nov. 8, 2009).

[5] 100% by 2025. *Wales Aiming for 100% Renewable Energy*, Energy Matters, May 29, 2009, http://www.energymatters.com.au/index.php?main_page=news_article&article_id=453. (last visited Nov. 8, 2009).

[6] 15% by 2010 and 33% by 2020. Press Release, BASE (Basel Agency for Sustainable Energy), *Ireland sets renewable energy target of 33% by 2020*, March 20, 2007, http://www.energy-base.org/no_cache/english/home/newsdetail/article/153/92/ (last visited Nov. 8, 2009).

[7] 31% by 2011 and 50% by 2020. The Scottish Government, Renewables Policy,

place. While the United States does not yet have a national renewable standard,[8] twenty-eight states do have such mandatory goals known as Renewable Portfolio Standards (RPS).[9] These mandatory goals stimulate increased investment in research and development, industry incentives, and ultimately drive consumer choice.

One renewable energy sector that has seen significant growth in recent years is hydrokinetic energy, energy derived from tides, currents, and waves.[10] Hydrokinetic devices generate power by converting the motion of water from tides, currents, or waves into electricity, which is then transported via seafloor cables to a power station on shore. Dozens of companies are currently involved in the design of hydrokinetic devices.[11] As the technology testing process unfolds, the field will narrow. In the U.S., the main types of wave energy devices currently planned or deployed for testing include point absorbers (commonly referred to as buoys), which float in open waters, and an oscillating water column, a stationary structure that is built into a shoreline or a jetty. In Scotland, four main device styles are in use: point absorbers, stationary structures (such as the Limpet),[12] wave attenuators (such as the articulated Pelamis "wave snake" devices),[13] and a new technology called the Oyster (Aquamarine Power).[14] The Oyster generates power from a submerged position in shallow water, minimizing problems relating to ship navigation, long-distance power transmission, and environmental monitoring.[15]

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http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/17612 (last visited Nov. 8, 2009).

[8] H.R. 2454, the climate change legislation known as the Waxman-Markey Bill, would amend the Public Utility Regulatory Policies Act to require all retail suppliers of electricity to fulfill 6% of their generation via a combination of conservation efficiency and renewable energy by 2012, increasing to 20% by 2020. The bill passed in the House on June 26, 2009 and was before the Senate as of Nov. 12, 2009. For a summary and the status of the bill, go to http://www.govtrack.us/congress/bill.xpd?bill=h111-2454&tab=summary (last visited Nov. 8, 2009).

[9] U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, *States with Renewable Energy Portfolios*, http://apps1.eere.energy.gov/states/maps/renewable_portfolio_states.cfm (last visited Nov. 8, 2009). The mandatory standards vary from 10 – 40%. Five additional states have adopted voluntary goals.

[10] 42 U.S.C. § 17211 (2006) (defining the term "marine and hydrokinetic renewable energy"). To learn more about how hydrokinetic energy works, see the Union of Concerned Scientists' web page at http://www.ucsusa.org/clean_energy/technology_and_impacts/energy_technologies/how-hydrokinetic-energy-works.html

[11] For general background about the universe of wave energy devices and how they work, *see* ROGER BEDARD, ELECTRIC POWER RESEARCH INSTITUTE, POWER AND ENERGY FROM THE OCEAN ENERGY WAVES AND TIDES: A PRIMER (2007), *available at* http://www.oceanrenewable.com/wp-content/uploads/2009/05/power-and-energy-from-the-ocean-waves-and-tides.pdf . For a list of companies and photos of their technologies, *see* INTERNATIONAL ENERGY AGENCY, OCEAN ENERGY: GLOBAL TECHNOLOGY DEVELOPMENT STATUS, IEA-OES Document No.: T0104, at 44-54 (March 2009), *available at* http://www.iea-oceans.org/_fich/6/ANNEX_1_Doc_T0104.pdf .

[12] Voith Hydro Wavegen Ltd, *Limpet*, http://www.wavegen.co.uk/what_we_offer_limpet.htm (last visited Jan. 8, 2010).

[13] Pelamis Wave Power, The Pelamis Wave Energy Converter, http://www.pelamiswave.com/content.php?id=161 (last visited Jan 8, 2010).

[14] Aquamarine Power, http://www.aquamarinepower.com/ (last visited Jan. 8, 2010).

[15] "The Oyster is based around a large movable buoyant barrier structure that is mounted on the seabed in depths of 10 – 12 m (33 – 40 ft) and pivots like a gate. The barrier looks like 5 large pipes

The hallmarks of a well planned and successful system for pursuing ocean energy (including wave energy) are consistent, government commitment in the form of mandatory legislation; the simplification of license procedures; financial and technical support; environmental planning; marine spatial planning for energy zones; establishment of one or more world-class test centers; and collaboration among government, developers, and citizens. This paper will examine the governance structures in place in the U.S. and Scotland against this evolving list of good practices.

As one legal scholar recently observed, experience from abroad "can provide insight into how a coordinated regulatory, financial, and energy plan can be designed."[16] This article will compare the present status and context of one type of hydrokinetic energy, wave energy, in the U.S. and Scotland, two countries whose regulatory programs and experiences will surely influence each other in coming years. Part II provides a synopsis of wave energy in the U.S., including a brief history and the current status of the industry, and the regulatory framework. Part III describes wave energy's status in Scotland. Part IV will compare the two nations' procedures for licensing wave energy devices and identify factors that appear to contribute to the development of a wave energy industry in ways that are reasonably timely, as well as environmentally and economically prudent. This article concludes with some thoughts on wave energy's path forward.

II. Wave Energy in the United States

During the early 2000's, there was a tremendous investment and media attention in the U.S. surrounding marine hydrokinetic energy in general. During 2007-2008, the world economy entered a recession and simultaneously fossil fuels reached record high prices. As banks and investment firms were negatively affected, much capital disappeared. This undoubtedly impeded the number of new projects being developed in the U.S. and internationally.[17]

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stacked horizontally on top of each other to form a wall. As waves crash against the barrier it moves backwards and forwards pivoting at its base. The barrier is connected to a double acting water piston and by using simple hydraulic principles wave energy is convert[ed] into high pressure water that is pumped on shore to drive a conventional hydro electric generator to produce electricity." Paul Evans, *Oyster Ocean Power System to Provide 1 GW by 2020*, GIZMAG, Mar. 8, 2009, http://www.gizmag.com/oyster-ocean-power-system/11180/ (last visited Jan. 8, 2010). A prototype of the Oyster was successfully deployed at the European Marine Energy Center in Orkney, Scotland in November 2009. A video of how it works can be viewed at http://www.youtube.com/watch?v=VYmyCGM1tGk (last visited Jan. 8, 2010).

[16] Megan Higgins, *Is Marine Renewable Energy a Viable Industry in the United States? Lessons Learned from the 7th Marine Law Symposium*, 14 ROGER WILLIAMS UNIV. L. REV. 562, 595 (2009). Two recent sources for international information are the (1) International Energy Agency-Ocean Energy Systems' website, http://www.iea-oceans.org/, particularly *Ocean Energy: Global Technology Development Status*, a report prepared by Powertech Labs Inc. for the International Energy Agency-Ocean Energy Systems (IEA-OES) under Annex I – Review, Exchange and Dissemination of Information on Ocean Energy Systems, *supra* note 11, and (2) the U.S. Department of Energy's Marine and Hydrokinetic Technology Database, http://www1.eere.energy.gov/windandhydro/hydrokinetic/default.aspx (last visited Nov. 8, 2010).

[17] Wave Power Development Hits Some Rocks, Posting of Kate Galbraith to Green Inc., Energy Development and the Bottom Line (May 20, 2009, 8:35 EST),

As markets begin to recover, investor interest is beginning to pick up and many activities are underway with respect to the design, engineering, and testing of wave energy devices.[18] Paralleling the technical activities are public policy and outreach efforts, including ocean and coastal mapping and marine spatial planning; public outreach to improve citizen and stakeholder education and involvement; and policy development and decision-making by public bodies.

A. National Support of Wave Energy Development

In recent years, alternative energy has received generous support from the U.S. government through grant programs and tax incentives. For example, the Department of Energy (DOE) announced on October 7, 2009 that it would be making $750 million available to encourage the development of "conventional" renewable (wind, solar, biomass, geothermal, and hydropower) energy projects.[19] The next day, the DOE announced an additional $87 million to support solar energy technologies.[20] A few months earlier, the DOE provided $14 million in funding for twenty-eight new wind projects.[21]

Over the past several years, the U.S. has augmented tax and other programmatic incentives for alternative energy and energy efficiency. The subcategory of ocean energy is eligible for various types of federal support:

- Corporate tax credits (such as the Renewable Energy Production Tax Credit or PTC);[22]

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http://greeninc.blogs.nytimes.com/2009/05/20/wave-power-development-hits-some-rocks/ (last visited Jan. 8, 2010); *see also* MarineLink.com, *Investors Sought for Wave Energy*, MarineLink.Com, Dec. 1, 2009, http://marinelink.com/en-US/News/Article/Investors-Sought-for-Wave-Energy/332629.aspx (last visited Jan. 8, 2010).

[18] The Northwest National Marine Renewable Energy Center (NNMREC), a collaboration between the University of Washington (working on tidal energy) and Oregon State University (working on wave energy), was funded by DOE in 2008. The Center's mission is to "close key gaps in understanding of marine energy and to inform the public, regulators, research institutions, and device and site developers" and to serve as a testing center. For more information, see the NNMREC partners' websites at http://depts.washington.edu/nnmrec/about.html and http://nnmrec.oregonstate.edu/. A second center, the University of Hawaii Marine Renewable Test Center at UHI Manoa, was also funded by DOE in 2008. Press Release, Senator Daniel Kahikina Akana, *$5 Million Federal Grant to Establish National Marine Renewable Energy Center in Hawaii*, Sept. 18, 2008), *available at* http://www.hnei.hawaii.edu/docs/announcements/2008/Akaka_PressRelease_Award.pdf .

[19] Press Release, U.S. Dept. of Energy, *Energy Department Announces New Private Sector Partnership to Accelerate Renewable Energy Projects*, Oct. 7, 2009, http://www.energy.gov/news2009/8108.htm (last visited Jan. 8, 2010).

[20] Press Release, U.S. Dept. of Energy, *DOE Announces $87 Million in Funding to Support Solar Energy Technologies*, Oct. 8, 2009, http://www.energy.gov/news2009/8115.htm (last visited Jan. 8, 2010).

[21] *DOE Announces Nearly $14 Million To Go To 28 New Wind Energy Projects*, Energy Business Review, July 16, 2009, http://wind.energy-business-review.com/news/doe_announces_nearly_14_million_to_go_to_28_new_wind_energy_projects_090716/ (last visited Jan. 8, 2010).

[22] The minimum capacity for eligible projects is 150 kW, 1.1 cent per kWhr. The PTC has been

- Grants (such as those from the DOE, discussed above, or the Department of Treasury Renewable Energy Grants Program);[23]
- Loans (Clean Renewable Energy Bonds, CREBs) for local, state, and tribal governments, municipal utilities, or rural electric cooperatives;[24]
- Production Incentives (such as the Renewable Energy Production Incentive, (REPI));[25]
- Green Power Purchasing and Aggregation Incentives for energy purchased by the federal government;[26] and
- Potential support exists within ongoing legislative efforts, such as the Marine Renewable Promotion Act of 2009, introduced into Congress on April 28, 2009.[27]

While alternative energy has received generous support from the U.S. government in recent years, ocean energy (including wave energy) attracts only a small percentage of the support available. The DOE's Office of Energy Efficiency and Renewable Energy's 2010 budget proposal, which was approved by President Obama on October 28, 2009 is revealing. While

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extended through 2013 by the stimulus bill, The American Recovery and Reinvestment Act of 2009 (ARRA). For more information, *see* the Database of State Incentives for Renewables & Efficiency (DSIRE), http://dsireusa.org/incentives/index.cfm?state=us (last visited Jan. 8, 2010).

[23] This program, authorized by Div. B, §§ 1104 and 1603 of the ARRA, provides funding for 30% of property that is part of a qualified facility. Grant applications must be submitted by October 1, 2011. Payment of the grant will be made within 60 days of the grant application date or the date property is placed in service, whichever is later. For more information, visit the program's website at http://www.treas.gov/recovery/1603.shtml (last visited Jan. 8, 2010).

[24] Although the stimulus bill increased the cap for CREBs to $1.6 million, the program expires on December 31, 2009 and the Internal Revenue Service is apparently not accepting new applications. See DSIRE, Clear Renewable Energy Bonds (CREB), http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US45F&re=1&ee=1 . *See also*, Press Release, U.S. Treasure Dept., Treasury Allocates $2.2 Billion in Bonds for Renewable Energy Development, Oct. 27, 2009, http://www.ustreas.gov/press/releases/tg333.htm (last visited Jan. 8, 2010).

[25] Created by the Energy Policy Act of 1992 (H.R. 776) and amended in 2005, the REPI provides 2.1 cents per kWhr and is "part of an integrated strategy in the 2005 Energy Policy Act to promote increases in the generation and utilization of electricity from renewable energy sources and to promote market utilization of renewable energy technologies." The REPI is authorized by 42 U.S.C § 13317 and 10 C.F.R pt. 451. U.S. Department of Energy, Renewable Energy Production Initiative, http://apps1.eere.energy.gov/repi/ (last visited Jan. 8, 2010).

[26] Ocean energy is included as renewable energy in this provision, which is embedded in the Energy Policy Act of 2005 (EPAct 2005). Section 203 of EPAct 2005 sets standards for the amount of renewable energy to be consumed by the government, in graduated percentages: 3% in 2007-2009, 5% in 2010-2012, 7.5% in 2013 and thereafter. 42 U.S.C. § 15852.

[27] House Bill, H.R. 2148 (introduced by Jan Inslee, D-WA). A companion Senate bill, S. 923, was introduced by Lisa Murkowski, R-AK. On May 5, 2009 the House Science and Technology Committee referred the House Bill to the Subcommittee on Energy and Environment. The House Bill "will authorize $250 million for marine renewable research, development, demonstration and deployment (RDD&D), a device verification program, and an adaptive management program to fund environmental studies associated with installed ocean renewable energy projects. It is expected that the bill will become part of a more comprehensive energy bill," according to industry lawyer Carolyn Elefant. Marine Renewable Energy Promotion Act of 2009 Introduced in U.S. House and Senate, Posting of Carolyn Elefant to Renewables Offshore (May 11, 2009, 10:21 EST), http://carolynelefant1.typepad.com/renewablesoffshore/ (last visited Jan. 8, 2010).

the EERE sought $320 million for solar (an increase of $145 million from 2009), and $75 million for wind (an increase of $20 million), the agency only asked for $30 million for water power, which includes marine and hydrokinetic resources.[28] This 2010 request, a $10 million reduction from 2009 levels, is to maintain funding "as the program [EERE] synthesizes and evaluates the findings of FY 2009 R&D activities (which will continue into FY 2010)."[29] Research and development for wave energy is painstakingly slow, but its progress is reliant on substantial public funding. If future funding is contingent upon a positive evaluation of preliminary investments, the ensuing bottleneck could prevent the achievement of commercialization.

As one disappointed observer commented:

> [W]ithout more R&D [research and development], entrepreneurs already hit by the global economic meltdown may flounder and seek to do business on friendlier shores in Europe. While wave and tidal developers are offered lavish subsidies amounting to about US $0.30 per kilowatt-hour (kWh) in Europe, the U.S. currently offers a measly $0.01 / kWh, half of the subsidy currently being offered to wind power projects, a fully commercialized technology.[30]

Thus, although public funding has increased in recent years for wave energy research and development, the wave energy sector has a difficult time competing with more established alternative energy technologies. The international recession has only worsened the situation.

B. Licensing Process

Two agencies have responsibility for reviewing applications for marine energy projects in the United States: the Federal Energy Regulatory Commission (FERC) and the Department of Interior (DOI) through its bureau, the Minerals Management Service (MMS). The agencies have independent, complementary authority to regulate wave energy projects.

Years of political positioning, legal analysis, and negotiation recently resulted in the development of a joint regulatory approach codified in an April 2009 Memorandum of Understanding.[31] This section briefly summarizes the licensing process for hydrokinetic

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[28] U.S. Dept. of Energy, EERE, Fiscal Year 2010 Budget-in-Brief (2009), *available at* http://www1.eere.energy.gov/ba/pba/pdfs/fy10_budget_brief.pdf .

[29] *Id.* One source reported on November 5, 2009, that Congress approved $50 million in funding for research and development of marine and hydrokinetic projects, but the author was unable to corroborate this by the time of submission. See HydroWorld.com, *Congress approves $50 million for water power research and development*, http://www.hydroworld.com/index/display/article-display.articles.hrhrw.hydroindustrynews.ocean-tidal-streampower.2009.11.congress-approves.html (last visited Jan. 8, 2010).

[30] Peter Asmus, *Short-Sighted Cuts to U.S. Ocean Energy Budgets,* RenewableEnergyWorld.com, June 29, 2009, http://www.renewableenergyworld.com/rea/news/article/2009/06/short-sighted-cuts-to-u-s-ocean-energy-budgets (last visited Jan. 8, 2010).

[31] U.S. DEPT. OF INTERIOR AND FEDERAL ENERGY REGULATION COMMISSION, MEMORANDUM OF UNDERSTANDING BETWEEN THE UNITED STATES DEPARTMENT OF THE INTERIOR AND THE FEDERAL ENERGY REGULATORY COMMISSION (April 2009), *available at* http://www.ferc.gov/legal/maj-ord-reg/mou/mou-doi.pdf . The Commission and the Service produced guidelines for the development of

projects. As the process differs slightly depending on where the project is located, licensing in state waters (0 – 3 nautical miles (nm) from shore) and on the Outer Continental Shelf (OCS) (3 – 200 nm from shore) will be discussed separately.

1. Federal Permitting in State Waters

Wave energy projects located within state waters[32] fall within FERC's exclusive jurisdiction under the Federal Power Act (FPA).[33] The FPA requires wave energy developers to obtain a three-year preliminary permit from FERC before placing a device in the water.

The preliminary permit is intended to maintain the applicant's priority of application for a full license during testing but neither does it authorize construction, nor allow connection to the interstate electricity grid. For the duration of the preliminary permit, the permittee must conduct site studies and submit periodic reports (every six months) on the status of its studies. A preliminary permit is not a required prerequisite to license application.[34]

At the end of 2009, there were thirteen wave energy projects in the testing phase within 3 nm of the Pacific Coast and Hawaii. (See Table 1). During the terms of the preliminary permit, the permit holder or one or more third parties conducts field tests to derive performance and survivability data about the device, but also begins to obtain important data about the area, including wave height and strength, meteorological data, currents, wind, and ecology. If the site appears to be feasible for wave energy development, throughout the latter part of the permit's duration the developer also engages in consultations with local stakeholders: representatives from local cities, counties, utilities, as well as recreation, fishing, and environmental organizations and community members. These meetings provide information about the project, and allow people to ask questions and express concerns. These in-depth conversations are carried out if the developer intends to pursue a five-year pilot project license (which, unlike the preliminary permit, allows power generation) or a standard, full operating (or commercial power) license (that can be proposed for up to thirty to fifty years).

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hydrokinetic energy on the OCS in August 2009. *See* U.S. DEPT. OF INTERIOR AND FERC, MMS/FERC GUIDANCE ON REGULATION OF HYDROKINETIC ENERGY PROJECTS ON THE OCS, *available at* http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/pdf/mms080309.pdf .

[32] In general, state waters are 0 – 3 nm miles from shore, except for Texas and Florida's Gulf Coast where state waters extend out to three marine leagues, or 9 nm.

[33] Federal Power Act, 16 U.S.C. § 791-828(c), particularly § 23(b) (§ 817), which requires a permit or a license "to construct, operate, or maintain any dam, water conduit, reservoir, power house, or other works incidental thereto across, along, or in any of the navigable waters of the United States. . ."

[34] *Id. See also*, FERC, Preliminary Permits, http://www.ferc.gov/industries/hydropower/gen-info/licensing/pre-permits.asp (last visited Jan. 8, 2010).

Table 1. Wave Energy Preliminary Permits Issued by the Federal Energy Regulatory Commission[35]

FERC Docket No.	Project Name	Licensee	State/ Waterway	Date Issued	Expiration Date	Authorized Power Capacity
P-12713	Reedsport OPT Wave Park	Reedsport OPT Wave Park, LLC	Oregon/Pacific Ocean	2/16/07	1/31/10	50 MW
P-12749	Coos Bay OPT Wave Park	Oregon Wave Energy Park Partners	Oregon/Pacific Ocean	3/9/07	2/28/10	100 MW
P-12743	Douglas County Wave& Tidal Energy	Douglas County, Oregon	Oregon/Umpqua River	4/6/07	3/31/10	1-3 MW
P-12779	PG&E Humboldt Waveconnect	Pacific Gas & Electric	California/ Pacific Ocean	3/13/08	2/28/11	40 MW
P-13047	Oregon Coastal Wave Energy	Tillamook Intergovernmental Development Entity	Oregon/Pacific Ocean	5/23/08	4/30/11	180 MW
P-13058	Grays Harbor Ocean Energy	Grays Harbor Ocean Energy Co., LLC	Washington/ Pacific Ocean	7/31/08	6/30/11	6 MW
P-13052	Green Wave San Luis Obispo	Green Wave Energy Solutions, LLC	California/ Pacific Ocean	5/07/09	4/30/12	100 MW
P-13053	Green Wave Mendocino	Green Wave Energy Solutions, LLC	California/ Pacific Ocean	5/01/09	4/30/12	100 MW
P-13376	Del Mar Landing	Sonoma County (CA) Water Agency	California/ Pacific Ocean	7/09/09	6/30/12	5 MW
P-13377	Fort Ross (South)	Sonoma County (CA) Water Agency	California/ Pacific Ocean	7/09/09	6/30/12	5 MW
P-13378	Fort Ross (North)	Sonoma County (CA) Water Agency	California/ Pacific Ocean	7/09/09	6/30/12	5 MW
P-13498	SWAVE Catalina Green Wave	Sara, Inc.	California/ Pacific Ocean	9/15/09	8/31/12	6 MW
P-13521	Oceanlinx Maui	Oceanlinx Hawaii, LLC	Hawaii/Pacific Ocean	11/25/09	10/31/12	2.7 MW

In 2007, FERC customized a pilot project licensing process for those interested in testing new hydrokinetic technologies. The pilot project license comes after the preliminary permit and allows connection to the interstate grid, and minimizes the risk of adverse environmental impacts.[36] The goal of the new pilot license process is to allow developers to

[35] Data obtained from FERC's table of preliminary permits issued (updated 1/11/2010) available at http://www.ferc.gov/industries/hydropower/gen-info/licensing/issued-pre-permits.xls .

[36] FERC, WHITE PAPER, LICENSING HYDROKINETIC PILOT PROJECTS, 3 (Apr. 2008), *available at* http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/pdf/white_paper.pdf .

test new hydrokinetic technologies, identify appropriate siting, and confirm the technologies' environmental effects while maintaining FERC oversight and agency input.[37] The pilot project application and review process may be completed in as few as six months to allow for project installation, operation, and environmental testing in an expedited manner. Eligible projects must be small, avoid sensitive locations, and able to be shutdown or be removed on short notice. The resulting license is short-term and includes rigorous environmental monitoring and safeguards. [38]

The preliminary permits of three of the oldest wave energy projects on the U.S. west coast will expire between January and March 2010. Wave energy industry observers will be watching the two entities holding these permits (Ocean Power Technologies and Douglas County, Oregon) to see if they pursue applications for FERC pilot project licenses. The longer-term alternative to the pilot project license is a full license.

There are three types of full FERC licenses: the Traditional, Integrated, or Alternative. Each has a slightly different order of operations.[39] All three licensing processes require rigorous environmental review under the National Environmental Policy Act (NEPA). If the project passes the NEPA review and all other required consultations and permissions,[40] the resulting license allows full commercial generation and transmission of electrical power. The three licenses differ in order of process, but not in content. The default license for hydrokinetic power projects is the Integrated License Process or ILP. The main advantage of the ILP is that it frontloads the study-determination phase and the environmental review, during which all pertinent agencies and parties convene to determine which environmental studies are necessary. Interestingly, although the ILP has the advantage of potentially substantially shortening the time to commercialization, it is still a new form of license and to date many developers are requesting permission to use the more familiar Traditional License Process or TLP, which was originally designed for power generated from inland rivers via dams.

2. Federal Permitting on the Outer Continental Shelf

On the OCS, FERC and the MMS both have jurisdiction over wave energy projects. Developers of projects on the OCS must bid on and be awarded a lease from the MMS pursuant to the Outer Continental Shelf Lands Act (OCSLA).[41] At the end of 2009, the

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[37] FERC, Hydrokinetic Pilot Project Licensing Process, http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/energy-pilot.asp (last visited Jan. 8, 2010). No pilot project licenses have been sought by developers yet because no project has advanced to the license stage.

[38] *Id. See also* FERC White Paper, supra note 36; FERC, HYDROKINETIC PILOT PROJECT CRITERIA AND DRAFT APPLICATION CHECKLIST, http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/pdf/pilot_project.pdf (last visited Jan. 8, 2010).

[39] FERC's website, http://www.ferc.gov/industries/hydropower/gen-info/licensing/licen-pro.asp, provides links to documents that include flowcharts for each process and a matrix comparing the three license types.

[40] Permissions are required from some subset of nine federal agencies, executing up to eighteen laws depending on the project site, including the Coast Guard, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Navy.

[41] 43 U.S.C. §§ 1331 *et seq.* Section 388 of the Energy Policy Act of 2005 (EPAct, Public Law 109-58) amended the OCSLA, originally intended to govern exploration and extraction of oil, gas and mineral

MMS had proposed alternative energy lease areas on the OCS off California, Delaware, Florida, Georgia, and New Jersey.[42] After the developer spends up to five years developing and testing the project under the MMS lease, he must apply for a full license from FERC to begin generating power. The MMS process also requires environmental review[43] under NEPA which the agencies assert will be complementary, not duplicative.[44]

3. The Role of Coastal States in Permitting and Licensure

The lead agency for coastal management in each state plays a key role as liaison in coordination and collaboration about the prospective project with the MMS and FERC. In tandem with the processes of both federal agencies, states have authority conferred by the Coastal Zone Management Act (CZMA).[45] The federal consistency provisions[46] of the CZMA require that any project that receives a federal permit, license, or funding and has reasonably foreseeable effects on a land or water use or a natural resource within the coastal zone[47] must be consistent with the state's federally approved Coastal Zone

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sands, to authorize the Department of Interior to manage alternative energy (including wind and hydrokinetic energy) on the OCS.

[42] The MMS recently announced the framework that will guide its new offshore alternative energy leasing program. Mineral Management Service, Renewable Energy Program, Interim Policy, http://www.mms.gov/offshore/RenewableEnergy/RegulatoryInformation.htm#InterimPolicy (last visited Nov. 8, 2009).

[43] The wave energy industry and marine scientists are just beginning to study the devices' environmental effects. Although the current literature does not provide a definitive list of effects, at least five preliminary resources are available that identify issues of concern. See Glenn Cada, J. Ahlgrimm, M. Bahleda, et al., *Potential Impacts of Hydrokinetic and Wave Energy Conversion Technologies on Aquatic Environments*, 42:4 FISHERIES 174-181 (Apr. 2007), *available at* http://hydropower.inel.gov/hydrokinetic_wave/pdfs/cada_fisheries_reprint.pdf; U.S. DEPT. OF COMMERCE, NOAA, NMFS, ECOLOGICAL EFFECTS OF WAVE ENERGY DEVELOPMENT IN THE PACIFIC NORTHWEST, A SCIENTIFIC WORKSHOP, OCT. 11-12, 2007, NOAA Technical Memorandum NMFS-F/SPO-92 (George W. Boehlert, et al., eds.), *available at* http://spo.nmfs.noaa.gov/tm/Wave%20Energy%20NOAATM92%20for%20web.pdf; and the MINERALS MANAGEMENT SERVICE, OCS ALTERNATIVE ENERGY AND ALTERNATE USE PROGRAMMATIC EIS (2007), *available at* http://ocsenergy.anl.gov/index.cfm . In addition, the International Energy Agency-Ocean Energy Systems is at work on a report to be complete in 2011, See, IEA-OES, Annex IV, *Assessment of Environmental Effects and Monitoring Efforts for Ocean Wave, Tidal, and Current Energy Systems*, http://www.iea-oceans.org/tasks.asp?id=4 (last visited Jan. 8, 2010). Finally, the Energy Information and Security Act of 2007, requires the Department of Energy to prepare a report to Congress that addresses the effects of marine and hydrokinetic energy projects. The report is being prepared by the Oak Ridge National Laboratory and will be available at http://www.ornl.gov/sci/eere/EISAReport/report.html (last visited Jan. 8, 2010).

[44] 42 U.S.C. §§ 4321-4347

[45] Section 307(c), 16 U.S.C. § 1456.

[46] *Id.*

[47] "Land and water uses, or coastal uses, are defined in sections 304(10) and (18) of the act, respectively, and include, but are not limited to, public access, recreation, fishing, historic or cultural preservation, development, hazards management, marinas and floodplain management, scenic and aesthetic enjoyment, and resource creation or restoration projects. Natural resources include biological or physical resources that are found within a State's coastal zone on a regular or cyclical basis. Biological and physical resources include, but are not limited to, air, tidal and nontidal wetlands, ocean waters, estuaries, rivers, streams, lakes, aquifers, submerged aquatic vegetation,

Management Plan.[48] The CZMA's federal consistency provisions apply whether the project is inside or outside state waters.[49] An adjacent state may intervene in its neighbor's consistency determination regarding an activity, such as offshore energy, over which the adjacent state has an interest, if that activity is listed as being of concern in the neighboring state's coastal management plan and the effects of the activity will foreseeable have a significant impact on the intervening state's coastal environment.[50]

Applicants for federal permits and licenses, such as those discussed above, must provide the permitting agencies and the affected states with a consistency certification.[51] A state has six months to object or concur with the certification.[52] If the state objects to the applicant's consistency certification, the federal agency may not issue the permit.[53] An applicant can appeal the state's objections to the Secretary of Commerce. The Secretary can override the state's objections if the activity is consistent with the objectives of the CZMA or necessary in the interest of national security.[54] Ultimately, the authorizing federal agency cannot approve a license or permit unless the state concurs or the Secretary overrides the state's objection.

Additionally, several agencies within a wave energy project's host state may have authority to approve various aspects of the project.[55] The coastal state is involved during at least four major stages of a wave energy project installation process: (1) preliminary siting negotiations,[56] (2) environmental consultation during permitting/licensure, (3)

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land, plants, trees, minerals, fish, shellfish, invertebrates, amphibians, birds, mammals, reptiles, and coastal resources of national significance. Coastal uses and resources also includes uses and resources appropriately described in a management program." 30 C.F.R. § 930.11.

[48] 16 U.S.C. § 1456.

[49] 30 C.F.R. § 930.53

[50] *Id.* § 930.150

[51] 16 U.S.C. § 1456(c)(3)(A).

[52] *Id.*

[53] *Id.*

[54] *Id.*

[55] For example, in the state of Oregon, the following agencies have review authority over wave energy proposals: the Department of Land Conservation and Development (the state's lead coastal management agency), the Department of State Lands (regarding activities on the submerged state lands), the Department of Environmental Quality, the Department of Water Resources (the state's Clean Water Act § 401 certification authority), the Department of Fish and Wildlife, the Department of Energy, and the Department of State Parks and Recreation.

[56] It is important to note that stakeholder consultation is a critically important part of wave energy project siting and successful planning. Stakeholder consultation involves citizens, natural resource users, and recreation representatives in addition to government, nonprofit, and ocean energy industry leaders. In the state of Oregon, for example, the Governor has issued Executive Order 08-07. The Order provides a means to ensure that the participating public is well informed. Entitled "Directing State Agencies to Protect Coastal Communities in Siting Marine Reserves and Wave Energy Projects," the Order directs the Governor's Ocean Policy Advisory Council to work with Oregon Sea Grant and the Oregon Coastal Zone Management Association "to provide outreach and public education to coastal communities concerning the potential positive and adverse impacts of wave energy." The Executive Order is available at http://www.oczma.org/pdfs/3.26.08%20Marine%20Reserves%20EO_4.pdf (last visited Jan. 8, 2010). The CZMA federal consistency determination process also provides for public involvement, *see* 15 C.F.R. §§ 930.2 and 930.42.

environmental monitoring, and (4) decommissioning or removal of the device. Formal state approvals may also be require such as when the project involves (1) placing or burying cable on state submerged lands[57] or (2) securing § 401(b)(3) certification pursuant to the federal Clean Water Act that the activity will not result in a discharge that violates the state's water quality standards.[58]

III. Wave Energy in Scotland

Scotland has set forth perhaps the most ambitious CO_2 target in the world, an 80% reduction in emissions by 2050. This target is the result of Scotland's new groundbreaking Climate Change Act of 2009,[59] which was passed by the Parliament in June and received Royal Assent in August.[60] Scotland also has a mandatory goal of achieving 50% of its power via renewable energy sources by 2020.[61]

Marine energy has enjoyed consistent and significant support from both Britain and the Scottish government. As "the marine energy sector has the potential to contribute £2 billion a year to the country's economy by 2050, employing 16,000 people in the process,"[62] it appears to be a worthwhile investment. During the summer of 2009, the Carbon Trust, with money from Britain's Department of Energy and Climate Change, established the Marine Renewables Proving Fund, a £22 million (US $36.7 million) investment "aims to accelerate the leading and most promising marine devices towards the point where they can qualify for the Governments existing Marine Renewables Deployment Fund (MRDF) support

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[57] The coastal states maintain title over their submerged lands under the Submerged Lands Act, 43 U.S.C. §§ 1301-1315 (2002). *See also* United States v. California, 332 U.S. 19 (1947).

[58] 33 U.S.C. § 1341.

[59] The Climate Change Act of 2009 creates the statutory framework for greenhouse gas emissions reductions in Scotland by setting an interim 42% reduction target for 2020, and an 80% reduction target for 2050. The Act requires the Scottish Ministers, through secondary legislation, to set annual targets for Scottish emissions from 2010 to 2050 in consultation with experts. The Act authorizes the Ministers to create an advisory body on climate change if it is deemed necessary. Ministers must report regularly to the Scottish Parliament on levels of emissions and on the progress being made towards meeting the emissions reduction objectives. Many of the duties identified in the Act are delegated to Scottish public bodies. Other provisions on climate change include adaptation, forestry, energy efficiency, and waste reduction. Finally, the Act places emphasis on public engagement as a significant feature of climate change governance. For the text of the Act, *see* http://www.opsi.gov.uk/legislation/scotland/s-acts2009a (last visited Nov. 8, 2010).

[60] The Scottish Government, Scotland's Action to Tackle Climate Change, http://www.scotland.gov.uk/Topics/Environment/climatechange/scotlands-action (last visited Jan. 8, 2010).

[61] The Scottish government's website, http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Action/leading/saltire-prize/Factfile.

[62] James Murray, *UK Launches £22m Wave Energy Fund*, BUSINESS GREEN, Sept. 22, 2009, http://www.businessgreen.com/business-green/news/2249884/uk-launches-22m-wave-energy (citing recent research from the Carbon Trust).

scheme and, ultimately, be deployed at a commercial scale."[63] The £50 million (US $ 83.4 million) MRDF was established in 2005.[64]

The Saltire Prize Challenge for advances in wave and tidal energy was launched by the Scottish Government in late 2008 and is a major source of funding and renown among the industry. The Prize of £10 million "will be awarded to the team that can demonstrate in Scottish waters a commercially viable wave or tidal energy technology that achieves a minimum electrical output of 100GWh over a continuous two-year period using only the power of the sea and is judged to be the best overall technology after consideration of cost, environmental sustainability and safety."[65]

Other forms of Scottish support include subsidies called "Renewable Obligation Certificates" that some observers feel should be substantially increased.[66] The British Wind Energy Association in its 2009 state-of-the-industry report recommended that funding support offered through the Renewables Obligation subsidy mechanism be more than doubled from two to five Renewable Obligation Certificates (ROCs) for each megawatt generated.[67] The ROC system creates an incentive to increase the share of generation that comes from renewables; each ROC is worth around £47 per MWh of power produced (in 2008).[68] Projects that have already received other forms of government support would only be eligible to receive a limit of two ROCs per MWh.

By April 2010, Scotland will have another incentive in place. Renewable Energy Feed-In Tariffs (REFITS) are long-term contracts to buy power at a higher price from renewable sources. Scotland's version of a feed-in tariff contrasts with the ROCs because the new

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[63] Carbon Trust, Marine Renewables Proving Fund, http://www.carbontrust.co.uk/emerging-technologies/current-focus-areas/marine-renewables-proving-fund/Pages/default.aspx (last visited Jan. 13, 2009).

[64] Christine Buckley and Lewis Smith, *£50m renewable energy fund that's not making waves*, TimesOnline, Feb. 11, 2008, http://www.timesonline.co.uk/tol/news/environment/article3345968.ece (last visited Jan 13, 2009).

[65] Subtitled "Scotland's Energy Challenge to the World," this national Scottish government prize was established in 2008 and is considered perhaps the largest innovation award in history. *See* http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Action/leading/saltire-prize.

[66] BRITISH WIND ENERGY ASSOCIATION, MARINE RENEWABLE ENERGY: STATE OF THE INDUSTRY REPORT, 18 (OCT. 2009), *available at* http://www.bwea.com/pdf/marine/Marine_report_enteclogo.pdf .

[67] *Id.* "The ROC system, which began in Scotland in April 2002, offers renewable energy generators an extra payment on top of the income they receive from electricity sales and the sale of climate change levy exemption certificates. Under the system, electricity suppliers are required to provide an increasing proportion of their power from renewable sources each year, and must buy ROCs to demonstrate that commitment has been carried out." Ecowise.com, *Scottish Government to Lure U.K. Marine & Hydro Renewables with Extra ROC Subsidies*, http://www.ecowise.co.uk/news/204-scottish-government-to-lure-uk-marine-a-hydro-renewables-with-extra-roc-subsidies.html (last visited Jan. 8, 2010).

[68] The price fluctuates. As of April 2009, the figure was around £45. NewEnergyFocus, Hydro & Marine News, *Scots to Offer Five ROCs for Marine Energy Projects "by June,"* Apr. 29, 2009, http://www.newenergyfocus.com/do/ecco/view_item?listid=1&listcatid=119&listitemid=2568 (last visited Jan 8, 2010).

REFIT is intended to appeal to smaller entities such as communities that want to install technologies to generate some of their own power.[69]

In addition, the Scottish Executive established the European Marine Energy Centre (EMEC),[70] a marine energy testing and accreditation station on Orkney Island. This highly visible center demonstrates Scotland's commitments to marine energy research and to ensuring that marine energy development is carried out in an orderly way, in a specifically set aside location, and with the full partnership of the government. The Centre's establishment evinces an underlying practical strategy to draw the best and the brightest from marine energy companies worldwide to Scottish waters.

The north and west coasts of Scotland feature attractive conditions for developing wind, tidal, current, and wave energy[71] and the national Marine Energy Group (MEG) initially anticipated that 1300 MW could be made available by 2020, although estimates differ widely. Both wave and tidal energy projects are planned around Pentland Firth,[72] and Scotland is proceeding through a phased review of lease bids for the region that will end with signed agreements in spring 2010 for projects that could yield up to 700,000 MW of wave and tidal capacity, or enough to power 500,000 homes, by 2020. According to one report, "Currently, under 2 MW of marine energy capacity has been installed and connected to the grid, although 57.5 MW of commercial-scale marine energy projects are currently being developed in UK waters with 27 MW having already obtained planning consent."[73]

Since 2002, a wave energy device has generated power near Portnahaven on Islay, the southernmost island of the Inner Hebrides at the entrance of the Firth of Lorn. The device is a "Limpet," or a Land Installed Marine Powered Energy Transformer, which generates energy by taking advantage of the oscillating water column.[74] An additional 4 MW wave project is planned for Siadar, Isle of Lewis, Western Isles. On November 20, 2009, the world's largest working wave energy device, the Oyster, was connected to the Scottish

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[69] The Scottish Energy Act of 2008 authorizes these arrangements. *See* DEPT. OF ENERGY AND CLIMATE CHANGE, CONSULTATION ON RENEWABLE ELECTRICITY FINANCIAL INCENTIVES 2009 (2009), *available at* http://www.rrscotland.com/ConsultationonRenewableElectricityFinancialIncentives2009.pdf .

[70] EMEC is a full spectrum marine energy research site and the first test center of its kind in the world. The Centre is developing standards for design, performance, and environmental analysis for wave and other marine energy devices. Developers must consider environmental issues prior to testing at the Centre and provide mitigation for any adverse impact. *See* EMEC Homepage, http://www.emec.org.uk/ (last visited Jan. 8, 2010).

[71] Scottish Government, Marine Energy Guidance, http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Infrastructure/Energy-Consents/Marine-Development-Guid. (last visited Jan. 8, 2010). Scotland is thought to have 25% of Europe's tidal stream resource and 10% of Europe's wave resource.

[72] Pentland Firth separates the Scottish mainland from Orkney.

[73] James Murray, *Marine Energy Needs New Wave of Subsidy*, BUSINESS GREEN, Oct. 27, 2009, http://www.businessgreen.com/business-green/news/2252071/marine-energy-policy

[74] For a photograph and other information, see http://www.wavegen.co.uk/what_we_offer_limpet_islay.htm (last visited Jan. 8, 2010).

national energy grid.[75]

A. Licensing Process

The Scottish Crown Estate owns the seabed out to twelve nautical miles, Scotland's Territorial Sea, as well as natural resources of the continental shelf within areas designated "renewable energy zones" the Scottish EEZ (the ocean zone 12 – 200 nm miles from shore).[76] Wave energy representatives wishing to construct or operate a device in Scottish waters are required to obtain authorization by means of an official consent (Consent 36) because it falls under section 36 of Scotland's Electricity Act of 1989.[77] Consent 36 is given by the Energy Consents Unit (ECU).[78]

In addition to Consent 36, wave energy developers must also receive permissions from the agencies that administer the Food and Environment Protection Act (FEPA)[79] and the Coastal Protections Act (CPA).[80] In order to streamline the application process, the ECU recently reached an agreement with the FEPA and CPA to offer wave energy developers (and those seeking to construct other marine energy installations) a single access point for licensure.

The Crown Estate is authorized to grant renewable energy licenses and leases by authority of Scotland's 2004 Energy Act.[81] Under this law, safety zones are authorized around marine energy installations within the twelve-mile territorial sea. The safety zones exclude vessel traffic unless a vessel has express permission to enter the safety zone. The Scottish licenses have appurtenant conditions, just as U.S. licenses do. Licenses may be modified if necessary after they are conferred. Finally, the law authorizes the government to establish "marine

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[75] David Ross, *First Minister makes waves with 60ft Oyster Orkney's tidal power plugged in to grid*, THE HERALD (Glasgow, Scotland), Nov. 21, 2009.

[76] Scottish Marine Development Guidance, *supra* note 71.

[77] The Electricity Act of 1989 was modified in 2002 to require offshore energy to obtain a permit. "This Order modifies section 36(2) of the Electricity Act 1989 (c. 29) to specify that any generating station constructed in Scottish territorial waters (and wholly or mainly driven by water or wind) with a permitted capacity of 1 megawatt or above requires the consent of the Scottish Ministers. This allows for more control over developments in territorial waters and brings these generating stations within the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000." The text of the Act is available at http://www.oqps.gov.uk/legislation/ssi/ssi2002/ssi_20020407_en_1 (last visited Jan. 8, 2010).

[78] If the devices are supplying power for an offshore use the installation is exempt from Consent 36. *Id.*

[79] Part II of the Food and Environment Protection Act of 1985 requires anyone wishing to place an object in the sea or on or under the seabed to first obtain a license. *See* Fisheries Research Service, Marine Environmental Legislation, http://www.marlab.ac.uk/Delivery/standalone.aspx?contentid=2184 (last visited Jan. 8, 2010).

[80] The Coastal Protection Act of 1949 requires a consent from the Scottish Ministers "for the construction, alteration or improvement of any works, the deposit of any object or materials or the removal of any object or materials below the level of Mean High Water Springs. The purpose of control under Section 34 is solely concerned with the safety of navigation."

[81] The Energy Act of 2004, Part Two, Sustainability and Renewable Energy Sources, Chapter Two, Offshore Production of Energy, Sections 84 through 132 contain the provisions pertinent to marine energy. This law is available at http://www.opsi.gov.uk/acts/acts2004/ukpga_20040020_en_1 (last visited Nov. 8, 2010).

energy zones" either within the Territorial Sea or beyond it, subject to the approval of Her Majesty, Queen Elizabeth, by Order in Council. Once so designated, the Secretary of State may "designate the whole or a part of a Renewable Energy Zone as an area in relation to which the Scottish Ministers are to have functions."[82]

Once the projects are capable of generating power, there must be stations onshore to distribute it. Construction and operation of power stations and overhead power lines require other consents from the Scottish Ministers for projects "in excess of fifty megawatts (MW) for onshore wind farms and power stations that are not wholly or mainly driven by water (such as coal/gas fired or nuclear plant); in excess of one MW for offshore wind farms and generating stations wholly or mainly driven by water (such as hydroelectric, wave or tidal generating stations); or overhead power lines and associated infrastructure, as well as large gas and oil pipelines." Power station and overhead line applications must be accompanied by a statement of environmental effects; both the application and the environmental statement are made available to the public and other relevant governmental authorities for review. Both new development and modification of existing developments require consents. Projects that fall below these established thresholds require applications to local planning agencies.[83]

The Scottish Ministers must strive to achieve a balance between the private and public interests of developers, energy and planning policy, community interests and the environment. The Ministers can call a Public Local Inquiry, a type of hearing, before making their decision. Ministerial approval authorizes construction and operation within five years of the date of decision, subject to environmental and other impacts.[84]

Scottish Planning Policy 6 on Renewable Energy[85] contains the policies that apply to on-shore renewable electricity generation schemes under Section 36 of the Electricity Act 1989. Policy 6 establishes national planning policies for renewable energy developments that authorities should consider when preparing plans or reviewing applications. Policy 6 also sets forth the issues Scottish Ministers will consider when examining renewable energy policies in development plans, and when considering applications for planning permission which come before them on appeal.

IV. Necessary Elements of a Wave Energy Regulatory Framework

Scotland has laid much of the groundwork necessary to transform its energy portfolio to reflect a greater reliance on renewables. The hallmarks of a well planned and successful system are all in place: consistent government commitment in the form of mandatory legislation, the simplification of licensing procedures, financial and technical support,

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[82] *Id.*

[83] For more information, *see* The Scottish Government, Energy Consents, http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Infrastructure/Energy-Consents (last visited Jan. 8, 2010).

[84] The Scottish Government, Energy Consents: Introduction, http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Infrastructure/Energy-Consents/Introduction (last visited Jan. 8, 2010).

[85] The Scottish Government, Scottish Planning Policy SPP 6 Renewable Energy, http://www.scotland.gov.uk/Publications/2007/03/22084213/0 (last visited Jan. 8, 2010).

environmental planning,[86] marine spatial planning for energy zones, establishment of a world-class test center, and collaboration among government, developers, and citizens. The marine energy industry in Scotland and the United Kingdom is well organized and recently produced a roadmap for development of the industry.[87]

The U.S. is poised to take a greater role in marine renewables but efforts and engagement seem more diffuse. The reasons for this are complex. Contributing factors could include concerns over the recession and economy, the wars in Iraq and Afghanistan, the challenges of everyday politics and special interests, and the drag force of a change in direction after eight years of contrasting policy. However, the U.S. government support of all renewable energy (including marine) is significant and seems to be trending upward. For example, an innovative national dialogue on ocean management is beginning to unfold.[88] There is a substantial marine mapping effort at the national level,[89] and states are increasingly embarking on mapping and marine spatial planning as well. Although state efforts are often launched in tandem with planning for offshore energy interests, they are increasingly benefitting from input from conservation organizations.[90] In the U.S., the coastal states are primarily engaged in laying the groundwork[91] and taking the lead in planning and management.

In Scotland and the U.S., it is important to ask how the funding levels for marine energy development will be maintained over time. There is some criticism that in Scotland that

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[86] The Scottish Executive commissioned an umbrella Strategic Environmental Analysis (SEA) for marine energy that was published in March 2007. The SEA is available at http://www.seaenergyscotland.co.uk/ (last visited Jan. 8, 2010).

[87] FORUM FOR RENEWABLE ENERGY DEVELOPMENT IN SCOTLAND, MARINE ENERGY ROADMAP (June 24, 2009) *available at* http://www.scotland.gov.uk/Resource/Doc/281865/0085187.pdf .

[88] INTERAGENCY OCEAN POLICY TASK FORCE, TASK FORCE INTERIM REPORT (Sept. 10, 2009), *available at* http://www.whitehouse.gov/administration/eop/ceq/initiatives/oceans .

[89] *See* Coastal Services Center, U.S. Multipurpose Marine Cadastre, http://www.csc.noaa.gov/digitalcoast/tools/mmc/index.html. (last visited Nov. 8, 2009). On December 9, 2009, the White House Council on Environmental Quality's Interagency Ocean Policy Task Force, released an Interim Framework for Effective Coastal and Marine Spatial Planning for 60-day public review and comment. The Framework establishes national goals and principles for coastal and marine spatial planning throughout the Territorial Sea, EEZ, and Continental Shelf to be carried out by nine regional planning bodies. The Framework also calls for ecosystem-based, holistic consideration of land-based activities that affect coastal and marine areas and vice-versa. INTERAGENCY OCEAN POLICY TASK FORCE, INTERIM FRAMEWORK FOR EFFECTIVE COASTAL AND MARINE SPATIAL PLANNING (2009), *available at* http://www.whitehouse.gov/sites/default/files/microsites/091209-Interim-CMSP-Framework-Task-Force.pdf .

[90] *See* OCEAN RENEWABLE ENERGY AND THE MARINE SPATIAL PLANNING PROCESS: A COLLABORATION BETWEEN OCEAN RENEWABLE ENERGY INTERESTS AND OCEAN CONSERVATIONISTS (Oct. 2009), *available at* http://www.oceanconservancy.org/site/DocServer/RE_MSP_Principles_Final.pdf?docID=5823 .

[91] For example, see the Massachusetts Ocean Plan, which was the result of Massachusetts' 2008 Ocean Act, *available at* http://www.mass.gov/?pageID=eoeeasubtopic&L=3&L0=Home&L1=Ocean+%26+Coastal+Management&L2=Massachusetts+Ocean+Plan&sid=Eoeea; *see also* Oregon's draft Territorial Sea Plan amendments, especially §B 1 (at page 3) regarding designated ocean areas for renewable energy development, available at http://www.oczma.org/pdfs/TSP%20Part%205_1.pdf .

there is too much emphasis placed on pilots and less on long-term installation and operation.[92] Using the evolution of the wind energy industry as a reference point, perhaps these concerns will be worked out over the time it takes for the technology to mature, stabilize, and become profitable.

Is Scotland more motivated to diversify its energy portfolio? If so, the motivation is not from electricity cost. Both nations pay roughly equivalent rates per kWh. (See Table 2). What other factors are driving Scotland's policy, then? Scotland's history and identity as a nation of islands undoubtedly has a strong influence on its unified, sustained efforts at crafting renewable energy and marine energy policy. The effects of climate change are a reality already felt on islands everywhere. The strength and duration of storms, changes in wind and rainfall, and prospects for sea level rise are not abstractions to island dwellers.

Table 2. Comparing Scotland and the United States as Electricity Consumers

	SCOTLAND	UNITED STATES
Land Area	78,772 km² (30,414 m²)	9,161,922.36 km² (3,537,438 m²)
Population in 2008	5,168,500	303,824,640
Energy Consumption in 2002	45.5 terawatt hours	29,777 terawatt hours
Current Energy Portfolio		
• **Nuclear**	36%	8%
• **Coal**	33%	22%
• **Gas**	20%	23%
• **Petroleum**		40%
• **Renewables**	11%[93]	7%
Price per kWhr for Electricity[94]	£.07/kWhr ($.12 US)	$.12 US (or £.07/kWhr)

Of paramount importance is strong national leadership and the existence of a coherent, overarching national framework stemming from clear legislation, priorities, and goals. At the end of October 2009, Scotland's new Marine Bill[95] passed the first of two approval phases. This law is intended to remove licensing barriers to marine energy developers by creating a single entry point into the process, via just one agency: Marine Scotland.[96] The

[92] BWEA, *supra* note 66, at 14.

[93] The Scottish Government states that 16% of the nation's electricity is generated from renewables. The Scottish Government, Factors for Success, http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Action/leading/saltire-prize/detail/success-factors (last visited Jan. 8, 2010).

[94] Price from most common power source.

[95] The Scottish Marine Bill features provisions that will greatly aid not only marine energy, but ocean management in general. The features include a statutory marine planning system to reduce conflicts, simplified marine licensing, increased conservation tools, seal protection, and enhanced enforcement mechanisms. For more information, *see* The Scottish Parliament, Marine (Scotland) Bill, (SP Bill 25), http://www.scottish.parliament.uk/s3/bills/25-MarineScot/index.htm (last visited Jan. 8, 2010).

[96] Marine Scotland will combine the previous agencies of Marine Directorate, Fisheries Research Services (FRS) and Scottish Fisheries Protection Agency (SFPA). Marine Scotland's mission is to manage Scotland's seas for prosperity and environmental sustainability. The Scottish Government, Marine Scotland, http://www.scotland.gov.uk/About/Directorates/Wealthier-and-Fairer/marine-scotland (last visited Jan. 8, 2010).

law's provisions also provide a statutory mandate for marine spatial planning[97] at the national and regional scales that is integrated with international, EU, and UK plans, and with terrestrial and marine species management.[98]

By contrast, marine energy licensing in the U.S. potentially requires approval from a mosaic of state and federal agencies overseeing dozens of laws, a process that is complex and time consuming. While it seems daunting, the modernization and simplification of this system could greatly enhance regulatory efficiency and would enhance marine energy deployment and environmental data analyses. State and federal agencies are working to try to streamline the process for hydrokinetic permitting and licensing. Various parties have worked hard to analyze the U.S. scheme and develop regulatory roadmaps to shed light on the process.[99] Some have proposed alternate methods for licensure in order to avoid duplication and protracted timelines, while retaining environmental safety and review.[100] As more energy devices are installed, the process for permitting, testing, and licensing marine energy technologies in the U.S. will undoubtedly be refined further.

V. Conclusion

What is it going to take to establish wave energy specifically, and marine energy generally, as an industry? Three recent reports have attempted to answer this question.

In 2006, the International Energy Agency commissioned Energy Ireland to conduct research to determine the status of technology development for marine energy with particular attention to individual countries' policies, support, and barriers that were helping or impeding the industry and to link policies with development trends where possible. The resulting report[101] set forth several key findings. The 2006 report indicated that the common hallmarks of successful international marine energy programs include national leadership, legislation, and funding. The 2006 report described barriers to marine energy mainly in technological terms:

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[97] C. EHLER AND F. DOUVERE, VISIONS FOR A SEA CHANGE, REPORT OF THE FIRST INTERNATIONAL WORKSHOP ON MARINE SPATIAL PLANNING, INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION AND MAN AND THE BIOSPHERE PROGRAMME, IOC Manual and Guides No. 48 (2007), *available at* http://www.unesco-ioc-marinesp.be/goto.php?id=1679091c5a880faf6fb5e6087eb1b2dc&type=docs .

[98] The Scottish Ministers and organizations of Marine Planning Partnerships will oversee the planning process and submit evaluations of their progress every five years, after which the plans may continue, be amended, or be replaced. The Scottish Government, Scotland's First Marine Bill, http://www.scotland.gov.uk/Publications/2009/09/28115722/4 (last visited Jan. 8, 2010).

[99] STEPHANIE SHOWALTER AND TERRA BOWLING, NATIONAL SEA GRANT LAW CENTER, OFFSHORE RENEWABLE ENERGY: A PRIMER (July 2009), *available at* http://nsglc.olemiss.edu/offshore.pdf. The Oregon Wave Energy Trust produced a roadmap for marine energy in the state of Oregon, available at http://www.oregonwave.org/index.php/projects/105.html.

[100] See also Holly V. Campbell, *Emerging from the Deep: Pacific Coast Wave Energy*, 24 J. ENVTL. L. & LITIG. 7 (2009) (proposing a national single permit system).

[101] AEA ENERGY & ENVIRONMENT, REVIEW AND ANALYSIS OF OCEAN ENERGY SYSTEMS DEVELOPMENT AND SUPPORTING POLICIES, A REPORT BY AEA ENERGY & ENVIRONMENT ON THE BEHALF OF SUSTAINABLE ENERGY IRELAND FOR THE IEA'S IMPLEMENTING AGREEMENT ON OCEAN ENERGY SYSTEMS (June 28, 2006), *available at* http://www.iea-oceans.org/_fich/6/Review_Policies_on_OES_2.pdf .

1. Insufficient demonstration of full-scale prototypes of the technologies;
2. The lack of longitudinal demonstration of multiple full-scale prototypes in a pre-commercial farm for years rather than just months, in order to gain sufficient information to directly improve design and function and enhance investor confidence;
3. The cost of grid connection demonstration systems because of the distance from shore and from populated areas apt to have sufficient grid capability;
4. The lack of understanding of environmental impacts;
5. The lack of understanding of the ocean energy resource (uncertainty, inefficiency);
6. The ability to accurately predict energy production performance; and
7. The absence of standards ("internationally recognized metrics or standards for development, testing, and measurement . . . standards must be valid across technologies and independent of test sites").

In March 2009 the International Energy Agency's Ocean Energy Systems group (IEA-OES) produced a comprehensive international report that reviewed the status of marine energy.[102] The report noted that the UK and the U.S. were at the forefront of development of marine energy worldwide.

A 2008 report from the U.S. National Renewable Energy Laboratory (NREL)[103] makes additional recommendations. While the 2006 and 2009 IEA reports apply internationally, the NREL report is specific to perceived barriers to marine energy in the U.S. Among other things, the NREL report pointed out the need for empirical field data to evaluate environmental impacts, stating that such data would contribute to development of a sound third-party monitoring system to help reduce uncertainty and inspire confidence.[104]

The next step will be to develop systematic and holistic international best practices[105] and share them across issues of engineering, environmental stewardship, legislation, and funding. The oceans are the province and heritage of all human kind. Through creativity and collaboration, their energy may be utilized for the human good while avoiding the costly mistakes of some past resource extraction and energy activities. The law, often sought too late as a reactive or adversarial tool, is available as a proactive tool for achieving order and equity in pursuing the means to harness wave energy and to reduce our impact on the oceans and on our atmosphere.

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[102] IEA-OES, *supra* note 11.

[103] WALTER MUSIAL, NATIONAL RENEWABLE ENERGY LABORATORY, THE STATUS OF WAVE AND TIDAL POWER TECHNOLOGIES FOR THE UNITED STATES, Technical Report NREL/TP-500-43240 (Aug. 2008).

[104] *Id.* The report also pointed out the usefulness of monitoring to manage expectations and prevent misperceptions. "Experience from wind energy has taught us that seemingly small environmental consequences that are ignored during the early stages of development can lead to unfounded long-term negative public perceptions that are more difficult to dismiss if they are not addressed proactively. A good example is noise. Wind turbines are quiet compared to other common machinery, but because some early wind machines were loud, many people still perceive wind turbines to be obnoxious noise makers."

[105] Distilling best practices will be part of the task of IEA-OES Annex IV once it is completed in 2012. *See* IEA-OES, *supra* note 11.

Compensating Climate Change Victims: The Climate Compensation Fund as an Alternative to Tort Litigation

Melissa Farris[1]

I. Introduction

Global climate change is undoubtedly one of the biggest and most complex environmental challenges facing the world today. A growing consensus has emerged regarding the science of climate change and its impact on the earth's natural ecosystems. In recent years, the issue has evolved from an uncertain theory to a scientifically backed global challenge. In 2007, the United Nation's Intergovernmental Panel on Climate Change (IPCC) asserted in its Fourth Assessment Report that the "warming of the climate system is unequivocal."[2] Moreover, "[o]bservational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases."[3]

Many individuals, groups, and societies across the globe are already being significantly impacted by these "unequivocal" changes. Observed changes relating to the anthropogenic release of greenhouse gases include the shrinkage of glaciers, thawing of permafrost, later freezing and earlier break-up of ice on rivers and lakes, poleward and altitudinal shifts of plants and animal ranges, declines of some plant and animal populations, lengthening of mid- to high-latitude growing seasons, and earlier flowering of trees, emergence of insects, and egg-laying in birds.[4] Such impacts could lead to the displacement of human populations, substantial property damage, economic loss, and an interference with the livelihood of those dependent upon the adversely impacted resources.

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[2] INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT, 30 (2008), *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf .

[3] *Id.* at 31.

[4] Daniel A. Farber, *Basic Compensation for Victims of Climate Change*, 155 U. PA. L. REV. 1605, 1606 (2007).

Until recently, efforts to address these impacts have focused on measures for mitigating climate change. As international law and policymakers gathered in Copenhagen in December 2009 for the Fifteenth Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) to negotiate the sequel to the UNFCCC's Kyoto Protocol, other important issues like adaptation, technology transfer, and financing have been placed on the negotiation table alongside mitigation. This shift in the focus of scientists, negotiators, international leaders, and law and policymakers is a response to a growing awareness that "whatever mitigation measures are adopted, a significant degree of climate change seems unavoidable."[5]

As the effects of climate change become more of an everyday reality, the resulting impacts on property and human health, if particularly significant and harmful, could result in viable claims for compensation. Traditional paths to compensation, such as tort litigation, may prove difficult for the complex issue of climate change, however. Lengthy and expensive trials are not only inconvenient for many plaintiffs, they also disfavor lower income victims. Once in the courtroom, plaintiffs face challenges in establishing standing and proving causation and damages. Furthermore, tort litigation invokes questions of fairness when a particular defendant is assigned responsibility for an issue of global magnitude, like climate change. With a potentially large pool of climate victims, tort litigation could impose substantial administrative burden on the courts. Finally, the unprecedented scale and scientific complexity of climate change begs the question of whether the courts are equipped to wrestle with such an issue.

Climate change presents uniquely complex environmental law and policy problems that warrant creative problem-solving. This article presents one such creative solution – a no-fault compensation fund for compensating victims of climate change. Compensation funds have proven successful in other contexts, such as vaccine injuries and terrorist attacks.

As a right to compensation is a necessary precursor to a compensation fund, Part II of this article discusses recent developments in climate tort litigation. Part III introduces the concept of a "compensation fund" for providing redress for victims and articulates how such approaches have been utilized in other contexts. Part IV suggests that creating a Climate Compensation Fund as an alternative to tort litigation will enable the U.S. legal system to more efficiently and effectively compensate victims of climate change.

The scope of this paper is limited to an analysis of a compensation fund approach as an alternative to climate tort litigation. This proposal for a Climate Compensation Fund is not meant to be a fully matured blueprint for compensation. Rather, this article hopes to encourage discussion of the idea by outlining the basic advantages and disadvantages of such a system. While not addressed in this article, many other alternatives to litigation, such as mandatory arbitration, summary jury trials, or government regulation of greenhouse gas emissions, could also prove highly effective. Also beyond the scope of this analysis is compensation of victims outside the United States, although a system of international compensation is certainly warranted as disproportionate impacts will be felt around the globe.

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[5] *Id.* at 1605.

II. The Momentum of Recent Climate Change Litigation

When one accepts that some impacts of climate change will be inevitable regardless of national, state, local, and individual efforts to mitigate, considerations of equity and corrective justice suggest that compensation is an appropriate next step. In fact, the U.S. judicial system has already begun to acknowledge the reality of harm from climate change. In its landmark opinion in *Massachusetts v. EPA*, the U.S. Supreme Court held that the Clean Air Act provides the Environmental Protection Agency (EPA) with the necessary authority to regulate greenhouse gas emissions from new motor vehicles, despite the EPA's claim to the contrary.[6] In a key procedural ruling in the case, the Supreme Court determined that the State of Massachusetts had the right (or standing) to challenge the EPA's action in part because the state had suffered a concrete injury – the loss of coastal land from rising sea levels due to climate change.[7]

When seeking compensation, climate change plaintiffs face significant procedural hurdles in tort-based litigation. For example, Article III of the U.S. Constitution requires that plaintiffs have "standing" to bring their claims in court.[8] To establish standing, plaintiffs must show that they have (1) suffered an "injury in fact" that is (a) concrete and particularized and (b) actual or imminent, (2) that is fairly traceable to the defendant's actions, and (3) is redressable by the court.[9] All three elements of the standing requirement pose challenges for climate plaintiffs.[10] First, the global nature of climate change makes it difficult to show particularized injury; everyone is impacted by climate change.[11] Second, scientific uncertainty regarding specific impacts of climate change and how specific contributions by greenhouse gas emitters influence those impacts could make the "fairly traceable" requirement difficult to establish.[12] Third, because nearly all individuals contribute to climate change at some level – whether by driving a gasoline-powered vehicle or using electricity produced from fossil fuels – victims' injuries might not be redressable through the courts.[13] Despite these procedural difficulties, following *Massachusetts v. EPA*, the momentum of climate change tort litigation appears to have shifted in favor of the plaintiffs (victims). Although this ruling is not directly relevant to the creation of compensation funds, it could signal judicial support of arguments that compensation for climate change impacts is indeed desirable.[14]

In 2009, the Second Circuit Court of Appeals allowed climate plaintiffs' claims to proceed by overturning a lower court's dismissal of the action. In *Connecticut v. American Electric*

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[6] *See* Massachusetts v. EPA, 549 U.S. 497 (2007).
[7] *Id.*
[8] Article III of the U.S. Constitution limits the authority of federal courts to hear only "cases or controversies." The Supreme Court has interpreted the provision as requiring plaintiffs to show genuine interest and stake in a case by meeting standing requirements." CHRIS WOLD, DAVID HUNTER & MELISSA POWERS, CLIMATE CHANGE AND THE LAW 498 (2009). *See also* U.S. CONST. art. III, § 2.
[9] CLIMATE CHANGE AND THE LAW, *supra* note 8, at 498.
[10] *Id.* at 500.
[11] *Id.*
[12] *Id.*
[13] *Id.* at 501.
[14] Farber, *supra* note 4, at 1609.

Power, eight states and the city of New York filed suit against five fossil fuel-burning utilities. The defendants were allegedly the five largest emitters of greenhouse gases in the United States, emitting approximately 10% of all carbon dioxide emissions from humans in the country.[15] The lawsuit was based on the federal common law of nuisance and state nuisance law. The plaintiffs claimed that the utilities had knowingly contributed to a public nuisance and should therefore be held liable for the plaintiffs' injuries.[16] The plaintiffs alleged current injury as a result of the increase in carbon dioxide levels that have already caused the increases in temperature and changes in climate within the eight plaintiff states and the city of New York.[17] The plaintiffs also alleged "devastating future injury to their property from the continuing incremental increases in temperature projected over the next 10 to 100 years."[18]

The District Court for the Southern District of New York had dismissed the case on the grounds that it presented a non-justiciable political question.[19] Under the political question doctrine, courts must refrain from reviewing controversies revolving around national policy choices or developing standards for matters not legal in nature when the power to make such determinations has been delegated to Congress and the executive branch by the Constitution.[20] Such determinations can include domestic controversies implicating constitutional issues and matters of national foreign policy.[21] On appeal, the Second Circuit reversed the dismissal and held that the case did not raise non-justiciable political questions and the plaintiffs had standing to raise their claims in federal court. The Second Circuit found such common law claims were appropriate despite current legislative and executive actions involving the regulation of greenhouse gases under the Clean Air Act.[22]

The Fifth Circuit Court of Appeals addressed similar issues in *Comer v. Murphy Oil.*[23] In February 2006, individuals displaced by Hurricane Katrina brought a private action against nine oil companies, thirty-one coal companies, and four chemical companies. The plaintiffs raised a number of causes of action, including nuisance, negligence, trespass, unjust enrichment, civil conspiracy, and fraudulent misrepresentation. The plaintiffs alleged that the defendants' operations caused emissions of greenhouse gases that contributed to increases in air and water temperatures.[24] This global warming in turn "caused a rise in sea levels and added to the ferocity of Hurricane Katrina, which combined to destroy the plaintiffs' private property, as well as public property useful to them." The U.S. District Court for the Southern District of Mississippi dismissed the case for lack of standing and on political question grounds.[25] In October 2009, the Fifth Circuit reversed, in part, and held that plaintiffs had standing for their claims of nuisance, negligence, and trespass because the alleged injuries were sufficiently traceable to the alleged conduct of

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[15] Connecticut v. Am. Elec. Power Co., 582 F.3d 309, 316 (2d Cir. 2009).
[16] *Id.* at 318.
[17] *Id.* at 341.
[18] *Id.*
[19] *Id.* at 319.
[20] *Id.* at 323.
[21] *Id.*
[22] *Id.* at 332.
[23] Comer v. Murphy Oil, 585 F.3d 855 (5th Cir. 2009).
[24] *Id.* at 859.
[25] *Id.* at 860.

the defendants.[26] The Court also asserted that none of these claims present non-justiciable political questions.[27] Regarding the plaintiffs' unjust enrichment, fraudulent misrepresentation, and civil conspiracy claims, however, the Fifth Circuit held that those claims were properly dismissed for prudential standing reasons.[28]

Despite these recent "victories" for climate change plaintiffs, tort-based litigation may not be the best mechanism for providing compensation. First, from the plaintiff's perspective, the legal landscape for climate change compensation is likely to remain in flux for years. Even if courts are willing to grant standing to climate-injured plaintiffs, proving causation and establishing damages will remain significant obstacles. In addition, cases heard in different courts with different judges and juries may result in very different outcomes. A coastal property owner in New York might receive millions for the loss of her land, while an owner in Texas loses her case and receives nothing. Many plaintiffs may choose not to seek compensation through the courts given the expense and uncertainty. In addition, lengthy and expensive trials mean victims go without compensation for extended periods of time, and low income victims are unjustly disadvantaged.

Second, from the defendant's perspective, tort-based litigation raises significant questions of fairness. How can courts assign responsibility to a particular defendant, or group of defendants, when the anthropogenic inducement of climate change is truly a global phenomenon? Successful tort litigation could also result in multi-million dollar verdicts affecting the profitability and operations of entire sectors of the U.S. economy.

Finally, the scale of the climate change is unprecedented and begs the question of whether the courts are equipped to wrestle with an issue of such magnitude and scientific complexity. As noted recently by a district court judge, "[a] global warming nuisance claim seeks to impose liability and damages on a scale unlike any prior environmental pollution case."[29] With a potentially large pool of climate victims, tort litigation could impose substantial administrative burden on the courts. Furthermore, the traditional canons of tort law, such as contributory and comparative negligence, may be incompatible with such a unique global challenge like climate change. A Climate Compensation Fund, however, could eliminate much of the uncertainty and provide more efficient and effective compensation.

III. History of Tort Compensation Funds

Creation of a fund from which the claims of injured parties can be paid, as an alternative to mass tort litigation, is not a novel idea. In fact, there are many examples of such compensation funds, most created in the face of looming mass tort litigation. This section

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[26] *Id.* at 867.

[27] *Id.* at 860.

[28] *Id.* In dismissing the unjust enrichment, fraudulent misrepresentation, and civil conspiracy claims, the Court reasoned that "[t]he interests at stake involve every purchaser of petrochemicals and the entire American citizenry because the plaintiffs are essentially alleging a massive fraud on the political system resulting in the failure of environmental regulators to impose proper costs on the defendants." *Comer,* 585 F.3d at 869. Consequently, "[s]uch a generalized grievance is better left to the representative branches." *Id.*

[29] Native Village of Kivalina v. ExxonMobil Corp., 2009 U.S. Dist. LEXIS 99563, at *29 (N.D. Cal. Sept. 30, 2009)

summarizes a few such programs to provide a historical basis atop which the compensation fund approach can be expanded into the climate change context.

A. The September 11th Victim Compensation Fund

The most recent example of an effective compensation fund was the fund established in the wake of the September 11th terrorist attacks in 2001. Shortly after the tragedy, Congress passed the Air Transportation Safety and System Stabilization Act (ATSSSA) to serve a dual purpose: (1) to ensure victims of the attacks had an option for a speedy strict liability recovery; and (2) to shield the potential defendants, particularly the airline industry, from crushing liability, possible insolvency, and industry-wide collapse.[30]

A central component of the ATSSSA was the Victim Compensation Fund (VCF). Title IV of the ATSSSA, which established the VCF, stated that the fund's purpose was to "provide compensation to any individual (or relatives of a deceased individual) who was physically injured or killed as a result of the terrorist-related aircraft."[31] Physical harm was "narrowly defined to include only the most serious injuries and only those treated within seven days of the catastrophes, thus ruling out any future latent claims."[32] Furthermore, the VCF only covered personal injury and wrongful death cases; claims for property damage or business loss were not eligible to receive compensation from the fund.[33] As such, the VCF provided limited-scope, no-fault compensation to victims while avoiding the difficult determination of assigning responsibility to a particular defendant.[34]

The structure and administration of the VCF proved to be an effective and speedy solution for many victims of the September 11th attacks. To create the fund, Congress combined money requisitioned from general government revenues with charitable donations.[35] The VCF called for a two-year period under which all claims were to be filed, and claims against the fund were to be determined within 120 days of filing and paid within 20 days of determination.[36] The VCF required the attorney general to appoint a Special Master to make determinations of awards.[37] The lump sum amounts paid to victims or victims' families for lost wages were determined by a calculation of "presumed economic loss" that took into account age, size of family, and recent past earning.[38] No punitive damages were available from the fund.[39] Furthermore, awards from the VCF were reduced by the amount of any collateral source payments received by the victim, including pension funds, death

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[30] Robin J. Effron, *Event Jurisdiction and Protective Coordination: Lesson from the September 11th Litigation*, 81 S. CAL. L. REV. 199, 201 (2008).

[31] Linda S. Mullenix & Kristen B. Stewart, *The September 11th Victim Compensation Fund: Fund Approaches to Resolving Mass Tort Litigation*, 9 CONN. INS. L.J. 121, 127 (2003).

[32] James C. Harris, *Why the September 11th Victim Compensation Fund Proves the Case for a New Zealand-Style Comprehensive Social Insurance Plan in the United States*, 100 NW. U. L. REV. 1367, 1377 (2006).

[33] Effron, *supra* note 30, at 205.

[34] Harris, *supra* note 32, at 1369.

[35] *Id.* at 1369.

[36] *Id.* at 1378.

[37] *Id.* at 1377.

[38] *Id.* at 1378.

[39] *Id.* at 1377.

benefits programs, and payments related to the terrorist attacks by federal, state, or local governments.[40] Collateral sources did not include charitable gifts or donations.[41]

Interestingly, participation in the VCF was not mandatory and Congress retained the right of victims to sue in tort if they were unsatisfied with the VCF payment or if they preferred the litigation route.[42] The ATSSSA tort provision, however, explicitly listed the potential defendants whom victims were permitted to sue, which included the airlines, airplane manufactures, airport security companies, building owners, and others.[43] Moreover, in the case of the airlines, liability under a tort action was limited to the extent of the carrier's insurance coverage.[44]

Despite the availability of a litigation option under the ATSSSA, an overwhelming percentage of claimants chose remediation through the VCF.[45] Professor Linda Mullenix of the University of Texas School of Law asserts that this trend suggests "rational people would select a modified regime – i.e. some aspects of tort reform – if they believed such a regime would fairly and expeditiously compensate them for their injuries, even at the costs of forgoing potentially greater compensatory damages, windfall exemplary damages, and a jury trial."[46] Ultimately, the success of the VCF is demonstrated by the fact that the fund processed over 7,400 cases, awarding a median award of $855,919.50 per living victim and a median award of $1.6 million for deceased victims.[47]

The structure and administration of the VCF created in response to the September 11th tragedy can offer suggestions for how a compensation fund might be effective in the climate change context. For example, the threat of airline bankruptcy after the attacks might be analogous to the potentially substantial economic threat mass climate tort litigation poses to fossil fuel-dependent industries. The current economic downturn in the United States has law and policymakers preoccupied with preserving economic stability. Furthermore, like with the September 11th terrorist attacks, those most responsible for causing harm might not be available to compensate the victims. In the climate change context, this could be true for a variety of reasons, including a lack of jurisdiction over foreign emitters or limitations on the liability of domestic emitters either through preemption by future EPA regulation or by future climate change legislation.

In assessing whether a VCF-like fund would be appropriate to compensate victims of climate change, the differences between climate change and September 11th are also important. In particular, it is significant that the September 11th terrorist attacks constituted a specific group of events, occurring in a relatively short and identifiable timeframe, which more easily limited the number of eligible claims. In addition, the major categories of injuries resulting from September 11th are different from those that will arise

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[40] *Id.*
[41] *Id.* at 1378.
[42] *Id.* at 1370.
[43] *Id.* at 1376.
[44] *Id.*
[45] Linda S. Mullenix, *The Future of Tort Reform: Possible Lessons from the World Trade Center Victim Compensation Fund*, 53 EMORY L.J. 1315, 1347 (2004).
[46] *Id.*
[47] Effron, *supra* note 30, at 205.

from climate change impacts. Remember that the VCF did not compensate victims for property damage or business loss, claims which are likely to be substantial with regards to climate change impacts. Nonetheless, the success of the VCF lays a foundation upon which to structure a potential compensation fund as an alternative to mass climate change tort litigation.

B. The National Childhood Vaccine Injury Act

When it was established, the September 11th VCF was both hailed and criticized as revolutionary.[48] A quick look at recent history, however, shows that compensation funds have been utilized in a variety of other capacities in the past. A prime example is the National Childhood Vaccine Injury Act (NCVIA). In 1986, Congress enacted the NCVIA in response to the threat of litigation in an effort to guarantee the supply of childhood vaccines to the American public.[49] Under the NCVIA, a National Vaccine Injury Compensation Program was established as a "mandatory no-fault, non-tort compensation scheme for individuals injured by routinely administered childhood vaccines."[50] The no-fault compensation program, which resulted in an expeditious and flexible alternative to the tort system, was funded by an excise tax on each dose of vaccine.[51]

In the interest of creating a standardized method for determining eligibility under the compensation fund, NCVIA devised a Vaccine Injury Table to define "exactly which injuries appearing within a given period of time would be compensable."[52] Although a claimant did not have to establish causation, an injured person would need to show by a preponderance of the evidence that he or she actually received a vaccine identified in the Vaccine Injury Table. Unlike the VCF, NCVIA claims were to be administered through the courts. To process a claim, a claimant first had to file a petition with the U.S. District Court either within the jurisdiction where the claimant resided or where the injury occurred.[53] The petition for compensation had to contain an affidavit and supporting documentation showing that the claimant received one of the vaccines included on the Vaccine Injury Table.[54] Upon receipt of the petition, the district court judge was required to issue an opinion regarding whether the claimant was entitled to compensation "as expeditiously as practicable but no later than 240 days."[55]

Following the issuance of the district court's judgment, the claimant could either accept or reject the court's determination.[56] Like the VCF, if the claimant chose to waive an award from the compensation fund, she had the option to pursue a civil action based on a negligence theory.[57] If the claimant accepted the court's determination and received

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[48] *See* Harris, *supra* note 32, at 1375.
[49] Mullenix & Stewart, *supra* note 31, at 133.
[50] *Id.* (quoting Mary Beth Neraas, Comment, *The National Childhood Vaccine Injury Act of 1986: A Solution to the Vaccine Liability Crisis?*, 63 WASH. L. REV. 149, 156 (1988)).
[51] Mullenix & Stewart, *supra* note 31, at 133-34.
[52] *Id.* at 134.
[53] *Id.*
[54] *Id.* at 135.
[55] 42 U.S.C. § 300aa-12(d)(3)(A)(ii).
[56] Mullenix & Stewart, *supra* note 31, at 135.
[57] *Id.*

compensation, she was prohibited from bringing a subsequent civil action.[58] Damages for actual and projected pain and suffering and emotional distress were capped at $250,000, and no damages were awarded for non-economic losses.[59]

The unique circumstances surrounding the issue of vaccine injuries made the use of a compensation fund particularly effective. For example, because the seven most-commonly administered vaccines had been used for decades, "it was possible to fairly predict the number of injuries that would result."[60] At least one commentator has characterized the NCVIA as a superior alternative to compensation through traditional mass tort litigation:

> First, the Act provides a necessary alternative to the tort recovery system which proved unworkable because of courts' inconsistent and unpredictable application of the duty to warn standard to vaccine manufacturers. Second, the Act provides a fair compensation scheme to injured vaccinees because it requires society as a whole to bear the cost of inevitable vaccine injuries. Third, the Act created a more stable litigation climate for vaccine manufacturers and thus decreases significantly the threat of vaccine shortages.[61]

Similar to claims arising from climate change impacts, claims for compensation under the NCVIA are not specifically tied to a single event; rather, injuries are expected to occur on an ongoing basis, as long as vaccines are administered. However, identifying and determining eligibility for compensation would be quite different. Unlike with vaccines, uncertainty is prevalent with respect to climate change. Devising a concrete and specific "Injury Table" for climate change victims would be particularly challenging. In addition, predicting the number of injured parties from climate change impacts would not be as easy as with the NCVIA.

C. The Price-Anderson Act

An even earlier example of an industry-protective, no-fault compensation fund can be found in the Price-Anderson Act of 1957. Like the ATSSSA and NCVIA, Congress enacted the Price-Anderson Act to serve a dual purpose: (1) to encourage the entry of private industry into the field of nuclear energy while (2) ensuring that "funds would be available to compensate injuries and damages sustained by the public in the event of a nuclear accident."[62] As Professor Mullenix highlights, "[t]he Price-Anderson Act was one of the first legislative responses to perceived deficiencies in the traditional tort system dealing with mass tort liability."[63]

Under the Price-Anderson Act, the determination of eligibility focused on whether the nuclear accident giving rise to the claim was an "extraordinary nuclear occurrence," as defined by the Nuclear Regulatory Commission.[64] Plaintiffs had the burden of proving that

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[58] *Id.*
[59] *Id.*
[60] *Id.*
[61] *Id.* at 136.
[62] *Id.* at 138.
[63] *Id.* at 140.
[64] *Id.* at 139.

their "radiation-induced injuries resulted from a nuclear power plant accident,"[65] and the Act shielded individual manufacturers from liability for negligence.[66] Moreover, claimants indemnified by the Price-Anderson Act fund were required to waive all of their legal defenses in the event of a substantial nuclear accident.[67] Compared to the ATSSSA and NCVIA, eligibility was less predictable under the Price-Anderson Act because claims of "nuclear occurrences" were subject to a determination of severity. A similar determination of "severity" would necessarily be part of assessing climate change impacts.

The funds created under ATSSSA, NCVIA, and the Price-Anderson Act do not comprise an exhaustive list of compensation funds that have been utilized as alternatives to mass tort litigation. In fact, the examples of such funds are numerous.[68] Although some compensation funds have been more successful than others, these examples lend support to arguments that an effective fund for compensating climate change victims could be established to supplement remedies available through the U.S. legal system.

IV. Integrating Compensation Funds into Climate Change Discussions: A Proposal for a Climate Compensation Fund

While the judicial, legislative, and executive branches of government struggle with how best to deal with the unique challenges of climate change, significant impacts are already being observed. The magnitude and scientific complexity of climate change suggests that traditional tort litigation might be an imperfect fit for compensating victims. Consequently, law and policymakers should look to viable alternatives. This section offers a suggested starting point for designing an effective Climate Compensation Fund (CCF). The proposal is not intended to be a fully matured blueprint for the fund, but rather highlights some key elements and identifies some important advantages and disadvantages.

A. Suggested Elements of a CCF

As evidenced by the ATSSSA, the NCVIA, and the Price-Anderson Act, compensation funds are not a new concept. A CCF should build upon this historical foundation, in general mirroring the basic structure of the existing funds. A CCF should be designed to provide a no-fault compensation scheme with the dual purpose of (1) ensuring fair compensation to climate change victims and (2) shielding fossil fuel-dependent industries from crushing liability and possible insolvency. It is recommended that the tort option be preserved so victims are not entirely deprived of the ability to have "their day in court." Receiving compensation from the fund, however, should be considered as a waiver of the claimants' right to sue in a civil action.

A CCF should also limit eligibility for compensation to certain kinds of injuries – i.e. those that are "readily identifiable." Such "readily identifiable" injuries should be subject to a determination of severity, similar to the findings required under the Price-Anderson Act. At least initially, a CCF would probably not be capable of handling claims involving extreme catastrophes nor addressing diffuse climate change effects that are not clearly identifiable.

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[65] *Id.*
[66] *Id.* at 140.
[67] *Id.*
[68] *See generally id.*

Rather, a CCF should focus on "mid-range" impacts that are significant and readily identifiable, but not catastrophic. Professor Daniel Farber identifies three major categories of impacts that fit within this "mid-range" of impacts.[69]

The first category of claims would be related to impacts involving natural systems that react particularly strongly to temperature changes, including coral reefs, glaciers, tundra, and permafrost.[70] The second category of eligible claims could be those that involve sea level rise, as it is one of the most predictable consequences of climate change.[71] Finally, a third category of claims could involve impacts associated with water stress, like drought and flooding.[72] As Professor Farber asserts, "[i]n most instances, rather than turning on the nuances of climate change models, these [three] changes seem quite predictable."[73] Compensation for claims within these three major categories is an effective starting point for the compensation fund, but as Professor Farber also acknowledges, "this, in itself, is a large universe and likely to grow as our knowledge of climate change improves."[74]

Funding for the CCF remains a challenging factor. As a starting point, however, the CCF could emphasize a "polluter pays" principle in which fossil fuel-dependent industries contribute to the fund as an incentive to limit liability. Furthermore, should such industries prove not to be in compliance with the EPA's future regulation of greenhouse gases under the Clean Air Act, penalties for violations could be payable into the fund.

The enabling legislation that establishes the CCF should create an administrative body or commission tasked with overseeing the CCF and determining eligibility. This administrative body could include scientists who might be more equipped to deal with the causation realities of climate change than judges and lawyers. Calculation of appropriate compensation is also a daunting task, but Congress can use models from the ATSSSA, the NCVIA, and the Price-Anderson Act to develop a specific calculation capable of standardized assessment. When defining "compensable harm" Congress should settle on a definition that "minimize[s] the problems of proof and proximate cause that plague toxic tort cases."[75] The definition "should also be broad enough to provide significant relief to victims, but not so all encompassing as to create overwhelming financial burdens and thereby distract from climate change mitigation or other desirable social goals."[76] In addition, just as under the September 11th VCF, awards should be adjusted for amounts received from all collateral sources except charities. This would be useful when individuals are harmed by a natural disaster because compensation in those instances might be more appropriate from a disaster relief fund.

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[69] Farber, *supra* note 4, at 1610.
[70] *Id.* at 1610.
[71] *Id.* at 1611.
[72] *Id.* at 1612.
[73] *Id.* at 1613.
[74] *Id.* at 1610.
[75] *Id.* at 1647.
[76] *Id.*

B. Advantages of a CCF

Although the proposed CCF outlined above is by no means a perfect method for tackling climate change compensation, such a proposal does have several advantages. First, a CCF incorporates important environmental justice principles. All eligible injured parties would be entitled to compensation, not just those that have the time and money to afford good lawyers and prolonged litigation. As seen in the September 11th VCF, claims from a compensation fund could be determined and paid expeditiously.

Second, a no-fault compensation scheme might be more compatible with the causation complexities inherent in the climate change debate. The complexity and global scale of climate change make it extremely difficult to pinpoint responsibility. To some degree, all humans, especially those living in a consumer-based society like the United States, are responsible for climate change. Although some actors are undoubtedly more responsible than others, a no-fault scheme minimizes having to draw these fuzzy lines. Similarly, including scientists on a compensation commission would probably yield more accurate determinations than if such decisions are left primarily to the judiciary, because scientists have specialized expertise that is unique to their fields.

Third, offering protection to vulnerable industries is not only consistent with the establishment of past compensation funds, it is also consistent with current national policy. Climate change legislation in the House and Senate has continuously morphed in response to industry interests, indicating Congress's concern regarding impacts to fossil fuel-dependent industries.

Fourth, incorporating a "polluter pays" principle for initial funding of the CCF could provide an effective deterrence function. If payment into the fund is linked to greenhouse gas emissions, fossil fuel-dependent industries have an incentive to minimize emissions. Like with Price-Anderson Act, a CCF could encourage fossil fuel dependent industries to invest in alternative fuels because they would be protected financially from large judgments against them.

Finally, the CCF provides a solid alternative should mass climate tort litigation be deemed unviable, either because claims are dismissed on procedural standing and political question grounds, whether claimants are unable to prove the necessary elements of a tort claim (duty, breach, causation, and damages), or because national legislation or executive decisions preempt mass climate change tort litigation.

C. Addressing the Shortcomings of a CCF

A proper evaluation of a proposed CCF would be incomplete without an analysis of the suggested plan's shortcomings. To begin, some may argue that because heavy greenhouse gas emitters are not being held financially responsible for their substantial contribution to climate change, a no-fault compensation scheme lacks the necessary element of deterrence.[77] In other words, without the threat of substantial liability to victims, fossil

[77] *See* Harris, *supra* note 32, at 1401 (explaining that no-fault compensation plans are criticized for a perceived lack of deterrence).

fuel-dependent industries would lack an incentive to reduce emissions. As noted above, however, the funding structure could be linked to a "polluter pays" principle that could bring a deterrence function into the fund. A similar argument against a no-fault compensation fund is that the theory of corrective justice is not emphasized in such a plan. The preservation of the tort option under the CCF, however, leaves room for addressing corrective justice and deeper moral and ethical principles. Congress should also be wary of an over-inclusive program that detracts from mitigation and adaptation efforts.

Second, those opposing a CCF might argue that the same causation issues that plague climate tort litigation would prove challenging for determinations of eligibility under a compensation fund. This is certainly true, but the types of eligible claims could be narrowly defined, at least initially, to include only "readily identifiable" impacts.

Third, the creation of a CCF is arguably administratively burdensome. Fortunately, compensation funds that were successfully implemented in the past could be used as models for setting up the appropriate infrastructure. Another administrative obstacle to the creation of a CCF is that it would require new legislation to take effect. This is a valid concern because, as evidenced by the recent struggles to pass climate change legislation, passing such legislation may not even be feasible at this time. The Waxman-Markey climate change bill, for example, has stretched well past 1,000 pages in efforts to incorporate compromises for securing votes.[78] The fact that the CCF would limit the liability of greenhouse gas emitters, however, might generate support from influential industry and agriculture groups.

Finally, there are durational issues associated with determining compensation for climate change injuries. In particular, climate change impacts are not limited to a specific event or series of events like the September 11th terrorist attacks. Although it is anticipated that the severity and frequency of significant impacts will increase in the future, it is nearly impossible to predict the number of future claimants and the extent of future damages. These concerns deserve careful consideration, but successful compensation for injury occurrences that are ongoing, like childhood vaccine injuries, offer support for utilizing a fund approach even when injuries are not limited to a short timeframe.

V. Conclusion

While the judicial, legislative, and executive branches of government struggle with how best to deal with the unique challenges of climate change, individuals, groups, and societies across the globe are already being significantly impacted by "unequivocal" climate changes. The magnitude and scientific complexity of climate change suggests that traditional tort litigation might be an imperfect fit for compensating victims; however, because mass climate change jurisprudence is still in flux, dismissing mass tort litigation as effective option for compensation victims of climate change seems premature. Nonetheless, law and policymakers should look to viable alternatives. A CCF may be an effective solution for compensating victims while protecting fossil fuel-dependent industries from crushing

[78] *The House Climate Bill: at 1,428 Pages, Nearly Something for Everyone,* Posting of Amy Boyd to Law and the Environment, http://www.lawandenvironment.com/tags/markey/ (July 2, 2009).

liability. Furthermore, the fact that no-fault compensation funds have been successfully implemented in other contexts supports the proposal's viability.

As climate change victims wait for answers, Professor Daniel Farber summarizes nicely our obligation to develop an effective compensation system:

> In particular, we should support the creation of a system for compensating climate change victims for the costs of adaptation, to the extent that our excessive past emissions and those of other developed countries have created the need for adaptation. It is no excuse that such a system would be expensive or imperfect.[79]

[79] Daniel A. Farber, *The Case for Climate Compensation: Justice for Climate Change Victims in a Complex World*, 2008 UTAH L. REV. 377, 413 (2008).

Hanging in the Coastal Balance: How do Coastal Communities Choose Between Economic Growth and Protecting their Citizens?

S. Beaux Jones[1]

I. Introduction

Municipalities are often faced with tough land use planning questions where they must make a decision between what is best for the health and safety of their community and what is in their community's best economic interest. These decisions arise with a variety of property, from commercial to residential, and must take into account both the risks and benefits of developing that property. One such situation was recently brought to the attention of the Louisiana Sea Grant Law & Policy Program (SGLPP). The SGLPP has been a component of the Marine Advisory Services of the Louisiana Sea Grant College Program for nearly forty years. Its mission is to provide timely and relevant legal information and services for the many users of Louisiana's coastal lands and waters, including state and local governments; coastal businesses, including commercial fishers, recreational fishers, and non-governmental organizations; and the general public.

Developers in a coastal parish (the Louisiana equivalent to a county) hoped to build a new subdivision and business park, complete with an inland boat slip and marina connecting the property to the Gulf Intracoastal Waterway.[2] In order to begin construction, the developers first had to obtain permission from the parish planning and zoning committee whose recommendation would then be passed to the parish council for final approval or remand.

From one perspective, the development would bring new uses to a previously barren piece

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[2] The Gulf Intracoastal Waterway is a navigable inland waterway running approximately from Carrabelle, Florida to Brownsville, Texas.

of land, encouraging growth in the area and increasing the parish's revenue from property taxes. From another perspective, the new development was a recipe for disaster. The undeveloped property in question sits just between a neighborhood of about six hundred residents and the banks of the Gulf Intracoastal Waterway. This neighborhood, unlike most of the parish, was fortunate enough to suffer very little flood damage during recent hurricanes. The proposed development's boat slip, however, would cut through a natural levee, which serves as an important flood control structure for the neighborhood, and move the water dangerously close to homes and an elementary school. Fearing the worst, the local residents started a petition in opposition, eventually gaining over six hundred signatures, and created a non-profit community organization to provide a voice for the local homeowners.

The Parish government was faced with an all too familiar situation in Louisiana: should they allow the development and bring money, jobs, and homes into their community, or should they deny the development in the name of safety? Following Hurricanes Katrina, Rita, Ike, and Gustav, such decisions have become much more complex for many coastal communities. These storms wreaked havoc on not only the floodwalls and homes of coastal Louisiana, but also on the area's economic viability. The mere possibility of another major hurricane each year has proven to be enough to discourage businesses and developers from investing money in coastal communities. Two competing public policies have emerged from this situation. On the one hand, citizens in these communities want new businesses, new development, and new jobs. On the other hand, the flood lines around their neighborhoods remind them that without adequate protection, one storm could make new development an afterthought. If the municipalities fail to consider all their decisions through the lens of safety, they run the risk of being unprepared for the torrents of the Gulf of Mexico. If, however, in the name of safety, the municipalities stall development and investment too much, the coastal communities may be safer from the immediate impact of hurricanes, but they will slowly whither away from lack of jobs and investment.

As if trying to strike a balance between public safety and the community's economic well-being was not hard enough, the Parish Government had one more factor to juggle: the threat of litigation. The legal counsel for the Parish Government was concerned that if they took steps that prevented some development of the property, even in the interest of safety, such actions could amount to a government taking of private property. The Parish had no intentions of physically appropriating the property, but regulation of private property, if extensive enough, can require the payment of just compensation. The Parish Council was therefore forced to choose between the immediate costs of litigation, the immediate need for economic development, the possible future costs of flooding, and, as is often the case with officials elected on the local level, the political costs of whatever decision is made.

One thing that coastal communities in Louisiana and those around most of the U.S. coast have in common is that hurricanes are always in the forefront of any public discussion. Unexpectedly, however, the Parish Council overturned the decision of the Parish Planning and Zoning Committee, marking the first time this particular Parish had ever overturned a Commission order. After the meeting, members of the Parish Council provided some insight into the decision-making process. The Council allowed the proposed development to advance, not because of any evidence absolving their fears of flooding, but because the Council feared that denying the developers a permit would be viewed as a regulatory taking

requiring the payment of just compensation, most likely following costly litigation.[3] Following the Parish Council's decision, the community organization contacted SGLPP seeking to better understand the Council's lawsuit fears and whether those fears were warranted.

To hold the Parish Council liable for denying a development permit, a potential claimant must overcome two large legal obstacles. First, Louisiana courts have historically been reluctant to interfere with the decisions of Parish governing authorities. The powers of such authorities are not absolute,[4] but they are typically free to operate without judicial review. Courts will usually not interfere with the Parish authorities' discretion except in cases of fraud, oppression, or gross abuse of power.[5]

Second, the claimant is likely to be unsuccessful in any litigation based on a theory of regulatory takings. The Louisiana and the Federal Constitutions both contain a "takings clause" prohibiting government seizure of private property for public use without just compensation. As will be discussed below, preventing development due to fear of potential flooding would likely fall within the Parish government's police powers and not require just compensation to the property owners under either the federal or state takings doctrine.

II. Regulatory Takings Under Federal Law

The "takings clause" of the Fifth Amendment of the U.S. Constitution states, "nor shall private property be taken for public use without just compensation." The text suggests that the government may not physically appropriate private property without paying the owner just compensation. The U.S. Supreme Court, however, has determined that government takings can occur though means other than physical occupation. In 1922 in *Pennsylvania Coal Co. v. Mahon*, the Court stated that a taking can result if government regulation goes "too far."[6] These types of government takings are known as "regulatory takings." Unfortunately, although the Court in *Pennsylvania Coal* set the bar for a regulatory taking, there is no set formula in place to determine when a regulation goes too far.[7]

Despite the absence of a set formula, categories of compensable regulatory takings have emerged. Over the years, courts have established that landowners are entitled to compensation when (1) regulations result in some type of physical invasion and when (2) regulations deprive the owner of all economically beneficial use of the property.

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[3] Newspaper interview with a Parish Council member, May 12, 2009. The title of the newspaper and the identity of the council member have been intentionally omitted to protect the identity of the Parish. Please contact the author for the exact citation.

[4] LA. REV. STAT. § 33:1236

[5] *See,* Torrance v. Caddo Parish Police Jury, 119 So. 2d 617 (La. 1960); Jefferies v. Police Jury of Rapides Parish, 53 So. 2d 157 (La. 1951); Altom v. Mayor of Village Lanesville, 143 So. 77 (La. 1932); Sheridan v. Washington Parish Police Jury, 63 So. 2d 209 (La. 1953).

[6] 260 U.S. 393 (1922).

[7] Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1015 (1992).

A. Physical Invasions

If the regulation requires a physical invasion of the property, the landowner is entitled to compensation. For example, in *Loretto v. Teleprompter Manhattan CATV Corp.,* the Supreme Court determined that New York's law requiring landlords to allow television cable companies to place cable facilities on the outside of their apartment buildings constituted a taking.[8] Because application of the Parish zoning regulations and the Planning Council's decision would not have resulted in a physical invasion of the developers' property, this rule is inapplicable to the current situation.

B. "Total Takings"

In the landmark case, *Lucas v. South Carolina Coastal Council*, the Supreme Court found "that when the owner of real property has been called upon to sacrifice *all* economically beneficial uses in the name of the common good, that is, to leave his property economically idle, he has suffered a taking."[9] The key word in that statement is *all.* The Supreme Court has been hesitant to grant a regulatory taking when the property in question maintains a "significant development value" and has not been left "economically idle."[10]

Returning again to the Parish Council's situation, the denial of the developers' request to construct the proposed boat slip would not deprive the owners of all the property's economically beneficial uses. Under the parish's zoning ordinances, the owners could still develop the property into a subdivision, a business park, or any other development that would not endanger their neighbors' property.

Furthermore, even if the denial deprived the developer of all economically beneficial uses, the majority in *Lucas* indicated that compensation was not required if the government was applying "background principles of nuisance and common law."[11] Justice Kennedy, in his concurrence, recognized that coastal property may present unique concerns and, due to the fragile nature of the land, a state may be able to go further in regulating its development.[12]

Although the property does not technically fall within Louisiana's coastal zone,[13] it is very close. However, *Lucas* does not explicitly equate "coastal property" with a state-delineated coastal zone, so a court could choose to apply Justice Kennedy's reasoning and designate this land as "fragile." Such a designation would give the government more freedom to regulate the property. Justice Kennedy does not explain in detail what this designation would allow the state to do, but allowing them the flexibility to regulate property in a way that best protects its citizens would seem to be a logical interpretation.

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[8] 458 U.S. 419 (1982).
[9] *Lucas,* 505 U.S. at 1019.
[10] *Palazzolo v. Rhode Island*, 606 U.S. 606 (2001)
[11] *Lucas*, 505 U.S. at 1030.
[12] *Id.* at 1035
[13] The proposed development lies just outside of the Louisiana coastal zone as outlined by La. Rev. Stat. 49:214.24.

Developers often argue that the "total takings" theory of *Lucas* is too harsh. For instance, if a government regulation diminishes a property owner's land value by 95%, she recovers nothing. But another 5% of lost value and the landowner recovers the land's full value. It is an all or nothing situation. Justice Scalia, who wrote the majority opinion in *Lucas*, points out that this argument is not entirely true, however. While takings cases are "full of these 'all or nothing' situations," the *Lucas* categorical formulation is not dispositive.[14] As discussed in the next section, a regulation that results in less than 100% loss of value may still result in a compensable regulatory taking.

C. Non-Categorical Regulatory Takings

If the regulation does not result in a physical invasion or a total loss in value, then the property owners' claim is to be evaluated utilizing the three-part test delineated by the Supreme Court in *Penn Central Transportation Company v. City of New York*.[15] The *Penn Central* test is essentially a balancing test that instructs courts to weigh the economic impact on the property owner against the societal benefit of the regulation.

Under the *Penn Central* test, courts are instructed to consider: (1) the character of the government action, (2) the economic impact on the claimant, and (3) the extent to which the government action has interfered with distinct investment-backed expectations.[16] With respect to the character of the government action, "a 'taking' may more readily be found when the interference with property can be characterized as a physical invasion by government than when interference arises from some public program adjusting the benefits and burdens of economic life to promote the common good."[17] Considering once again the Parish Council's decision, the government action would be the denial of the right to build the boat slip. Not only would no physical invasion occur, but also, the primary reason for denial is to protect the surrounding neighborhoods from flood danger. As the Supreme Court stated, "government hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law."[18]

Turning to the second factor, most government regulation has some impact on property values. There is little doubt that the developers would suffer an economic impact if they were unable to build the slip, but it is the level of that impact that matters. As mentioned above, the developers would still have numerous economically lucrative options for developing the land even without a permit to build a boat slip. When evaluating taking cases, courts do not "divide a single parcel into discrete segments and attempt to determine whether rights in a particular segment have been entirely abrogated."[19] Rather courts focus "on the character of the action and on the nature and extent of the interference with the rights in the parcel as a whole…"[20]

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[14] *Lucas*, at 1019.
[15] 438 U.S. 104 (1978).
[16] *Id.* at 124.
[17] *Id.*
[18] *Pennsylvania Coal Co.,* 260 U.S. at 413
[19] *Penn Central*, 438 U.S. at 130
[20] *Id.* at 130.

If the Parish Council denied the developer permission to build the boat slip, the property's value may be diminished. However, the Supreme Court has uniformly rejected "the proposition that diminution in property value, standing alone, can establish a "taking."[21] In *Keystone Bituminous Coal Association v. DeBendictis*, the Supreme Court rejected a takings claim by a coal company who asserted that a law requiring 50% of the coal under structures to remain intact was in effect a regulatory taking.[22] Each property has a bundle of rights and the right of the company to mine all of the coal in the ground was merely one "strand" from that bundle.[23] To be a regulatory taking, the regulation must interfere with the entire bundle of property rights.[24] In the Louisiana Parish's situation, the right to build a boat slip on the undeveloped property would be one strand in the larger bundle of rights associated with the property; while the property value would be impacted, "mere diminution in the value of property, however serious, is insufficient to demonstrate a taking."[25]

The third factor, interference with investment-back expectations, seeks to determine the level of harm that government regulation would cause to the expectations of the developer. The Supreme Court has been clear in showing that the investment-backed expectations test is important in determining the fairness of the taking, but they have failed to provide an exact definition.[26] The question in *Penn Central* was not whether the developer had investment-backed expectations, but "*the extent to which* the regulation has interfered with the expectations."[27] The Court in *Penn Central* found that the investment-backed expectations had not been sufficiently frustrated because the developers could simply shift their desire to build elsewhere in the city and they still had an opportunity to not only turn a profit but to also obtain a reasonable return on their investment.[28]

The developers in Louisiana invested money in the project with the expectation of building a profitable subdivision on their property. Their expectations included a boat slip, but considering the situation in light of the *Penn Central* decision, even without a boat slip they still have a sufficient opportunity to profit from the venture. Furthermore, there may be

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[21] *Id.* at 131.
[22] 480 U.S. 470 (1987).
[23] *Id.* at 480.
[24] *Id.*
[25] Concrete Pipe and Products Inc. of California v. Construction Laborers Pension Trust for Southern California, 508 U.S. 602 (1993). *See*, *e.g.,* Village of Euclid v. Ambler Realty Co*.,* 272 U.S. 365, 384 (1926) (approximately 75% diminution in value); Hadacheck v. Sebastian*,* 239 U.S. 394, 405 (1915) (92.5% diminution).
[26] *See, e.g.*, Ruckelshaus v. Monsanto, 467 U.S. 986, 1005 (1984) (lack of reasonable investment-backed expectations defeated takings claim); Eastern Enterprises v. Apfel, 524 U.S. 498, 532-35 (1998) (plurality upholds plaintiff's takings claim largely on investment-back expectations grounds); Alabama Dept. of Transportation v. Land Energy, Ltd*.,* 886 So. 2d 787, 799 (Ala. 2004) ("The specific terminology 'distinct investment-backed expectations' originates in *Penn Central*, but is not defined in that opinion or any subsequent decision of the United States Supreme Court relating to regulatory takings.").
[27] *Penn Central*, 438 U.S. at 124 (emphasis added).
[28] *Id.* at 124.

opportunities to build the development with a boat slip, if the slip is relocated to avoid breaching the levee.

Finally, a court would likely recognize that the regulation of the property was to protect the public. The harm to the developer would pale in comparison to the potential harm and loss to the community, depending, of course, on scientific data that shows the likelihood of an increased risk of flooding. Common sense, however, suggests that breaching the natural levee would increase the risk of flooding for hundreds of citizens, including those that move into the new subdivision. Furthermore, a public elementary school sits approximately 600 feet from the proposed slip. If it were flooded and damaged, a valuable resource for the community's children would be lost and the Parish taxpayers would eventually have to pay for its repair. In *Goldblatt v. Hempstead*, the U.S. Supreme Court addressed the issue of whether a town ordinance regulating dredging and pit excavating was a valid police regulation, and found that government action otherwise constituting a taking may not be considered a taking if it promoted a substantial public purpose.[29] The Parish Council's denial of the Parish Planning and Zoning Commission's permission to develop in order to protect the health and wellbeing of the citizens in the adjacent neighborhood should be viewed as effectuating a substantial public purpose.

III. Regulatory Takings Under Louisiana Law

The Louisiana Constitution includes a takings clause similar to that found in the U.S. Constitution, with the addition of some important language. Article 1, § 4(B)(1) of the Louisiana Constitution states that "[p]roperty shall not be taken or *damaged* by the state or its political subdivisions except for public purposes and with just compensation paid to the owner or into court for his benefit."[30] The article goes on to enumerate a number of public purposes, including "the removal of a threat to public health or safety caused by existing use or disuse of the property." Because the Louisiana Constitution prohibits the government from damaging private property without compensating the landowner, the Louisiana state law analysis of takings claims differs slightly from U.S. Constitutional analysis. In Louisiana, a taking occurs when the "public authority acquires the right of ownership or one of its recognized dismemberments," and the property is "damaged when the action of the public authority results in the diminution of the value of the property."[31] The distinction between a taking and a damaging clearly exists in the law, however, Louisiana courts rarely apply this strict application and typically resolve such claims more in line with federal law.

A. Takings

If a court followed a strict application of the Louisiana takings provision (which is rarely done), the developer's claim against the Parish Council would be quickly defeated. The Parish Council's regulation of the proposed development is extremely unlikely to amount to their acquiring "the right of ownership or one of its recognized dismemberments." By failing

[29] 369 U.S. 590 (1962).
[30] Emphasis added.
[31] Columbia Gulf Transmission Co. v. Hoyt, 215 So. 2d 114 (La. 1968).

to approve the exact specifications of the developer's plans, the Parish Council would obtain no more rights to the property than previously retained. The only possible detriment to the developer's interest would be a diminution in the value of the property, which constitutes a "damaging" under Louisiana law.

B. Damaging

According to Professor John Costonis, there are roughly six judicially accepted elements to a damaging claim in Louisiana.[32] These elements are: (1) the governmental activity causing the injury must be a deliberate or necessary consequence of an activity serving the public purpose;[33] (2) the act producing the injury must be legislatively authorized and advance a public purpose;[34] (3) the injury to the claimant's property rights must be the diminution in the value caused by the public project;[35] (4) damaging actions are subject to a two-year prescription period as opposed to three-year period with takings claims;[36] (5) the alleged damages must be *special* to the claimant rather than general to the community;[37] and (6) the government will not be held liable if the project or activity is a "reasonable exercise of the police power."[38]

If the Parish Council denied the developer an opportunity to construct the proposed boat slip, a damaging claim may potentially fulfill at least five of the six elements. If the denial was given to protect the citizens from flooding that would likely fulfill the first two elements, and the diminution in the value of the property would be a special injury caused by the Parish Council's decision. The sixth element, however, would be a clear hindrance in the developer's lawsuit. As long as the Parish Council denied the rights to the boat slip in order to protect the citizens living to the north and to the west, the denial would likely qualify as a reasonable exercise of their police power, which is "the power of the state to place restraints on the personal freedom and property rights of persons for protection of the public safety, health, and morals or the promotion of the public convenience and general prosperity."[39] Preventing the increased risk of flooding for hundreds of residents within the city limits would likely be well within the limits of the Parish Council's police power.

C. Most Likely Application of the Louisiana Takings and Damaging Law

In Louisiana, courts typically distinguish between a taking and a damaging only when the distinction forms the "dispositive issue" in the case. The seminal case on this issue in

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[32] *See,* John J. Costonis, *Avenal v. State: Takings and Damagings in Louisiana*, 65 LA. L. REV. 1015, 1024-28 (2005). Costonis claims there were eight prior to the *Avenal* decision.
[33] *Angelle v. State*, 34 So. 2d 321, 323 (La. 1948).
[34] *See, McMahon v. St. Louis & Ark. & Texas R.R. Co.,* So. 640, 641 (La. 1889); Jarnagin v. State Highway Comm'n, 5 So. 2d 660, 664 (La. App. 2d Cir. 1942); Mathis v. City of DeRidder, 599 So. 2d 378, 391 (La. App. 3d Cir. 1992).
[35] *See* Reymond v. State, 231 So. 2d 375, 384-85 (La. 1970); *Jarnagin*, 5 So. 2d at 663.
[36] LA. REV. STAT. § 9:5624.
[37] *See, e.g.,* Constance v. State, 626 So. 2d 1151, 1156 (La. 1993); *Reymond*, 231 So. 2d at 383-84.
[38] La. Const. art. 1, § 4(A).
[39] BLACKS LAW DICTIONARY, 1156 (6th ed. 1990).

Louisiana is *Avenal v. State of Louisiana and the Department of Natural Resources.*[40] In *Avenal*, oyster farmers filed suit against the state alleging that the Caernarvon Freshwater Diversion project harmed their oyster lease to such an extent that it was a taking or a damaging. The court, however, never reached the constitutional issue about whether a taking or damaging had occurred because there was a question as to whether the statute of limitations had run. In Louisiana, a takings claim carries with it a three-year prescription period (meaning that there is no longer a right to sue on that claim after three years), but a damaging claim only has a two-year period.[41] The class action claim in *Avenal* was filed after the damaging prescription time, but before the taking prescription time, so the classification of the claim as a taking or damaging was the dispositive issue (the issue on which the case was decided). Because the government had not acquired an ownership right to the property and merely diminished its value, the *Avenal* court classified the claim as a damaging and, since more than two years had gone by, it disposed of the case.[42]

If a court found the distinction between a taking and a damaging suit formed the dispositive issue in the Parish Council's situation, as was the case in *Avenal*, then the court would likely apply the aforementioned strict analysis. However, since there appears to be no such reason to make the distinction, the court would likely treat the claim in much the same way as a federal takings claim.[43] In accordance with *Avenal,* the court would probably apply the three-prong takings evaluation from *State v. Chambers Investment Co.*, a case involving takings claims related to the construction of Interstate 49 through Louisiana.[44] Under *Chambers*, courts must first determine whether the claimant has a property right that has been affected.[45] As the developers seeking to build a boat slip own the property in question, they would undoubtedly be able to satisfy this element of their claim.

Once a legitimate property right has been determined, the courts must consider whether the property has been taken or damaged.[46] Most Louisiana courts treat this issue as they would a federal takings claim,[47] except that when applying the *Penn Central* three-prong

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[40] 886 So. 2d 1085 (La. 2004).
[41] LA. REV. STAT. § 9:5624.
[42] *Avenal*, 886 So. 2d at 1109.
[43] *See, e.g.*, Angelle v. State, 34 So. 2d 321, 324-25 (La. 1948); Louisiana Seafood Mgmt. Council v. Louisiana Wildlife and Fisheries Comm'n, 715 So. 2d 387, 392 (La. 1998); Layne v. City of Mandeville, 633 So. 2d 608, 611-12 (La. App. 1st Cir. 1993); Annison v. Hoover, 517 So. 2d 420, 423 (La. App. 1st Cir. 1987); Standard Materials, Inc. v. City of Slidell, 700 So. 2d 975, 983-84 (La. App. 1st Cir. 1997). It is not uncommon for Louisiana courts addressing Art. 1, § 4 takings or damagings issues to cite federal authority in support of their holdings. For example, a state highway plan that blocked access to the developer's subdivision was deemed a taking in *Rivet v. State*, 635 So. 2d 295, 297 (La. App. 5th Cir.). Offered in support of this holding was the statement in *Lucas v. South Carolina Coastal Council* that when state activity causes a landowner "to sacrifice all economically beneficial uses in the name of the common good, that is, to leave his property economically idle, he has suffered a taking."
[44] 595 So. 2d 598, 603 (1992).
[45] *Id.*
[46] *Id.*
[47] In the case of *Annison v. Hoover,* 517 So. 2d 420, 423 (La. App. 1st Cir. 1987), instead of engaging in a more "Louisiana" oriented discussion, the court applied the standard from the federal case *First*

test, Louisiana courts have stated "the [property owner's] 'distinct investment-backed expectations' prong is irrelevant to the question of whether a taking has occurred under Louisiana law."[48]

Finally, if the court determined that there has been a taking or a damaging, they must determine whether it was for a public purpose.[49] As previously mentioned, an act undertaken by the parish government for the health and safety of the citizens would be for a public purpose, thus insulating the Parish Council from the requirement to pay just compensation.

IV. Conclusion

While the exact analysis a court would apply to the Parish Council's denial of the boat slip permit is unknown, one thing is certain. The court will be forced to engage in a balancing test, weighing the loss of the developers against the interests of the citizens who may be harmed by flood damage. Most likely, the possibility of increasing the flood risk for hundreds of citizens would outweigh the partial economic loss to the developers.

Fortunately, this particular situation did not result in litigation. Through their tireless efforts, the community organization raised enough concern in the Parish government and in the community at large to bring all parties to the bargaining table. Through a negotiation process, the community organization, the Parish government, and the developers came to an agreement. The developers agreed to build the entire subdivision to a suitable height, the Parish (with the developers help) agreed to build a levee system surrounding the subdivision, which would provide some protection to the adjacent neighborhoods, and the proposed boat slip would be built outside of the levee system. Finally, both the Parish and the developers have agreed to allow the community organization to closely monitor the entire project.[50]

While in this instance the local government reached a suitable compromise between development and local citizen concerns, other coastal communities are likely to face similar tough decisions and may be unable to so easily resolve the concerns of all parties. At times, communities may be forced to choose development and economic growth over safety. Conversely, there will be times when what seems to be a great business decision is scrapped because it is too risky. The future of coastal communities lies in the balance between protection and development. This balancing act will only increase in complexity and importance as coastal communities face the increasing threats of sea level rise and storm surge as a result of climate change. One thing is for certain, however. In order to maintain

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English Evangelical Lutheran Church of Glendale v. Los Angeles County, Cal., 482 U.S. 304 (1987), which states that partial regulatory takings can be found when "there has been a substantial diminution in value to such an extent that there has been a destruction of a major portion of the property's value."

[48] *Avenal v. State*, 757 So. 2d 1 (La. 1999).

[49] *Chambers Investment Co.*, 595 So. 2d at 603.

[50] Information pertaining to the resolution of this issue was gathered from personal communication with the President of the community organization on January 6, 2010.

their viability, all coastal communities will have to show prudence and make wise land use decisions if they are to survive.

Enhanced Water Quality Protection in Florida: An Analysis of the Regulatory and Practical Significance of an Outstanding Florida Water Designation

Thomas Ankersen, Richard Hamann, Rachel King, Megan Wegerif, John November[1]

I. Introduction

The Outstanding Florida Water (OFW) designation is the highest protection offered to a body of water by the state of Florida and is available only to those waters whose "natural attributes" warrant it. An OFW designation provides that water body with an antidegradation standard for certain activities affecting its water quality. Ordinarily,

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waters in Florida must meet the criteria established by rule for their respective class of water (based on the Florida water body classification system), regardless of existing water quality. Once a water body is designated as an OFW, however, a baseline water quality standard is set based on the ambient water quality of that particular water body. Because the OFW water quality standard may be higher than the rule-based water quality classification criteria, regulated activities that may affect the OFW are subject to additional scrutiny by regulatory agencies. In addition, those activities not necessarily occurring within an OFW, but that may "significantly degrade" an OFW, are subject to heightened scrutiny.

The Florida OFW program is administered by the Florida Department of Environmental Protection (FDEP). Currently, more than 350 waters are designated as OFWs. These are divided into two categories, managed and special waters. Managed OFWs, referred to by FDEP as managed areas, are waters that lie within or adjacent to managed areas such as state parks and aquatic preserves. Special OFWs, or special waters, lie outside of managed areas and are adjacent to non-public lands. Special water designations have proved to be controversial and to date only 41 OFWs have been designated in this manner.

The various activities that are generally subject to OFW standards include those needing Environmental Resource Permits (ERPs), stormwater and wastewater discharge permits, and dock permits. When activities subject to these approvals are proposed in an OFW, the applicant must demonstrate that the activity is "clearly in the public interest," as opposed to the more lenient test of "not contrary to the public interest" that is applicable to all other waters. For activities conducted outside OFWs that may affect OFWs, an applicant must demonstrate that the activity will not "significantly degrade" the OFW. For certain activities, the requirements are more explicit, such as reduced square footage for exempt docks in OFWs and a limitation on the amount of storage in stormwater basins. Buffers and other aspects of best management practices for silviculture are also subject to stricter criteria in OFWs.

The ability of current OFW regulation to fulfill the legislative intent behind the OFW designation remains uncertain. Judicial and administrative case law addressing OFWs provide little clear guidance in interpreting the statutory standards for the issuance of permits in or affecting OFWs, especially the "clearly in the public interest" standard. The effect of the designation on water quality parameters subject to a narrative standard (nutrients), and on water quality parameters that are not currently established by rule (e.g. emerging pathogens of concern) has not been established. The transboundary nature of some OFWs may implicate water quality standard setting in adjacent states, as a matter of federal law. The extent to which Best Management Practices (BMPs) for silviculture operations are sufficient to safeguard OFW water quality may require further research. In addition, the extent to which the OFW statute and rules recognize the ecological role of riparian zones remains in question.

II. The Designation Process

States are authorized by the federal Clean Water Act to adopt their own water quality standards[2] and federal Environmental Protection Agency regulations direct the states to adopt antidegradation policies to prevent violations of those water quality standards.[3] Pursuant to this grant of power, the Florida Legislature enacted the OFW designation in 1982.[4] Section 403.061(27) of the Florida Statutes grants FDEP the power to: "Establish rules which provide for a special category of water bodies within the state, to be referred to as 'Outstanding Florida Waters', which shall be worthy of special protection because of their natural attributes."[5] Moreover, the FDEP may establish stricter rules concerning OFW permits and enforcement.[6] The Florida Environmental Regulation Commission (ERC), a seven-member citizens body appointed by the Governor, has final decision-making authority over the state water quality standards and other environmental standards proposed by the FDEP.[7] Once a water body is designated as an OFW, the antidegradation policy operates to protect the OFW's ambient water quality from being lowered as a result of proposed activities or discharges, with some exceptions.[8] However, only the area of the water that is within the legal boundary of the OFW is given this protection.[9]

There are two types of OFWs: "Managed Areas" and "Special Waters". Most managed area OFWs are within areas that are managed by either the state or federal government.[10] These areas include wildlife refuges, parks, marine sanctuaries, some of the waters within the boundaries of state or national forests, and aquatic preserves.[11] Managed Areas become OFWs through regular rulemaking that involves public notice, a public hearing, and an ERC Hearing.[12] Some Managed Areas OFWs were designated by inclusion in the original legislation.[13] In many circumstances, the waters within these public areas gained this special level of protection because the particular managing agency requested the OFW designation.[14] Since Managed Areas OFWs are part of a larger preserved area, either state or federal, the legal boundaries of the OFW are subsumed within those of the park, preserve, protected area, etc.[15] In most cases, all of the waters within that area are classified as OFW, unless specific areas are exempted by its listing rule.[16] The FDEP is currently planning to update the list of Managed Areas OFWs for the first time in over ten

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[2] 33 U.S.C. §1313 (2008).
[3] 40 C.F.R. §131.12 (2008).
[4] 1982 FLA. LAWS volume I part I, s. 1, ch. 82-79, s. 2, ch. 82-80.
[5] FLA. STAT. §403.061(27) (2008).
[6] *Id.* §403.061(34).
[7] *Id.* §403.804.
[8] FLA. ADMIN. CODE r. 62-4.242(2) (2008).
[9] *Id.* r. 62-302.700.
[10] Personal Communication, Janet Klemm, Outstanding Florida Waters Program, Florida Department of Environmental Protection. *See also*, FLA. ADMIN. CODE r. 62-302.700(9)(a)-(h) (2008).
[11] *Id.*
[12] *Id.* r. 62-302.700(4).
[13] *Id.* r. 62-302.700(8).
[14] Personal Communication, Janet Klemm, *supra* note 10.
[15] *Id. See also*, FLA. ADMIN. CODE, r. 62-302.700(9)(a)-(h) (2008).
[16] Personal Communication, Janet Klemm, *supra* note 10.

years.[17] FDEP has requested comments and suggestions from other state and federal management agencies regarding the update of the rule.[18]

"Special Waters" are designated through the same rulemaking process as Managed Areas OFWs.[19] This process includes the submission of a petition by any person, public workshops, a staff investigation and report, and an ERC public hearing.[20] Specifically regarding Special Waters OFWs, however, the ERC must find that the waters have "exceptional recreational or ecological significance" and that the "environmental, social, and economic benefits of the designation outweigh the environmental, social, and economic costs."[21] The petitions submitted to FDEP contain the legal boundary description of the specific area of water that the petitioner wishes to have designated as an OFW.[22] Unless these boundaries are changed through the petition process, this description serves as the legal boundary for these Special Waters OFWs.[23] Some descriptions are also found within the actual rule itself, as seen with the Florida Keys Special Water listing, in which the OFW boundary extends to Florida's territorial limit.[24]

There are currently over 350 OFWs, most of which are Managed Areas OFWs.[25] The forty-one Special Waters OFWs include all or portions of Florida's 1700 rivers, several lakes and lake chains, several estuarine areas, and the Florida Keys.[26] (See Table 1). Designation of Special Waters OFWs by petition has proved to be controversial in many cases. No data exists on the number of Special Waters petitions that have failed to reached regulatory fruition. The Weekiwachee Riverine and Spring System was the last Special Water designation, which occurred in 2003.[27]

Table 1: The 41 Special Waters OFWs[28]

Apalachicola River	Myakka River (lower part)
Aucilla River	Ochlocknee River
Blackwater River	Oklawaha River
Butler Chain of Lakes	Orange Lake, River Styx, and Cross Creek
Chassahowitzka River System	Perdido River
Chipola River	Rainbow River
Choctawhatchee River	St. Marks River

[17] *Id.*
[18] *Id.*
[19] FLA. ADMIN. CODE, r. 62-302.700(4) (2008).
[20] *Id.* r. 62-302.700(4)-(5).
[21] *Id.* r. 62-302.700(5).
[22] *Id.*
[23] *Id.*
[24] *Id.*
[25] *Id.* r. 62-302.700(9)(a)-(h) (2008).
[26] Florida Department of Protection, *Fact Sheet about Outstanding Florida Waters*, http://www.dep.state.fl.us/WATER/wqssp/ofwfs.htm#designation (last visited Feb. 15, 2010).
[27] FLA. ADMIN. CODE, r. 62-302.700(9)(i)(38) (2008).
[28] Table copied from FDEP, *supra* note 26. The actual rule language designating these water bodies is more complete. For further information, refer to Fla. Admin. Code r. 62-302.700(9)(i).

Clermont Chain of Lakes	Santa Fe River System
Crooked Lake	Sarasota Bay Estuarine System
Crystal River	Shoal River
Econlockhatchee River System	Silver River
Estero Bay Tributaries	Spruce Creek
Florida Keys	Suwanee River
Hillsborough River	Tomoka River
Homosassa River System	Wacissa River
Kingsley Lake & Black Creek (North Fork)	Wakulla River
Lake Disston	Weekiwachee Riverine System
Lake Powell	Wekiva River
Lemon Bay Estuarine System	Wiggins Pass Estuarine System
Little Manatee River	Withlacoochee Riverine and Lake System
Lochloosa Lake	

To begin the OFW rulemaking process, an interested party must submit a petition to FDEP requesting the water be listed in r. 62-302.700(9), Florida Administrative Code.[29] Aside from the practical requirement for a boundary description, there are few guidelines or specific requirements as to what must be included in a petition. Petitions must, however, include information and facts to support a finding of "ecological significance" or "recreational significance" as defined by § 120.54(7), Florida Statutes. Moreover, because there are requirements for the FDEP to follow during the rulemaking process (such as an economic analysis and public workshop), it is in the best interest of the petition to include information that will be useful to FDEP in accomplishing these tasks.

The submission of the petition triggers the OFW rulemaking requirements listed in r. 62-302.700, Florida Administrative Code.[30] If FDEP chooses to go forward with the rulemaking, it must conduct at least one fact-finding workshop in the geographic area that would be most affected by the OFW designation.[31] Prior to this workshop, the FDEP Secretary must notify the local governments and legislators whose jurisdictions include the water body at issue in writing a minimum of 60 days prior to the workshop.[32] In addition, a prominent public notice must be placed in a general circulation newspaper of the affected area at least 60 days prior to the workshop.[33] The FDEP is required to keep a rulemaking record.[34] The record should include the initial petition for rulemaking, an economic impact analysis, and the material covered at the public fact-finding workshop conducted by FDEP.

The FDEP is required to complete an economic impact analysis regarding the likely effects of the OFW designation on growth and development in the surrounding area.[35] The economic impact analysis is drafted based on data gathered at the public workshops, by the

[29] FLA. STAT. §120.54(7) (2008).

[30] FLA. ADMIN. CODE r. 62-302.700(4) (2008). As an overall requirement, the rulemaking procedures listed in Chapter 120, Florida Statutes, must also be followed throughout the process.

[31] *Id.*

[32] *Id.*

[33] *Id.*

[34] FLA. STAT. §120.54(8) (2008).

[35] *Id.*

FDEP's professional staff, and from the petitioner. The FDEP takes a multi-faceted approach when preparing an economic impact assessment. In addition to traditional economic indicators, the FDEP examines ecological values and a variety of sectors within the local economy including recreation and small businesses. The goal of the analysis is to provide the ERC with enough information to weigh the economic costs and benefits of the proposed designation.

The Department's economic impact analysis for the Sarasota Bay and Lemon Bay OFW designations illustrates this multi-faceted approach.[36] While at the time of designation, Sarasota Bay had a high economic value because of recreational fishing[37] and other recreational activities,[38] Lemon Bay had a higher ecological value.[39] In both cases, the Department concluded that the additional protection that an OFW designation would offer to these areas would safeguard their value, which offset the potential costs of compliance to local business and/or industry.[40] The Department did note, however, that the water quality of Sarasota Bay and Lemon Bay prior to designation was relatively high, and that they were unaware of any dischargers who would be adversely affected.[41]

Upon the completion of the workshop and the economic impact statement, the decision as to OFW designation is directed to the Environmental Regulation Commission, as discussed above.[42] To designate a water body as an OFW, the ERC must make two determinations at a public hearing after reviewing the relevant facts from the record.[43] First, the ERC must determine that the water body has exceptional recreational *or* ecological significance.[44] Second, the ERC must determine that the environmental, social, and economic benefits of the designation outweigh the environmental, social, and economic costs.[45] Once the ERC makes an affirmative determination as to both of these requirements, the petition for rulemaking is approved and the water body becomes listed under r. 62-302.700(9), Florida Administrative Code.

III. Regulatory Significance of OFW Designation

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[36] DEPARTMENT OF ENVIRONMENTAL REGULATION, REPORT TO THE ENVIRONMENTAL REGULATION COMMISSION, PROPOSED DESIGNATION OF SARASOTA BAY AND LEMON BAY AS OUTSTANDING FLORIDA WATERS, Appendix L: Economic Impact Statement (1986).

[37] *Id.* The total annual economic value of recreational fishing in the Sarasota Bay area was estimated at $38,001,471 in 1983, at the time of the OFW designation.

[38] *Id.* The total annual economic value of all other recreational activities in the Sarasota Bay was estimated to be $9,949,223 (in 1983 dollars).

[39] *Id.*

[40] *Id.*

[41] *Id.* Regulated industries that participate in the rulemaking process often provide detailed testimonial evidence on the economic impact of OFW designation from their perspective, which the Department must take into account. This can lead to negotiated solutions where shoreline segments are removed from OFW consideration.

[42] FLA. ADMIN. CODE, r. 62-302.700(5) (2008).

[43] *Id.*

[44] *Id.*

[45] *Id.*

The key regulatory feature of an OFW designation is its "antidegradation" standard. This stricter standard increases agency scrutiny of permits for activities within OFWs and increases the burden on applicants to demonstrate compliance. However, not all regulated activities are subject to OFW review and agency application of the standard of review for OFWs, especially the so-called "clearly in the public interest" test required for certain permitted activities, has been problematic. Moreover, the role of mitigation in meeting this standard for OFWs has not been adequately distinguished from non-OFW water bodies.

A. Environmental Resource Permits

The Environmental Resource Permit (ERP) Program was established in 1994 to regulate activities involving the alteration of surface water flows.[46] Section 373.103(1), Florida Statutes, authorizes FDEP to administer and enforce the permitting systems established in the Water Resources Chapter of the Florida Statutes. According to FDEP:

> [The ERP Program] regulates the construction, alteration, maintenance, removal, modification, and operation of all activities in uplands, wetlands and other surface waters (whether publicly or privately-owned) that will alter, divert, impede, or otherwise change the flow of surface waters. That includes dredging and filling in most surface waters and wetlands (whether isolated or connected to other waters). Example activities that the program covers are the construction of new buildings, roadways, and parking areas that increase impervious surfaces and stormwater runoff. The program is designed to ensure that such activities do not degrade water quality (from the discharge of untreated stormwater runoff) or cause flooding (from a change in off-site runoff characteristics). In addition, the ERP program regulates the type of dredging and filling activities reviewed under the former wetland resource (dredge and fill) permitting program, such as the dredging of navigation channels, filling of wetlands, and the construction of docks and seawalls. This ensures that water quality is not degraded, and that wetlands and other surface waters continue to provide a productive habitat for fish and wildlife.[47]

ERP applications are processed by either FDEP or one of the five state water management districts (WMD), in accordance with the division of responsibilities specified in the operating agreements between these entities.[48] Within most WMDs, the FDEP is responsible for reviewing permit applications for the following activities:

- Solid waste, hazardous waste, domestic waste, and industrial waste facilities;
- Mining (except borrow pits that do not involve on-site material grading or sorting);
- Power plants, transmission and communication cables and lines, and natural gas and petroleum exploration, production, and distribution lines and facilities;

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[46] 1994 FLA. LAWS volume I part II, s. 4, ch. 94-122.

[47] Fact Sheet, Florida Department of Environmental Protection, *Environmental Resource Permit Program Fact Sheet: Purpose and History* (updated Oct. 1, 2007), *available at* http://www.dep.state.fl.us/water/wetlands/docs/erp/ERP_Fact_Sheet.pdf. Statutory authority for ERPs is found in Fla. Stat. §373.4144 (2008).

[48] *Id. See also*, FLA. STAT. §373.4141 (2008).

- Docking facilities and attendant structures and dredging that are not part of a larger plan of residential or commercial development;
- Navigational dredging conducted by governmental entities, except when part of a larger project that a WMD has the responsibility to permit;
- Systems serving only one single-family dwelling unit or residential unit not part of a larger common plan of development;
- Systems located in whole or in part seaward of the coastal construction control line;
- Seaports; and
- Smaller, separate water-related activities not part of a larger plan of development (such as boat ramps, mooring buoys, and artificial reefs).[49]

All other proposed activities are reviewed by the WMDs in which the activity would be located.[50]

The ERP program is in effect throughout the state except for the Florida panhandle, which is within the limits of the Northwest Florida Water Management District (NWFWMD). In the NWFWMD, the Wetland Resource Permitting (WRP) Program, which regulates dredged and fill activities only, is still in effect.[51] However, NWFWMD ERP rulemaking was authorized through amendments to § 373.4145, Florida Statutes, in the 2006 legislative session to develop rules addressing stormwater quality and quantity. Rules for the NWFWMD ERP stormwater program became effective October 1, 2007.[52] The remaining components of the comprehensive ERP program, referred to as "Phase 2," manages surface waters including isolated wetlands.[53] These components have been proposed by FDEP for the NWFWMD and are currently awaiting approval.[54]

1. ERP Standards and Criteria for OFWs

The regulation of ERP activities is addressed by the Florida Statutes and the Florida Administrative Code. Chapter 373 Part IV, Florida Statutes, addresses the "Management and Storage of Surface Waters." Upon review of a standard ERP permit application, seven criteria listed in § 373.414(1)(a), Florida Statutes, must be analyzed, and the proposed activity must be found to be "not contrary to the public interest" in order for a permit to be issued. However, if the regulated activity is proposed within an OFW or will significantly degrade an OFW, the applicant has to meet a heightened standard by providing a "reasonable assurance that the proposed activity will be clearly in the public interest."[55]

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[49] Florida Department of Environmental Protection, Environmental Resource Permitting (ERP) and Sovereign Submerged Lands (SSL) Rules: Florida's Water Management Districts, http://www.dep.state.fl.us/water/wetlands/erp/wmd.htm (last visited February 26, 2010).

[50] *Id.*

[51] FLA. STAT. §§ 373.4145 and 403.811 (2008).

[52] *See,* FLA. ADMIN. CODE, ch. 62-346 (2008).

[53] *Id.*

[54] *Id.* Copies of the current draft rule and amendments are available at http://www.dep.state.fl.us/water/wetlands/erp/rules/draft_nw.htm .

[55] FLA. STAT. § 373.414(1) (2008).

The Florida Legislature requires the DEP to consider a number of additional factors under both the OFW and non-OFW public interest test. The seven additional factors are:

- Whether the activity will adversely affect the public health, safety, or welfare or the property of others;
- Whether the activity will adversely affect the conservation of fish and wildlife, including endangered or threatened species, or their habitats;
- Whether the activity will adversely affect navigation or the flow of water or cause harmful erosion or shoaling;
- Whether the activity will adversely affect the fishing or recreational values or marine productivity in the vicinity of the activity;
- Whether the activity will be of a temporary or permanent nature;
- Whether the activity will adversely affect or will enhance significant historical and archaeological resources under the provisions of § 267.061; and
- The current condition and relative value of functions being performed by areas affected by the proposed activity.[56]

However, the statute does not offer further guidance in the application of these factors as between the two tests. It appears that regardless of which test is applied, the weight be accorded each of these factors remains a question of law for the agency or court to decide.[57]

As a general note, a "de minimus" exemption is available for all activities governed by chapter 62 of the Florida Administrative Code. Structural activities that will not change "the quality, nature or quantity of air and water contaminant emissions or discharges or which will not cause pollution" are allowed without a permit. Additionally, r. 62-4.040, Florida Adminstrative Code, exempts existing or proposed installations which FDEP determines "does not or will not cause the issuance of air or water contaminants in sufficient quantity."[58]

If an applicant is unable to meet either public interest standard, the FDEP or the governing board of the WMD is to consider measures proposed by or acceptable to the applicant to mitigate adverse effects that may be caused by the regulated activity. These may include onsite mitigation, offsite mitigation, offsite regional mitigation, and the purchase of mitigation credits from permitted mitigation banks.[59] The nature or location of the mitigation to be considered appears to be the same whether the activity is proposed in a non-OFW or an OFW.

2. Antidegradation Policy

As required by the federal Clean Water Act, Florida has adopted an antidegradation policy to prevent the further degradation of the state's waters. In accordance with its regulations,

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[56] *Id.* § 373.414(a).

[57] Florida Power Corporation v. Fla. Dept. Env. Prot., 638 So. 2d 545, 559-60 (Fla. Dist. Ct. App. 1994) (affirming agency final order where agency head rebalanced the findings of fact to determine whether a proposed activity satisfied the public interest test).

[58] FLA. ADMIN. CODE r. 62-4.040(1)(b) (2008).

[59] FLA. STAT. § 373.414(1)(b) (2008).

the DEP shall refused to permit any discharge that "will reduce the quality of the receiving waters below the classification established for them."[60] If a proposed discharge will not reduce the quality of the receiving water below its classification, the DEP "shall permit the discharge if such degradation is necessary or desirable under federal standards and under circumstances which are clearly in the public interest, and if all other Department requirements are met."[61]

The antidegradation standard does not apply to "any existing activity permitted, exempted, or for which a completed application for permit was filed, on or before the effective date of the [OFW] designation."[62] It also does not apply "to any renewal of a Department permit where there is no modification of the activity which would necessitate a permit review. Furthermore, "any activity that is exempted from permit programs administered by the Department is not subject to the requirements" of OFW review.[63]

In determining whether a proposed discharge which results in water quality degradation "is necessary or desirable" or "clearly in the public interest," the DEP must consider and balance the following factors:

- Whether the proposed project is important to and is beneficial to the public health, safety, or welfare;
- Whether the proposed discharge will adversely affect conservation of fish and wildlife, including endangered or threatened species, or their habitats; and
- Whether the proposed discharge will adversely affect the fishing or water-based recreational values or marine productivity in the vicinity of the proposed discharge; and
- Whether the proposed discharge is consistent with any applicable Surface Water Improvement and Management Plan that has been adopted by a Water Management District and approved by the Department.[64]

In addition, the Florida antidegradation policy provides that no permit or water quality certification may be issued for an activity in an OFW unless the proposed activity of discharge is clearly in the public interest and one of two additional factors are met.[65] Either (1) a permit was issued or application received on or before the date of OFW designation or (2) the existing ambient water quality within the OFW will not be lowered as a result of the proposed activity or discharge. With respect to the second factor, a lowering of water quality may be allowed on a temporary basis during construction within a restricted mixing zone approved for the FDEP, if water quality criteria would not be violated outside the restricted mixing zone.[66]

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[60] FLA. ADMIN. CODE r. 62-302.300(16) (2008).
[61] *Id.* r. 62-302.300(17).
[62] *Id.* r. 62-242(2)(d).
[63] *Id.* r. 62-4.242(2)(c).
[64] *Id.* r. 62-4.242(1)(a).
[65] *Id.* r. 62-4.242(2).
[66] *Id.* r. 62-4.242(2)(a)(ii)(1) – (2).

"Existing ambient water quality" is "the better water quality of either (1) that which could reasonably be expected to have existed for the baseline year of an Outstanding Florida Water designation or (2) that which existed during the year prior to the date of a permit application."[67] The term "water quality" itself is not defined by Florida law. Water quality standards and water quality criteria are defined terms that suggest the presence of a rule-based list that limits what factors may be considered.[68] Pollution is defined in a general way, [69] but it appears to be operationalized in the context of violations of water quality standards.[70] As to the specific requirements for the establishment of data that are baseline water quality, the Department has indicated that any water quality documentation that will help characterize the water is helpful.[71] The absence of site-specific water quality data for rule-based standards and criteria may make enforcement of the OFW antidegradation standard problematic, and the extent to which unlisted contaminants compromise "existing ambient water quality" as a matter of law has not been addressed.

In limited circumstances, the FDEP may permit activities and discharges in OFWs which allow for or enhance public use, maintain facilities in existence prior to the OFW designation date, or maintain facilities permitted after adoption of the designation.[72] Such activities may be permitted only if the activity mets the "clearly in the public interest" test and it meets (1) one of the two additional factors outlined above or (2) management practices and suitable technology approved by the Department are implemented for all stationary installations including those created for drainage, flood control, or by dredging or filling and there is no alternative for the proposed project.[73]

3. Mixing Zones

An OFW designation also alters the FDEP's authority with respect to mixing zones, which the agency is authorized to establish in certain circumstances.[74] Mixing zones are areas where discharges may be measured further away from the point source which allows some dilution (and hence water quality degradation) to take place in the receiving water before measurement.[75] In general, mixing zones are prohibited in OFWs.[76] Some exceptions apply, however. For example, mixing zones are permitted for sources receiving permits prior to either April 1, 1982 or the designation of the OFW (whichever is earlier), blowdown from new power plants that are certified pursuant to the Florida Electrical Power Plant Siting Act, and discharges of water that are necessary for water management purposes and have been approved by the governing board of a water management district (and the FDEP

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[67] *Id.* r. 62-4.242(2)(c).
[68] *Id.* r. 62-302.200(31) - (32).
[69] *Id.* r. 62-302.200(15) (defining pollution generally).
[70] *Id.* r. 62-302.300(13) ("Pollution which causes or contributes to new violations of water quality standards or to continuation of existing violations is harmful to the waters of this State and shall not be allowed …").
[71] Personal Communication, Stacey Crowley, Office of General Counsel, Florida Department of Environmental Protection, and Janet Klemm, *supra* note 10.
[72] FLA. ADMIN. CODE r. 62-4.242(2)(b) (2008).
[73] *Id.*
[74] FLA. STAT. § 403.061(11) (2008).
[75] FLA. ADMIN. CODE, r. 62-302.200(39) (2008).
[76] FLA. STAT. § 403.061(11)(b) (2008).

Secretary if required by law).[77] In addition, mixing zones are allowed for the discharge of demineralization concentrate which is permittable under and meets the criteria of § 403.0882, Florida Statutes, if the proposed discharge is found to be clearly in the public interest.[78] The rationale for the adding the "clearly in the public interest" requirement for demineralization concentrate (discharge from desalinization treatment facilities) is unclear, since ERP permits for activities in OFWs must meet that requirement anyway.

B. Wastewater Permits

1. Wastewater Discharges

Under Florida law, no wastes are to be discharged to any waters of the state without first being given the degree of treatment necessary to protect the beneficial uses of such water.[79] A wastewater permit issued by the FDEP is required for certain construction activities and operations associated with wastewater facilities or activities.[80] These activities must further conform to a variety of requirements listed in r. 40B-4.2030(8)(d)-(m), Florida Administrative Code.

For purposes of permitting, wastewater facilities or activities are categorized as either industrial or domestic based on the type of wastewater the facility handles.[81] Domestic wastewater is wastewater from dwellings, business buildings, institutions, and the like, commonly referred to as sanitary wastewater or sewage.[82] A permit is required for the construction, modification, or operation of domestic wastewater treatment and effluent disposal or reuse facilities.[83] The requirements for the treatment and reuse or disposal of domestic wastewater are set forth in §§ 403.085 and 403.086, Florida Statutes. Minimally, treatment must comply with Technology-based Effluent Limitations[84] and in certain cases, Water Quality-based Effluent Limitations.[85] Activities excluded from domestic wastewater permitting requirements are enumerated in r. 62-600.120, Florida Administrative Code.

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[77] *Id.* at § 403.061(b)(1) – (3).

[78] *Id.* §403.061(11)(b)(1)(4). The blowdown exemption to r. 62-4.242(2), Florida Administrative Code, permit requirements addresses blowdown from a recirculated cooling water system of a steam electrical generating plant in an OFW or significantly degrades an OFW. The FDEP considers issuing a permit for such an activity if one of two standards are met. First, if at the point of discharge, the discharge follows the limitations of r. 62-302.520(4), which stipulate the monthly and maximum temperature limits. Second, a mixing zone is established which follows the requirements of r. 62-302.520(6)(b), ensuring protection of species relying on the OFW, as long as the establishment also considers the recreational and/or ecological significance of the OFW, and the discharge meets the requirements of r. 62-302.520(4) at the boundary of the mixing zone.

[79] FLA. STAT. § 403.021(2) (2008).

[80] FLA. ADMIN. CODE, r. 62-620.310(1) (2008). Section 403.051(2)(a), Florida Statutes, requires that any Department planning, design, construction, modification, or operating standards, criteria, and requirements for wastewater facilities be developed as a rule.

[81] FLA. STAT. §367.021(5) (2008).

[82] *Id.* §367.021(5); FLA. ADMIN. CODE, r. 62-600.200(25) (2008).

[83] *Id.* r. 62-600.700(1).

[84] *Id.* r. 62-600.420.

[85] *Id.* r. 62-600.430.

All wastewater that is not defined as domestic wastewater is considered industrial wastewater.[86] Sources of industrial wastewater include large and small facilities and activities such as manufacturing, commercial businesses, mining, agricultural production and processing, and wastewater discharge from cleanup of petroleum and chemical contaminated sites.[87] There is a general permit for the specific activities categorized as having industrial, as opposed to domestic, wastewater.[88] Effluent limitations for industrial wastewater discharges are addressed in rule 62-660.400.

For domestic and industrial wastewater discharges, the public interest test outlined above applies as well.[89] This means that in applying for a domestic or industrial wastewater permit, the applicant must show that the proposed activity is not contrary to the public interest, or in the case of an OFW, that the activity is clearly in the public interest.

2. General and Generic Permits in OFWs

The FDEP and WMDs also issue "noticed general permits" for certain types of facilities or activities that have minimal adverse environmental impact when performed in accordance with specific requirements and practices.[90] Noticed general permits are considered "permits by rule" which means that they are issued upon adoption as a rule pursuant to Chapter 120, Florida Statutes.[91] Rule 62-34.900, Florida Administrative Code, sets forth the general policies and procedures for the issuance of noticed general permits. Thirty-six activities are currently permitted under this rule.

"Generic permits" are issued by the Department as an alternative to individual permits to regulate a particular category of wastewater facilities or activities. They are also permits by rule.[92] Generic permits may only be issued if they all: (a) involve the same or substantially similar types of operations; (b) discharge the same types of wastes or engage in the same types of residuals or industrial sludge use or disposal practices; (c) require the same effluent limitations, operating conditions, or standards for residuals or industrial sludge use or disposal; and (d) require the same or similar monitoring.[93]

With respect to general and generic permits, neither the statutes nor implementing rules categorically treat OFWs differently. All anti-degradation standards must be followed, including those concerning OFWs. [94] Some noticed general permits, however, do give special treatment to OFWs.[95] More than thirty noticed general permits are listed for FDEP in the

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[86] FLA. STAT. §367.021(8) (2008).
[87] Florida Department of Environmental Protection, Wastewater Permitting, http://www.dep.state.fl.us/water/wastewater/permitting.htm (last visited Feb. 15, 2010).
[88] FLA. ADMIN. CODE rules 62-660.801 - .806, 62-660.820 - .821 (2008).
[89] *Id.* r. 62-4.242(1)(c)-(d).
[90] FLA. STAT. §403.814(1) (2008).
[91] *Id.* §403.814; FLA. ADMIN. CODE, r. 62-620.705(1) (2008).
[92] *Id.* r. 62-620.710(1).
[93] *Id.* r. 62-620.710(2).
[94] *Id.* r. 62-341.215.
[95] *See e.g.*, *id.* r. 62-341.447(2)(e), General Permit to the Florida Department of Transportation, Counties, and Municipalities for Minor Activities Within Existing Rights-of-Way or Easements: "This general permit shall not apply to ditch construction in Class I or Class II surface waters,

Florida Administrative Code.[96] Fifteen of those specifically mention OFWs,[97] although ten simply state that the particular permitted activity is prohibited in OFWs.[98] Some Water Management Districts also have general permit rules that specifically mention OFWs.[99] Also, certain permits under FDEP and the Southwest Florida Water Management District require that permit applications specify if the activity will take place in an OFW.[100]

C. Stormwater Management

Stormwater management is regulated by a number of programs within the FDEP, including Florida's National Pollutant Discharge Elimination System (NPDES) program (as authorized by the Federal Clean Water Act),[101] and the ERP program.[102] Stormwater management activities require ERP permits.[103] Rule 62-25.025, Florida Administrative Code, regulates stormwater management in OFWs.

A construction permit for a new stormwater discharge facility may only be issued by the FDEP if the application provides reasonable assurance that "the construction, expansion, modification, operation, or activity of the stormwater discharge facility will not discharge, emit, or cause pollution in contravention of Department standards, rules or regulations."[104] Reasonable assurance is presumed if the facility design will provide treatment equivalent to retention (or detention with filtration) of the runoff from the first one inch of rainfall, or first one-half inch if the drainage areas are less than 100 acres.[105] Facilities discharging directly into OFWs need to provide an additional level of stormwater treatment "equal to fifty percent of the treatment criteria."[106]

Anyone who owns or has authorization to use a wetland for stormwater treatment must obtain a wetlands stormwater discharge facility permit from the FDEP.[107] Wetlands stormwater discharge facilities must also provide treatment of runoff from the first one inch of rainfall (or the first one-half inch of runoff for drainage areas less than 100 acres).[108] As with the other stormwater regulations, wetland stormwater facilities directly discharging into OFWs are required to comply with r. 62-25.025(9), Florida Administrative Code.

Outstanding National Resource Waters or waters designated as Outstanding Florida Waters."

[96] *See, id,* ch. 62-341.

[97] *See, id.*

[98] *Id.*

[99] The South Florida Water Management District: FLA. ADMIN. CODE r. 40E-4.301; the Suwannee River Water Management District: FLA. ADMIN. CODE, r. 40B-400.051 and r. 40B-400.215; the Southwest Florida Water Management District: FLA. ADMIN. CODE, r. 40D-1.603 and r. 40D-400.500.

[100] FLA. ADMIN. CODE, r. 40D-1.603(11) and ch. 62-341 (2008).

[101] FLA. STAT. §403.0885 (2008), FLA. ADMIN. CODE r. 62-620.100 (2008), 33 U.S.C. §1342 (2008).

[102] FLA. ADMIN. CODE, r. 62-40.431(3) (2008).

[103] FLA. STAT. §§ 373.413(2), 373.416, 403.812 (2008).

[104] FLA. ADMIN. CODE 62-25.040(4) (2008).

[105] *Id.* r. 62-25.040(5).

[106] *Id.* r. 62-25.025(9).

[107] *Id.* r. 62-25.042(3).

[108] *Id.* r. 62-25.042(6)(b).

D. Docks, Piers, Docking Facilities and Marinas

Permit applicants seeking to construct a dock generally apply for an ERP permit. However, certain types of dock and docking facilities are exempt from FDEP permitting. For non-OFW waters, permits are only required for docks over 1000 square feet. In an OFW, the exemption is reduced to 500 square feet.[109] Four separate requirements need to be met to qualify for these exemptions. First, the dock should be used for recreational or noncommerical activities – no commerical activities should take place there.[110] Second, it should use pilings as support, including floating docks, so that the facility's installation does not involve unnecessary filling or dredging.[111] Third, the facility should not substantially impede the flow of water, create a navigational hazard, or cause water quality violations (which include OFW standards).[112] Finally, the dock should be the sole dock along the shoreline for a minimum distance of 65 feet.[113] If the individual parcel of land is less than 65 feet in length along the shoreline, then one dock per parcel will be allowed. In the case of multi-family developments, complexes, or other facilities using the proposed private dock, those structures are treated as one parcel of land, regardless of legal ownership divisions or control of that property.

In Florida, "any development which, because of its character, magnitude, or location, would have a substantial effect upon the health, safety, or welfare of citizens of more than one county" must undergo "development-of-regional-impact" review by the Florida Department of Community Affairs.[114] Development of regional impact review is required for waterport or marina construction, unless the facility is designed for (1) the wet storage or mooring fo less than 150 watercraft used exclusively for sport, pleasure, or commercial fishing; (2) the dry storage of less than 200 watercraft used exclusively for sport, pleasure, or commercial fishing; or (3) the wet or dry storage or mooring of fless than 400 watercraft used exclusively for sport, pleasure, or commercial fishing with all necessary approvals and located outside OFW and Class II waters.[115] In addition, the FDEP must determine "that the marina is located so that it will not adversely impact Outstanding Florida Waters or Class II waters and will not contribute boat traffic in a manner that will have an adverse impact on an area known to be, or likely to be, frequented by manatees."[116]

E. Other Activities

Although an ERP permit is not require for "the installation, removal, and replacement of utility poles that support telephone or communication cable lines, or electric distribution lines of 35 kilovolts or less,"[117] this exemption does not apply to forested wetlands located within 550 feet of the mean high water line of an OFW.[118] In addition, permit exemptions

[109] *Id.* r. 40B-400.051(2)(g).
[110] *Id.* r. 40B-400.051(2)(g)(1).
[111] *Id.* r. 40B-400.051(2)(g)(2).
[112] *Id.* r. 40B-400.051(2)(g)(3).
[113] *Id.* r. 40B-400.051(2)(g)(4).
[114] FLA. STAT. § 380.06(1) (2008).
[115] FLA. ADMIN. CODE r. 28-24.034(1) (2008).
[116] *Id.*
[117] *Id.* r. 40B-400.051(2)(v).
[118] *Id.* r. 40B-400.051(2)(v)(4).

for treatment or disposal systems do not affect application of state water quality standards, including those for OFWs.[119]

F. Best Management Practices for Silviculture Operations

The maintenance of Florida's water quality standards are required during all silviculture operations in the state.[120] In order to ensure that this goal is reached, the State of Florida has developed and adopted a Best Management Practices (BMPs) manual for silviculture operations and management in order to address these impacts.[121] Silviculture operations are required to utilize the "Silvicultural Best Management Practices Manual," last revised in 2008.[122] These BMPs were developed specifically for silviculture and are intended to be applied on all such operations in the state regardless of whether or not the operation is subject to other regulatory standards or permits.[123] However, these BMPs are not intended for use during tree removal or land clearing operations associated with development or other activities that have non-forestry objectives.[124]

Silviculture operations in Florida are presumed to comply with state water quality standards as long as they provide a notice of intent to implement BMPs on their property and follow the other requirements. These requirements include the maintenance of documentation that verifies the implementation and maintenance of BMPs on the subject property.[125]

Silviculture activities in Florida that are not exempted due to this presumption of compliance must seek and obtain a permit from the appropriate local, state, and/or federal government agency prior to conducting the operation.[126] Rule 40C-400.500, Florida Administrative Code, dictates when the acquisition of a permit is required for construction, operation, maintenance, alteration, abandonment, or removal of minor silviculture surface water management systems.[127] For instance, certain activities, such as culvert placement during normal forestry operations, require the landowner to apply for a permit from the appropriate water management district.[128]

The FDEP may establish Special Management Zones (SMZ), specific areas associated with a stream, lake, or other waterbody which are designated for more stringent protection during silviculture operations.[129] The purpose of an SMZ is to protect water quality by

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[119] *Id.* r. 40B-400.051(3)(f).
[120] FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, SILVICULTURE BEST MANAGEMENT PRACTICES MANUAL, 2 (2003).
[121] *Id.* at 1.
[122] FLA. ADMIN. CODE, r. 40C-400 (5)(g) (2008).
[123] Silviculture BMP Manual, *supra* note 125.
[124] *Id.*
[125] *Id.*
[126] *Id.*
[127] FLA. ADMIN. CODE, r. 40C-400 (2008).
[128] *See*, THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, APPLICANT'S HANDBOOK FOR THE MANAGEMENT AND STORAGE OF SURFACE WATERS, *available at* http://www.sjrwmd.com/handbooks/msswhandbook.html (last visited Feb. 26, 2010).
[129] Silviculture BMP Manual, *supra* note 120, at 3.

minimizing the amount of sediment, nutrients, debris, chemicals, and water temperature changes that can have a negative affect on water quality. [130] Within the SMZ, there are two sub-zones: a Primary Zone with timber-harvesting restrictions and a Secondary Zone which only imposes operational restrictions.[131]

The Primary Zone is meant to afford water quality protection to the contiguous water bodies by maintaining shade along the banks, minimizing the disturbance to ground cover vegetation, and reducing leaf litter impacts.[132] The Primary Zone also provides essential wildlife habitat values, particularly for species that need snags, cavities, tall trees, and other characteristics that are often associated with minimally impacted forest conditions.[133] The width of the Primary Zone is dictated by the width of the water body and the water body's type/classification.[134] Water bodies less than 20 feet wide have a Primary Zone that is 35 feet wide on each side.[135] Water bodies whose width is between 20 and 40 feet wide have a Primary Zone that is 75 feet on each side.[136] Water bodies whose width is 40 ft or wider have a Primary Zone that is 200 feet wide per side.[137]

An OFW designation has the effect of expanding the Primary Zone to 200 feet from the shoreline, even if the width of the waterbody is less than 40 feet.[138] This expansion of the primary zone can have a more significant effect on silviculture activities on small tributaries, braided streams, and headwaters where Primary Zones may overlap, substantially increasing the area subject to the Zone's restrictions.

Within the Primary Zone clearcut harvesting is prohibited, except under special conditions. These special conditions are:

- No individual tract or tracts-in-contiguous-ownership may be required to designate more than 10% of the total tract area as Primary Zone;

- No Primary Zone may be required beyond 35 feet from a perennial water body or 50 feet from any OFW, Outstanding Natural Resource Water (ONRW), or Class I Water, where the trees have been traditionally managed for the purpose of pine timber production and where there is an existing predominance of pine trees with no significant component of large sized or merchantable hardwood trees;

- Where the above do not apply, clearcut harvesting in the Primary Zone is permissible provided that no clearcutting takes place within 35 feet of any perennial water body or within 50 feet of any OFW, ONRW, or Class I Water, and where:

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[130] *Id.*
[131] *Id.* at 5.
[132] *Id.* at 4.
[133] *Id.*
[134] *Id.* at 56.
[135] *Id.*
[136] *Id.*
[137] *Id.*
[138] *Id.* at 7.

- The total acreage clearcut does not exceed 25% of the area designated as Primary Zone, and the number of acres clearcut are added-on to the Primary Zone acre for acre. These additional acres added-on to the Primary Zone must be directly connected to the Primary Zone boundary within the harvest unit, may not extend out beyond that boundary more than 200 feet, and must be managed in accordance with the Primary Zone Management Criteria;

- The basal area of overstory trees within the SMZ is 30 square feet per acre or less, and other hardwood species present are of such low quality (physiologically or biologically) that total stand removal would provide a greater long-term wildlife and/or forestry benefit. However, the total area clearcut under this exception may not equal more than 10% of the Primary Zone, and any given clearcut parcel must not be greater than 500 feet in length, as measured along the stream.[139]

In certain circumstances, the second exemption cited above may have significant effects on the primary zone delineation. As stated, this provision exempts tracts of land that have traditionally been managed for the purpose of pine timber from being required to expand their primary zone beyond 35 feet. However, this exception also requires that "there is an existing predominance of pine trees with no significant component of large sized or merchantable hardwood trees."[140] In Florida, a significant percentage of water bodies are lined with large sized or merchantable hardwoods, such as cypress that may extend beyond 35 feet. The presence of these hardwoods may therefore limit the application of OFW BMPs for silviculture adjacent of such water bodies.

The following management criteria apply in Primary Zones:

- Clearcut harvesting is always prohibited within 35 feet of all perennial waters and within 50 feet of all water bodies designated as OFW, ONRW, or Class I Waters.

- Selective harvesting may be conducted to the extent that 50% of a fully stocked stand is maintained. The residual stand should conform to the following:
  - Trees are left to maintain the approximate proportion of diameter classes and species present prior to harvesting, except oaks (other than water oaks) may be favored;
  - Repeated entry into harvested Primary Zone in short time intervals for additional harvesting is prohibited;
  - No trees are harvested in stream channels or on the immediate stream bank.

- Special emphasis should be given to the following within the Primary Zone:
  - Protection of very large and/or old trees
  - Protection of snags (dead trees) and cavity trees
  - Protection of trees where any part of the canopy overhangs the water

[139] *Id.* at 105.

[140] *Id.*

- The following forestry activities are prohibited within the Primary Zone:
  - Mechanical site preparation;
  - Fertilization;
  - Aerial application or mist blowing of pesticides (herbicide, fungicide, insecticide);
  - Loading decks or landings and log bunching points;
  - Road construction except when crossing a water body;
  - Site preparation burning on slopes greater than 18% perennial.[141]

The Secondary Zone may apply as an "add-on" to the SMZ depending on certain characteristics of the site including the soil erodibility, K-factor (index representing the potential erodibility of a soil by water based on soil texture), and the slope of the site.[142] Depending on soil and site characteristics, the Secondary Zone may be extended up to an additional one hundred feet.[143]

The Secondary Zone has no timber harvesting restrictions. However, the following operational restrictions apply:

- No mechanical site preparation;
- No loading decks or landings;
- No site prep burning on slopes exceeding 18%;
- No roads except for crossings[144]

G. Submeged Lands Authorizations

The State of Florida typically owns the lands beneath surface waters.[145] When this is the case, additional authorizations are required to conduct activities that are subject to permitting. This ordinarily comes in the form of a lease or "consent of use."[146] ERPs and submerged lands authorizations (SLAs) are ordinarily consolidated into a single application. Activities that are to be conducted over sovereign submerged lands are subject to their own public interest standard.[147] For most submerged lands, this standard is the same as for non-OFW waters; the proposed activity must be "not contrary to the public

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[141] *Id.* at 4-5.
[142] *Id.* at 5.
[143] *Id.* at 43.
[144] *Id.* at 5.
[145] FLA. STAT. §§253.001, 253.002 (2009).
[146] *See generally, id.* ch. 253.
[147] When used in the context of submereged lands authorizations, "'Public interest' means demonstrable environmental, social, and economic benefits which would accrue to the public at large as a result of a proposed action, and which would clearly exceed all demonstrable environmental, social, and economic costs of the proposed action. In determining the public interest in a request for use, sale, lease, or transfer of interest in sovereignty lands or severance of materials from sovereignty lands, the Board shall consider the ultimate project and purpose to be served by said use, sale, lease, or transfer of lands or materials." FLA. ADMIN. CODE r. 18-21.003(51)(submerged lands generally), r. 18-20.003(46) (aquatic preserves).

interest."[148] However, when the proposed activitiy falls within one of Florida's forty-one aquatic preserves, the standard becomes "in the public interest."[149]

Rules governing submerged lands and aquatic preserves address the public interest standard differently from the rules governing OFWs. To be considered "in the public interest" for the purposes of SLAs, a balancing test is employed to determine whether the benefits of the proposed activity outweigh its costs.[150] The benefits and costs to be considered relate to improvements to the social, economic, and/or environmental condition of the aquatic preserve. What appears to be critical here, is that for SLAs, mitigation that merely offsets impacts may be insufficient. Whereas, if the proposed activity lies within an aquatic preserve the applicant must do more than merely offset the impacts of the activity to demonstrate the project is "in the public interest."[151]

All aquatic preserves in Florida are also managed-waters OFWs.[152] Thus in addition to meeting the public interest test of the SLA for aquatic preserves, such activities must also meet the heightened standard of "clearly in the public interest" for permitting in OFWs. However, the OFW rules do not offer the same sort of detailed guidance through a public benefits balancing test. As a result, greater attention is paid to the role of mitigation in demonstrating that an activity is "clearly in the public interest," but there remains little clarity as to the distinction between mitigation that satisfies the "not contrary to the public interest" test and mitigation that rises to the level of "clearly in the public interest." Florida judicial and adminstrative case law has not been particularly helpful in parsing this distinction.

IV. Florida Case Law Addressing OFWs

Only one appellate case squarely addresses OFWs. The preponderance of judicial treatment comes from administrative decisions where administrative law judges (ALJs) review an agency action on a permit application for an activity that affects an OFW. These cases tend to be fact specific and do little to clarify the legal standards governing review of permits for activities in OFWs, particularly the crucial determination as to what contitutes "signficant degradation," and when an activity is "clearly in the public interest."

The leading case involving an OFW remains *1800 Atlantic Developers v. Department of Environmental Regulation*, 552 So. 2d 946 (Fla. Dist. Ct. App. 1989).[153] In *1800 Atlantic*, the Department of Environmental Regulation (DER) (DEP's predecessor agency) had adopted a final order to deny a dredge and fill permit on land in Key West owned by 1800

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[148] *Id.* r. 18-21.004(a) ("… all activities on sovereignty lands must be not contrary to the public interest, except for sales which must be in the public interest.").

[149] *Id.* 18-20.004(1)(b) ("There shall be no further sale, lease or transfer of sovereignty lands except when such sale, lease or transfer is in the public interest …").

[150] FLA. STAT. §373.414 (2008), FLA. ADMIN. CODE, r. 62-302.700(1) and r. 62-4.242(2)(a)(ii) (2008).

[151] *Id.*

[152] *Id.* r. 62-302.700(2)(f) (2008).

[153] 1800 Atlantic Developers v. Department of Environmental Regulation, 552 So. 2d 946 (Fla. Dist. Ct. App. 1989).

Atlantic Developers.[154] The permit denial was based upon the fact that the DER had recently designated the waters in that area of Key West to be an OFW.[155] Therefore, the heightened "clearly in the public interest" test was applied and the DER found the proposed activity not clearly in the public interest.[156]

The appellate court reversed the DER's final order, finding that the DER should have afforded 1800 Atlantic Developers an opportunity to explain which changes to the permit application could warrant DER's approval of the proposed project, as instructed by § 403.92, Florida Statutes.[157] The court opined:

> Absolute prohibition of dredge and filling activity, therefore, should be the rare exception in cases of extreme damage to the environment that cannot be avoided or mitigated under any circumstances. It must be remembered that this act was not intended to serve as a means for the state to acquire private land for public purposes, or to compel the owner of private land to make it available for the public use and benefit, without the state's having to pay just compensation to the owners.[158]

Further, the court found that the DER erred in adopting the hearing officer's recommendation to deny the permit based on "vague and ill defined" additional conditions in the mitigation agreement.[159] While the DER believed the hearing officer's conclusions were findings of fact and therefore binding on the department, the court explained that the DER itself, not the hearing officer, was responsible for considering and determining the appropriateness of mitigation measures.[160] The second sentence in the quoted language above is significant because it appears to undercut reliance on the sorts of public benefits that serve as the basis for the conclusion that an aquatic preserve submerged lands authorization is "in the public interest." It also makes it difficult to utilize the nature and form of mitigation to distinguish between activities in OFWs and non-OFWs and their respective public interest tests, e.g. mitigation that does more than merely offset impacts.

V. Florida Administrative Case Law Addressing OFWs

113 administrative cases involving OFW permitting were reviewed for this article, including ERPs, wastewater, and stormwater permits. (See Appendix A). Of these, 59 permits were approved and 54 denied. Within the various categories of permitted activities subject to OFW review, the proportions were roughly equivalent. A wide variety of activities under ERPs were reviewed, including dredge and fill permits for docks, marinas, boat slips; developments of regional impact; and seawalls. In reviewing the administrative decisions as a whole, no single permitted activity was approved or denied more often than others. Appendix A provides a thorough review of each of these cases in terms of the activity

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[154] *Id.* at 950.
[155] *Id.* at 948.
[156] *Id.* at 950.
[157] *Id.* at 955.
[158] *Id.* at 954-955.
[159] *Id.* at 955.
[160] *Id.*

permitted, the issue, holding and, where evident, the reasoning. In addition, the nature of any mitigation proposed is described.

The particular type of permit did not seem to be an important factor. The driving force behind whether any activity was allowed or prohibited really depended on the specific facts of the case. In reviewing the 113 cases, several facts seem particularly important. First, a highly prestine or unique OFW tended to weigh against the applicant, often ending in a denial of the permit. Whereas, permits that sought activities similar to those already allowed within the same (or similar) OFWs, such as the construction of a standard dock in an OFW where all adjacent landowners also had docks, tended to lead to permit approval. As will be discussed below, the type of activity itself is often very persuasive in the issuance or denial of a permit. Sometimes whether the project would have cumulative and/or secondary impacts was weighed heavily by the Administrative Law Judge (ALJ) and other times it was seemingly ignored.

Another factor that is hard to quantify was the impact of an applicant's willingness to amend their initial permit/project/activity when forced or faced with oppossition by the FDEP or WMD. Often, the FDEP issuance of a "noticed intent to deny" was enough motivation for applicants to completely overhaul their project to better comply with the "clearly in the public interest test." Similarly, another not unappreciated factor, was individual applicants willingness, ability, and preparation to make their project not only comply but go above and beyond the minimum requirements. Finally, the "human factor" and individual biases of ALJs undoubtebly played a role in whether, at least in a few cases, permits were granted or denied. The following sections will explore the dynamics of these various facts in more detail.

A. Reasonable Assurance and the Clearly in the Public Interest Test

As mentioned above, ERP applicants must provide "reasonable assurance" that the proposed activity will meet the applicable public interest test. For an OFW, this standard is "clearly in the public interest."[161] *Florida Audubon Society, Inc. v. South Florida Water Management District and Lennar Homes, Inc.* (2002) addressed this "reasonable assurance" standard for an OFW application. The ALJ stated that courts have extended considerable deference to the FDEP and that the decision of whether or not the applicant has provided reasonable assurance that an activity is "clearly in the public interest" is a conclusion of law.[162] The ALJ in *Florida Audubon Society* also held that courts should give the same deference to the adequacy of proposed mitigation as they do for the "reasonable assurance" standard.[163]

[161] FLA. STAT. §373.414 (2008).

[162] *See*, 1800 Atlantic Developers v. Department of Environmental Regulation, 552 So. 2d 946 (Fla. Dist. Ct. App. 1989) and Deep Lagoon Boat Club, Ltd. v. Sheridan, 784 So. 2d 1140 (Fla. Dist. Ct. App. 2001), as cited in Florida Audubon Society, Inc., Fla. Div. of Admin. Hearings Case No. 02-1629 (2002).

[163] Florida Audubon Society, Inc., Case No. 02-1629. *See also*, Anna Maria, Inc. v. Department of Transportation, 700 So. 2d 113, 116 (Fla. Dist. Ct. App. 1997); 1800 Atlantic Developers, 552 So. 2d 946).

B. The Role of Mitigation

Pond, Inc. v. Department of Environmental Protection (1994) examined the role of mitigation in meeting the "clearly in the public interest" test.[164] This case involved a dredge and fill permit to build a bridge in a Class II OFW, and provides an example of a case where "reasonable assurance" was not provided due to inadequate mitigation.[165] In the order, the ALJ noted that "Because there will be adverse impacts to an OFW, the project can be permitted only if it is determined that the mitigation plan offsets the adverse impacts and makes the project clearly in the public interest."[166] Despite the applicant's previous belief that the revised project, including a mitigation plan, would be "clearly permissible," the ALJ found the mitigation plan was not adequate, and therefore the applicant did not provide the essential reasonable assurance for the permit to be approved.[167] The ALJ did not provide a specific reason as to why the plan was inadequate, other than to point out the numerous adverse impacts that the project would have on area wetlands and wildlife.[168]

In the majority of cases in which the permit was approved, however, the applicant showed with reasonable assurance that the activity would meet the clearly in the public interest standard. This finding of reasonable assurance was generally attributed to the adequacy of the mitigation plans, as interpreted by a WMD Governing Board or the FDEP.

Crouthers v. J.B.'s Fish Camp and the Environmental Protection Department (1997) reveals the effect of an applicant's willingness to mitigate on the issuance of the permit.[169] *Crouthers* involved a permit for the construction of a sixteen-slip dock, linking to the applicant's existing fish camp, which had two existing docks.[170] The previously denied application was re-evaluated when the applicant took extensive mitigation efforts and established a conservation easement over a portion of the property.[171] After adequate mitigation measures were provided, the permit was approved for the dock, even though the docks were proposed within a manatee zone.[172]

C. Nature of the Activity

Another important issue addressed in various OFW administrative cases is the nature of activities which meet the "clearly in the public interest" test. Projects that serve a public purpose such as transportation projects and public boat ramps or marinas, may be more likely to meet this threshold since they begin with a presumption that the activity is in the public interest. Even here, however, there may be competing public interests. In *Lineberger v. Prospect Marathon Coquina* (2008), the FDEP found that even after offsetting the direct impacts of a sixty slip marina project with mitigation, an offer to contribute to the construction of a public boat ramp did not shift the activity to one that is "clearly in the

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[164] Alden Pond, Inc., Fla. Div. of Admin. Hearings Case No. 93-6982 (1994).
[165] *Id.*
[166] *Id.*
[167] *Id.*
[168] *Id.*
[169] William and Jill Crouthers, Fla. Div. of Admin. Hearings Case No. 97-0994 (1997).
[170] *Id.*
[171] *Id.*
[172] *Id.*

public interest," due to the secondary adverse impacts the additional boat traffic from the new ramp would cause.[173] In *State D.O.T. v. St. John's River Water Management District* (1996), the District reversed a hearing officer's finding that a proposed transportation project was clearly in the public interest "on the ground that even though replacing a causeway with a permanent bridge may improve existing water quality, the permanence would preclude future restoration of the water body at issue."[174] Additionally, a permit for a proposed bridge was denied in *Vanwagoner v. Department of Transportation and Department of Environmental Protection* (1995), based on the evidence failing to show that the project would not degrade an OFW.[175]

Several cases have approved the issuance of a permit to applicants proposing relatively minor activities on OFWs, such as public boat ramps,[176] boat slips,[177] or the maintenance of mangrove trees[178]. However, permits for such minor activities have also been denied.[179] For instance, in *Town of Windermere v. Orange County Parks and Recreation Department and South Florida Water Management District* (1990), the ALJ found that the dredge and fill permit for the floating dock inadequately addressed the water quality issues because of dredging within the OFW.

Suto v. Celebrity Resorts, Inc. and DER (1991) addressed the issue of OFW designation and wastewater permits.[180] Celebrity Resorts had applied for a permit to construct a wastewater treatment and reuse/disposal facility on Orange Lake, an OFW.[181] The treatment facility would serve a proposed recreational vehicle (RV) park.[182] Various constituents who use the lake for professional and recreational activities, as well as for drinking water, opposed the issuance of the permit to Celebrity.[183] The ALJ, however, recommended that the permit for the proposed sewage treatment plant and effluent disposal system, or spray irrigation system, be granted to Celebrity.[184] The ALJ explained that Celebrity had provided reasonable assurance that both the sewage treatment plant and the spray irrigation system would not violate any state water quality standards, including the requirement for OFWs that existing ambient water quality not be lowered.[185]

D. "Significantly Degrades" and Geographic Proximity

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[173] Linberger v. Prospect Marathon Coquina, Fla. Div. Admin. Hearings Case no. 07-3757, FDEP Consolidated Final Order (2008).
[174] Fla. Dept. of Transportation v. St. John's River Water Management District, Fla. Div. of Admin. Hearings Case no. 94-5261, Recommended Order (1996).
[175] Robert E. Vanwagoner, Fla. Div. of Admin. Hearings Case No. 95-3621 (1995).
[176] James E. Slater, as Trustee, and Alicia O'Meara, Fla. Div. of Admin. Hearings Case No. 97-0437 (1998).
[177] Harold and Charlottee Toms, Fla. Div. of Admin. Hearings Case No. 93-5724 (1994).
[178] Leland D. Egland, Fla. Div. of Admin. Hearings Case No. 88-3530 (1988).
[179] Town of Windermere, Fla. Div. of Admin. Hearings 90-1782 (1990).
[180] Suto, Fla. Div. of Admin. Hearings Case No. 91-2722 (1991).
[181] *Id.*
[182] *Id.*
[183] *Id.*
[184] *Id.*
[185] *Id.*

A few cases have addressed the "significant degradation" standard for activities outside of OFWs.[186] Such activities are subject to the "not contrary to the public interest" test for non-OFWs, but still must demonstrate that they will not "signficantly degrade the OFW.[187] For example, in *Florida Audubon Society, Inc. v. South Florida Water Management District and Lennar Homes, Inc.* (2002), Lennar Homes filed an ERP application for a 516-acre residential development, in close vicinity to the Biscayne Bay Coast Wetlands project in Miami-Dade County.[188] While Biscayne Bay is an OFW, Lennar Homes was able to show that their project was neither directly in an OFW (Biscayne Bay), nor would result in direct discharge of surface water into an OFW.[189] Therefore, the ALJ did not find reason to deny the permit based on impacts to an OFW.[190]

In *Guttmann v. Department of Environmental Protection and ADR of Pensacola* (2000), Guttmann objected to a proposed 30-slip docking facility by the applicant, ADR of Pensacola.[191] Among other things, Guttmann claimed that the activity's discharge, although not directly in the OFW, would significantly degrade it.[192] The ALJ concluded that since the FDEP had already found the activity would not degrade the Class III waters on which it was located, it also would not significantly degrade the OFW into which the Class III water discharged.[193] One the other hand, in *Sunset Acres Property Owners Association v. Department of Environmental Protection* (1996), a dredge and fill permit was requested to connect a canal network in the Sunset Acres subdivision to Florida Bay, an OFW.[194] According to the ALJ, the applicant Sunset Acres did not provide reasonable assurance that the activity on the non-OFW water would not degrade the OFW.[195] Therefore, the permit was denied.[196]

Various other administrative cases involve the denial or approval of a permit in an OFW based either solely or partially on the fact that the activity significantly degraded the water quality.[197] In many of these cases, the ALJ simply made a determination based on the facts that the applicant had or had not provided reasonable assurances that the water quality would not be degraded. However, none of these cases illuminate a specific standard or definition for the phrase "significantly degrades." The Office of General Counsel for the

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[186] *See,* Charles H. Griffin, Fla. Div. of Admin. Hearings Case No. 98-0818 (1998) and Florida Audubon Society, Inc., Fla. Div. of Admin. Hearings Case No. 02-1629 (2002).
[187] FLA. ADMIN. CODE, r. 62-4.242(2)(a) (2008).
[188] Florida Audubon Society, Inc., Fla. Div. of Admin. Hearings Case No. 02-1629 (2002).
[189] *Id.*
[190] *Id.*
[191] Michael L. Guttmann, Fla. Div. of Admin. Hearings Case No. 00-2524 (2000).
[192] *Id.*
[193] *Id.*
[194] Sunset Acres Property Owners Association, Fla. Div. of Admin. Hearings Case No. 91-7958 (1996).
[195] *Id.*
[196] *Id.*
[197] *See,* Manasota-88, Inc. and Manatee County Save Our Bays Association, Inc., Fla. Div. of Admin. Hearings Case no. 90-2350 (1990), Jeffrey Jay Frankel, Fla. Div. of Admin. Hearings, Case No. 98-1326 (1998), Pine Island Properties, Ltd., Fla. Div. of Admin. Hearings, Case No. 93-2713 (1994), Bay Oaks Circle Association, Inc., Fla. Div. of Admin. Hearings Case No. 99-0851 (1999), Robert E. Vanwagoner, Fla. Div. of Admin. Hearings Case No. 95-3621 (1995), Ocean Reef Club, Inc., Fla. Div. of Admin. Hearings Case No. 87-4660 (1988).

FDEP has indicated that some permit programs, i.e. industrial wastewater, use the term "measurable" to interpret the meaning of the term "significant."[198] Presumably, this means that the effect on ambient water quality can be quantified in some way.

VI. Impact of OFW Designation on Transboundary Waters

Florida shares a number of water bodies with its neighboring states, several of which are OFWs. These waters are commonly referred to as successive and contiguous, depending on their relationship as an interstate boundary.[199] Successive water bodies such as the Apalachicola and Suwannee Rivers (both OFWs) flow across a state border as they progress downstream. Contiguous water bodies, like the Perdido River (an OFW), flow along a state border as they progress downstream, typically with the centerline of the stream serving as the political boundary.[200] The presence of these types of rivers in Florida creates unique circumstances when that river is designated as an OFW.

The transboundary nature of the Apalachicola River, shared between Florida, Alabama and Georgia has generated controversy concerning its use and regulation.[201] This controversy stems from Georgia and Alabama's interest in the river as a source of drinking water and hydropower, and Florida's interest in the river's environmental characteristics, especially its estuary, renowned for its oysters which are a very profitable industry in the area.[202] The controversy entered the courtroom years ago and has not yet been resolved. In 2009, a federal district court ordered the U.S. Army Corps of Engineers (Corps) to seek authorization from Congress before changing the project purposes for Lake Lanier, at Apalachicola's headwaters. Georgia seeks to divert water from the lake for potable water use for the metropolitan Atlanta region.[203]

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[198] Personal Communication, Stacey Cowley, Office of General Counsel, Florida Department of Environmental Protection

[199] STEPHEN C. MCCAFFREY, THE LAW OF INTERNATIONAL WATERCOURSES: NON-NAVIGATIONAL USES, 41 (Oxford University Press, 2001).

[200] *Id.*

[201] Florida Department of Environmental Protection, Apalachicola-Chattahoochee-Flint River System (ACF) Timeline of Action As of July 27, 2009, http://www.dep.state.fl.us/mainpage/acf/timeline.htm (last visited Feb. 26, 2010).

[202] Kevin Spear, *Atlanta's Thirst Risks Florida Way of Life*, ORLANDO SENTINEL (Florida), Oct. 28, 2007, at A1.

[203] The states brought a Joint Motion for Partial Summary Judgment, challenging "the Corps' operation of Lake Lanier for the benefit of municipal and industrial … water supply rather than the three authorized purposes for which Congress approved the reservoir's construction – power generation, downstream navigation support, and flood control." On May 11, 2009, Florida and the other parties from the seven consolidated cases presented oral arguments on the motions filed in January before Senior U.S. District Judge Paul Magnuson. On July 27, 2009, Judge Magnuson charged Congress with the responsibility of approving the water use of Lake Lanier for water supply purposes. Additionally, Judge Magnuson ordered that all water withdrawals be frozen at current levels for the next three years until Congressional authorization is given or if some other resolution is reached. If Congress does not approve a reallocation within that period, then water withdrawals from Lake Lanier will revert to "baseline" operation of the mid-1970s. FDEP Timeline, *supra* note 201. *See also*, In re Tri-State Water Rights Litigation, 639 F.Supp.2d 1308 (M.D. Fla. 2009).

Florida, among other things, argues that the Corps has not adequately provided a "required consistency determination" on their actions in relation to the "enforceable policies of the federally approved Florida Coastal Management Plan."[204] In listing the exact enforceable policies that they are referring to, Florida cites to the Florida Statutes and Administrative Code that apply to OFWs, pointing out that the Apalachicola River and Bay are both OFWs.[205]

Contiguous water bodies invoke similar issues for OFWs, which can persist along the entire length of the river. This geographical orientation occurs with the Perdido River, an OFW[206] and the St. Marys River, a non-OFW. The Perdido River serves as the border between Florida and Alabama in northwest Florida. Similarly, Florida shares the St. Marys River with Georgia in northeast Florida. Although the two states share the rivers, they may have significantly different management goals and water quality standards. This differential regulation may undermine the purpose of one state's regulatory regime, and hence implicate federal law.

In *Arkansas v. Oklahoma*,[207] Arkansas sought a domestic wastewater discharge permit from the EPA. The discharge was to occur in the Illinois River, thirty-nine miles upstream from the Oklahoma state line. Oklahoma challenged the permit on grounds that the proposed discharge violated Oklahoma's water quality standards. After an administrative hearing, the EPA overruled the administrative law judge and issued the permit. When it reached the U.S. Supreme Court, the Court held that while the Clean Water Act does not require compliance with the affected state's water quality standards, it does not preclude EPA from requiring it. EPA rules provide that source states must meet the water quality standards of all affected states.[208]

VI. Key Issues in OFW Regulation and Enforcement

A. "Contaminants of Emerging Concern"

The presence of emerging water quality contaminants, such as pharmaceutical products, endocrine disruptors, and nano-materials, has garnered recent attention [209] The continued practice of introducing pharmaceutical products into the waste stream through discharge of expired drugs as well as through treated human waste has introduced the term

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[204] *In Re* Tri-State Water Rights Litigation, Joint Motion and Memorandum in Support of Joint Motion for Partial Judgment on All Phase I Claims, Case no. 3:07-MD-1-PAM, at 72, 73, (M.D. Fla. Jan. 31, 2009), *available at* http://www.dep.state.fl.us/mainpage/acf/files/012309_summary_judgment.pdf .

[205] *Id.* at 72.

[206] FLA. ADMIN. CODE, r. 62-302.700(9)(i) (2008). The Perdido River was designated as a special water OFW when the program began in 1978.

[207] *Arkansas v. Oklahoma*, 503 U.S. 91 (1992).

[208] 40 CFR § 122.4(d) (2008)(No permit may be issued "when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.").

[209] *Probe: Pharmaceuticals in Drinking Water*, CBS NEWS/ASSOCIATED PRESS, March 10, 2008, *available at* http://www.cbsnews.com/stories/2008/03/10/health/main3920454.shtml .

"contaminants of emerging concern" into the lexicon of water quality protection.[210] Trace amounts of these pharmaceuticals are too small for the various stages of required water treatment that prevent degradation and end up in the waters of the State of Florida.[211] These contaminants could lead to the degradation of not only water quality, but may also affect wildlife. While the effects of the introduction of trace amounts of these chemical and biological agents into the water supply is widely unknown, there is also increasing concern about their introduction into aquatic systems through point and non-point source discharges.[212]

An example of the presence of these contaminants in a Florida OFW can be seen in Biscayne Bay. A recent study compared the presence of twenty-four pharmaceutical compounds in Chesapeake Bay, Biscayne Bay, and the Gulf of Farallones.[213] Results showed that the most contaminants were found in the Chesapeake Bay test sites, which were in close proximity to (adjacent to and downstream of) wastewater treatment plants.[214] However, the test sites in Biscayne Bay were not near treatment plants; rather, they were "at the mouth of drainage canals and offshore areas that might be affected by inputs from the drainage canals or possibly groundwater discharges."[215] This concern could be exacerbated if proposals to reduce salinity in the Bay by introducing treated "reuse" water are carried forward.[216]

Emerging contaminants of concern are not currently listed in the published list of water quality criteria to which water quality standards apply.[217] Even so, under the FDEP's rule, discharges to OFWs may not reduce "existing ambient water quality," except on a temporary basis within mixing zones. The phrase does not limit the determination of ambient water quality to only those parameters that are listed by rule. [218] Presumably,

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[210] Environmental Protection Agency, Contaminants of Emerging Concern, Aquatic Life, Water Quality Criteria (2008), *available at* http://www.epa.gov/waterscience/criteria/aqlife/cec.html.

[211] CBS News, *supra* note 209.

[212] Barbara S. Minsker, Drinking Water Contamination Transcript, March 10, 2008, *available at* http://www.washingtonpost.com/wp-dyn/content/discussion/2008/03/10/DI2008031002217.html; *See also,* EPA, *supra* note 210.

[213] ANTHONY S. PAIT, ET AL., HUMAN USE PHARMACEUTICALS IN THE ESTUARINE ENVIRONMENT: A SURVEY OF THE CHESAPEAKE BAY, BISCAYNE BAY AND GULF OF THE FARALLONES, NOAA Technical Memorandum NOS NCCOS 7 (2006), *available at* http://ccma.nos.noaa.gov/publications/humanusepharma.pdf.

[214] *Id.* at 18.

[215] *Id.*

[216] *See* U.S. GEOLOGICAL SURVEY, SCIENCE PLAN IN SUPPORT OF ECOSYSTEM RESTORATION, PRESERVATION, AND PROTECTION IN SOUTH FLORIDA, *available at* http://sofia.usgs.gov/publications/reports/doi-science-plan/waterparksbaykeys.html (describing a pilot project under the Comprehensive Everglades Restoration Act (CERP) "to determine the ecological effects of using superior, advanced treated reuse water to replace and augment freshwater flows to Biscayne Bay and to determine the level of superior, advanced treatment required to prevent degradation of freshwater and estuarine wetlands and nearshore waters. The constituents of concern in wastewater will be identified, and the ability of superior, advanced treatment to remove those constituents will be determined.")

[217] FLA. ADMIN. CODE r. 62-302.530.

[218] Ambient water quality is defined in the OFW Rule in a way that does not limit it to specific parameters.

then, the degradation of water quality by constituents not currently listed by rule could still result in a violation of the OFW antidegradation rule. This question has not been addressed under Florida law.

B. Riparian Buffers – Are BMPs enough Protection for OFWs?

Riparian buffers provide a transition between a water body and adjacent uplands. A buffer can have several distinct, yet related, purposes. A buffer protects the water quality through contaminant filtration and the trapping of sediments. A riparian buffer can also provide important habitat. Upland species may depend on riparian corridors for regional movement and other essential needs. Aquatic and wetland-dependent species may utilize riparian buffers for breeding, feeding and shelter during parts of their life cycle. Buffers may also shelter wildlife from disturbance by noise, lights or other consequences of human activities. Riparian buffers thus contribute to the maintenance of a fully functional ecosystem that encompasses the water body and its adjacent uplands. Finally, the recreational value of water bodies may be protected from aesthetic degradation by maintenance of undisturbed native vegetation in riparian buffers. The buffers required to protect water quality are ordinarily narrower than those required for habitat protection.

OFW rules do not consider riparian buffers, except where silvicultural activities are implicated. Silviculture BMPs for both OFWs and non-OFWs incorporate buffers that seem largely focused on protecting water quality, though with widths substantially less than some studies recommend.[219] To the extent that OFW designation is intended to protect water quality this seems appropriate. However, OFWs include a great diversity of waters in public ownership and "Special Waters" may be designated for their "outstanding ecological and recreational significance."[220] The definition of "outstanding ecological significance in particular suggests that an OFW so designated is "*part* of an ecosystem of unusual value …"[221] The basis for OFW designation is thus broader than protection of water quality and the qualities that may have lead to OFW designation cannot be maintained unless the watershed is managed with a more comprehensive set of goals. To the extent riparian uplands contribute to the ecological and recreational significance of an OFW, those values and functions should be protected.

The St. Marys River Watershed Report references a methodology for determining buffer widths, developed by the University of Florida's Center for Wetlands.[222] This study, the "Wekiva River Basin Buffer Study," suggests a science-based methodology focused on targeting significant species of animals and plants and then evaluating their buffer

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[219] For a comprehensive review of the scientific and management literature on riparian buffers, see SETH WEGNER, A REVIEW OF THE SCIENTIFIC LITERATURE ON RIPARIAN BUFFER WIDTH, EXTENT, AND VEGETATION (1999), *available at* http://www.rivercenter.uga.edu/service/tools/buffers/buffer_lit_review.pdf

[220] FLA. ADMIN. CODE, r. 62-302.200(11 & 12) (2008).

[221] *Id.* r. 62-302.200(11) (2008).

[222] SUSANNA BLAIR, ET AL., ST. MARYS RIVER WATERSHED REPORT: AN ADAPTIVE MANAGEMENT ASSESSMENT, 42 (2009), *available at* http://www.law.ufl.edu/conservation/resources/resources.shtml. *See also*, M.T. BROWN, ET AL., AN EVALUATION OF THE APPLICABILITY OF UPLAND BUFFERS FOR THE WETLANDS OF THE WEKIVA BASIN, FINAL REPORT TO THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (1987) *available at* http://www.cfw.ufl.edu/publications.shtml#R.

requirements to ensure their protection.[223] For example, studies indicate that buffers in wetlands should range from 322 feet to over 550 feet, while buffers in estuaries should be at least 322 feet with no maximum range indicated.[224] These suggested buffer ranges are typically wider than those afforded by silivcultural BMPs for both OFWs and non-OFW waters, and also exceed most riparian buffers required by local governments. The St. Johns River Water Management District has adopted rules protecting both wetland and upland habitat for aquatic and wetland-dependent species in Riparian Habitat Protection Zones in the Wekiva River, Econlockhatchee River, Tomoka River and Spruce Creek hydrologic basins.[225] These rules prohibit projects from adversely affecting the "abundance, food sources, or habitat" values for such species within areas, including uplands, that extend as far as 550 feet landward of a stream's edge.[226]

C. Impairment and OFWs

The federal Clean Water Act requires states to identify water bodies whose water quality does not meet the beneficial use classification that they have been given under the state program, based on the water quality standards and criteria assigned for that classification.[227] Water bodies that do not meet water quality standards must be designated as impaired and a "total maximum daily load" (TMDL) must be assigned for the violation of those standards that cause the impairment.[228] The assignment of a TMDL is designed to return the water body to the standards for the use for which it is classified. All water bodies in Florida are assigned to a class. OFWs serve as an overlay on the existing classification system. Hence, all OFWs also have an underlying beneficial use classification, but are not themselves considered a designated use by the state.

OFWs can also be impaired waters, either because they failed to meet water quality standards for their underlying classification when they were designated or because they have been subsequently degraded, notwithstanding the OFW non-degradation standard. However, because OFWs are not listed as designated uses it would appear that they could not be designated as impaired unless the underlying classification of the water body is itself impaired. This means that OFWs whose ambient water quality has been degraded below the quality established at or prior to the designation, but not to a point that the underlying use is impaired, do not trigger the establishment of TMDLs and the restoration planning that is accorded to impaired non-OFWs.

VII. Conclusion

The ability of current OFW regulation to fulfill the legislative intent behind the OFW designation remains uncertain. Judicial and administrative case law addressing OFWs provide little clear guidance in interpreting the statutory standards for the issuance of permits in or affecting OFWs, especially the "clearly in the public interest" standard. The FDEP should consider adopting for the OFW Program the type of public interest

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[223] *Id.*
[224] *Id.*
[225] *See,* FLA. ADMIN. CODE. ch. 40C-41 (2008).
[226] *See, e.g., id.* r. 40C-41.063(3)(e).
[227] 33 U.S.C. § 1313(d)(1)(A) (2008).
[228] *Id.* § 1313(d)(1)(C).

benefits/costs balancing test currently provided for in Aquatic Preserves Program rules. This test creates a discernible distinction between the public interest standard for submerged lands activities that are within aquatic preserves as opposed to those occurring outside of the preserves.

The effect of the OFW designation on water quality parameters subject to a narrative standard (nutrients), and on water quality parameters that are not currently established by rule (e.g. emerging pathogens of concern) has not been established. In addition OFWs do not appear to enjoy any special consideration as designated uses subject to impaired waters restoration. The definitions of non-degradation and of ambient water quality for the purposes of OFW designation should be amended to ensure that they contemplate degradation by contaminants other than the current rule–based list of water quality standards and criteria. The extent to which BMPs for silviculture operations are sufficient to safeguard OFW water quality may require further research. In addition, the extent to which the OFW statute and rules recognize the ecological role and recreational value of riparian zones remains in question. This should be clarified by the FDEP.

Appendix A

Florida Administrative Law Cases Addressing OFW Rule

Name, Case Number, Date	Activity Permitted	OFW Involved	Legal Issues	Mitigation	Holding: Recommended Order and/or Final Order
Bay Oaks Circle Association, Inc. v. DEP and Richard Perkins, Case No. 99-0851 (1999)	Environmental Resource Permit (ERP) to extend an existing multi-family residential docking facility that would exceed 500 square feet. Sovereign submerged land lease to permit the utilization of 2,219 square feet of submerged bottomland.	Lemon Bay – Class II OFW, aquatic preserve, and state-designated "Special Water."	Whether permitting criteria set forth at § 373.414(1), Fla. Stat. have been met. (¶ 16). The proposed extension would have a negative impact on sea grass and navigation.	No mitigation options discussed; Petitioner simply proposed having relevant statutes and rules waived for his activity, without supporting evidence.	"The evidence fails to establish that the proposed extension of the dock is clearly in the public interest." (¶ 33). The ERP and Land Lease denied.
Edmund Brennen (95-0494), Paul and Dorothy Marin (95-0495), D.L. Landreth (95-0496), David and Geri Wendt (95-0497), Julius and Stella Fielder (95-0498), and Jackie and Bright Johnson, Jr. (95-0943) v. Jupiter Hills Lighthouse Marina and DEP (1995)	Dredge and Fill Permit under r. 62-312, Fla. Admin. Code, to place pilings and riprap in state water for a construction project to enlarge an existing marina and add new slips for use by sailboats.	Jensen Beach to Jupiter Inlet Aquatic Preserve, which is a part of the Indian River Preserve, a Class III OFW.	Whether Jupiter Hills Lighthouse Marina is entitled to a permit for its project application submitted July 29, 1992, and revised November 15, 1993, to enlarge an existing marina and add new slips.	Jupiter Hills has agreed to the following mitigation activities: (a) installation and maintenance of an ex-filtration trench to improve water quality by trapping grease coming from the uplands and intercepting up to three-fourths of an inch of stormwater from draining into the basin; (b) prohibition of live-aboards, so as to avoid fecal coliform violations; (c) refrain from use of construction materials treated by heavy metals; (d) prohibition on new powerboats docking at the facility; (e) installation of navigational and no wake signs, for manatee protection; (f) and the installation of riprap.	Respondent Jupiter Hills has provided reasonable assurance that the proposed project is clearly in the public interest and will not affect water quality standards. (¶ 15 and 41). Permit issued. "Respondent Jupiter Hills has demonstrated that it has provided reasonable assurance that the proposed project will not cause water quality violations." (¶ 48).

Foster Burgess v. DEP, Case no. 93-2900 (1993)	Dredge and Fill Permit to construct a private boat dock, a platform for an "A" frame camping shelter, and a boardwalk all in jurisdictional wetlands along the water's edge of a "small natural basin off of the Choctawhatchee River."	Choctawhatchee River – Class III OFW. Adjacent to Class II shellfish waters.	"Whether Petitioner's application for a dredge and fill permit provides reasonable assurances that compliance will be had with applicable requirements of Section 403.918(2), Florida Statutes; specifically, that the project is in the public interest and that existing ambient water quality of an Outstanding Florida Water will not be lowered." (¶ Statement of the Issues).	No mitigation measures proposed by Petitioner	Petitioner failed to present reasonable assurances that: prohibited cumulative impacts will not result (subdivision of property and proposal of numerous similar projects); Class II waters will not be degraded; the project is clearly in the public interest; ambient water quality standards will not be violated; and detrimental secondary impacts will not occur. Permit denied.
Council of Civic Associations, Inc. (98-0999), Estero Conservancy, Inc. and Dorothy McNeill (98-1000), Ellen Peterson (98-1001), and Environmental and Peace Education Center (98-1002) v. Koreshan Unity Foundation, Inc. and DEP (1998)	ERP for the construction of a wooden footbridge for pedestrians over Estero River and to obtain a right to use sovereign submerged lands via easement	Estero River – Class III OFW	Whether DEP should issue permit and authorize the use of sovereign submerged lands when Koreshan has not provided reasonable assurance that the proposed footbridge would not adversely affect the water quality of the Estero River. The proposed footbridge would adversely affect the water quality in two respects: turbidity caused by the pilings and leaching from the chromated copper arsenate applied to the pilings. The pilings to be placed in the River "effectively divide the river into six segments of no more than 14 feet each," thereby adversely affecting navigation and diminishing the recreational value of the River for canoeists and kayakers.	Koreshan proposed using impermeable plastic or PVC material to wrap the pilings on the proposed footbridge to reduce the leaching of deleterious substances from the pilings. The proposed permit requires that Koreshan grant a conservation easement for the entire riverbank running along both shorelines of Koreshan's two parcels and also requires Koreshan to plant leather fern or other wetland species on three-foot centers along along both banks of the River for a distance of 30 feet.	Koreshan has failed to provide reasonable assurance that the proposed footbridge will not affect water quality and is clearly in the public interest. The ERP is denied, and because of concurrency requirements of Sections 253.77(2) and 373. 427(3), Florida Statutes, the easement is also denied. The proposed footbridge would adversely affect the public health, safety, or welfare and the property of others.

William and Jill Crouthers (97-0994) and Paul Tyre (97-1420) v. Captain J.B.'s Fish Camp and DEP (1997)	J.B Fish Camp (which includes a restaurant and aquaculture facility) applied for an ERP and variance from provisions of 40C-4.032(c), Fla. Admin. Code, for construction of a 16-slip docking facility.	Indian River North - Class II shellfish harvesting OFW and aquatic preserve.	J.B.'s wanted to replace its two existing docks with larger ones, as well as construct a concrete boat-launching ramp. They requested a variance from r. 40C-4.032(c), Fla. Admin. Code. DEP issued the permit and variance and Petitioners objected due to potential negative impacts to water quality from boat use and fish cleaning on the boat docks and ramp.	J.B.'s modified its original proposed project, reducing it to only one proposed dock, and no boat ramp. The FDEP also placed a number of conditions on the variance including: requirement of a wetland resource management permit; turbidity controls, if necessary; restricting the maximum boats allowed to dock at the facility; prohibiting discharges into the water; requiring that mooring areas be deep enough to prevent prop damage; requiring that any structure allow maximum sunlight penetration; and that the boat ramp be permanently closed. The FDEP also imposed conditions designed to protect manatees in the area. Finally, JB's agreed to establish a conservation easement over 224 linear feet of the shoreline that J.B.'s will plant with mangroves.	Proposed activities will not result in a worsening of the impacts to water quality. (¶ 40). Rather, it should lessen them by improving the depth at which boats will dock (reducing turbidity) and through "the elimination of fish cleaning on the docks, the elimination of the existing Bait Shop Dock, and the elimination of the existing boat ramp." (¶ 40). Impacts may also be lessened if J.B.'s adheres to the conditions imposed by FDEP on the docking of boats at the proposed Restaurant Dock. J.B.'s has made reasonable assurances to FDEP "that the proposed project is clearly in the public interest." (¶ 92).
Leland Egland v. Largo Bayside, Inc. and DEP, Case no. 88-3530 (1998)	Permit to alter mangroves on property owned by Largo Bayside in Key Largo	Florida Bay, an OFW.	Largo Bayside owns a condominium development in Key Largo. Adjacent to the units is a water body bounded by a mangrove berm approximately 4 acres in size. Florida Bay is on the other side of the berm. The view of Florida Bay is, to some extent, obstructed by the mangroves. Largo Bayside proposes to trim the mangroves in the center of the berm (about two acres wide) to a height of 13 feet above grade to improve the view.	Largo Bayside could have trimmed a large amount of mangroves according to an exemption in r. 17-27.060, Fla. Admin. Code. (¶ 5). However, Largo Bayside agreed to certain conditions by DEP to ensure no environmental damage would result from the trimming, as well as to ensure no impact on water quality or fish and wildlife would occur. (¶ 4). Moreover, according to the conditions, Largo Bayside actually trimmed fewer mangroves as a condition of this permit.	Largo Bayside provided DEP with reasonable assurance that no impacts to water quality will occur as a result of the proposed trimming, and they have shown that it is clearly in the public interest. (¶ 9).

Florida Audubon Society, Inc., et al. v. South Florida Water Management District and Lennar Homes, Inc., Case no. 02-1629 (2002)	ERP for development of a 516-acre residential community.	The project is not located in an OFW nor would it result in direct discharge of surface wate into an OFW. However, it is located about one mile from the southern part of the Biscayne Bay, an OFW, and much of its central and southern parts, including the area closest to the Project site, are within Biscayne National Park.	Lennar Homes wanted an ERP to build a 516-acre residential community in Miami-Dade County. The application, as revised, was for an ERP conceptually approving the construction of a surface water management system to serve the Project and authorizing the construction to clear the site, excavate the wet retention areas, and expand an existing lake.	The SFWMD imposed a flowage easement on the property, basically providing unlimited maintenance discretion to the SFWMD. Other conditions were also imposed in relation to the flowage easement. Lennar Homes proposed mitigation to offset the adverse impacts of the project.	"It was found that the Project will not cause adverse water quality impacts to receiving waters and adjacent lands." (¶ 6). "The Flowage Easement and new special conditions do not impose an inordinate burden upon Lennar Homes." (¶ 37). "The issuance of the ERP without the Flowage Easement and new special conditions would substantially impact the ability of the District to restore this part of Biscayne Bay." (¶ 47).
Florida Keys Citizens Coalition and The City of Key West v. 1800 Atlantic Developers and DER (now DEP), Case no. 86-1216 (1986)	Fill permit and water quality certification for creation of a sand beach, about 500' long by 100' wide, requiring placement of 2,620 cubic yards of fill, 2,200 yards of which would be waterward of mean high water off Key West, Florida.	Project site waters are "part of the navigable open waters of Hawk Channel and the Straits of Florida (Atlantic Ocean)" - Class III OFW. The waters in the area of the project (within the boundaries of the Florida Keys Special Waters) were also an OFW.	1800 Atlantic was the developer of a 168-unit condominium property in Key West and wanted to build a beach. Petitioners objected due to potential negative impacts on fish, wildlife, and the environment.	1800 Atlantic's original permit application included proposed construction of the beach, a jetty on the east end of the beach, a fishing pier on the west end of the beach, and an art display platform seaward. Due to DER's concerns, they changed the application and agreed to conditions that may allow DER to issue the ERP.	It was ultimately found that the project would adversely impact fish and wildlife habitat, marine productivity, and recreational values. 1800 Atlantic did not meet its burden of showing that the project was clearly in the public interest. The hearing officer found that the project, even as amended, lacked the requisite specificity needed to provide reasonable assurances.

Jeffery Jay Frankel v. DEP, Case no. 98-1326 (1998)	Petitioner seeks an exemption from the need to obtain an ERP or alternatively an ERP and a lease to use state sovereign submerged lands to collect and sell approximately 600 pounds of live sand per month.	Florida Keys National Marine Sanctuary – Class III OFW	Petitioner collects and sells "live sand," which is considered a dredging activity within a sanctuary. "Live Sand is a calcium carbonate sediment used in public and home aquaria as a decorative detoxifying agent." (¶ 3). "Live sand is found on offshore water bottoms in the Florida Keys (where Petitioner engages in his collection activities) and other areas in Florida." (¶ 4). Petitioner dives underwater to scoop with his hands and take away the live sand, which has significant environmental effects. Removing the live sand removes organisms that are important components to the aquatic food chain, reduces the biological diversity, leaves the newly exposed substrate unable to attract the same significant benthic community supported by live sand, and increases turbidity which affects the water quality and clarity.	Petitioner proposed no mitigation options. "If the Department authorizes the Project, it is reasonable to anticipate that other collectors of 'live sand' would seek the Department's approval to engage in similar activity in the area" (cumulative affects). (¶ 26).	"Petitioner has not provided, through his evidentiary presentation, reasonable assurances that the Project would not result in violation of state water quality standard or that the Project would be clearly in the public interest." (¶48). Further, the project is inconsistent with the goals and objectives of the Conceptual State Lands Management Plan. (¶ 23).
Charles Griffin v. St. Johns River Water Management District and Live Oak Plantation No. 1, Ltd. (98-0818); Michael Rich and Coalition for Responsible EconLockhatchee	Application for a conceptual approval of an ERP for a multi-phased single-family project with two small commercial sites on approximately 1,041 acres.	Project site located near confluence the of Econlockhatchee (Econ) River and Little Econlockhatchee River. The Live Oak Reserve property includes approximately	"Historically, the Live Oak Reserve property has been used for agricultural practices, including siliviculture and cattle production. Some areas of the property have been logged and some areas have been converted to pasture. Cattle have grazed in wetlands, thereby	Petitioner developed a site plan "which minimizes impacts to wetlands and other surface water functions, particularly as it relates to the Econ river, and maximizes the benefits to wildlife by establishing a series of wildfire corridors across the site." (¶ 14). Additionally, "the impacts are mostly limited to the small isolated wetlands, the	"Live Oak submitted detailed technical information, including but not limited to charts, maps, calculations, studies, analyses and reports necessary to show that the conceptual development plan was consistent with the permitting criteria of the

Development, Inc. v. St. Johns River Water Management District and Live Oak Plantation No. 1, Ltd. (98-0819) (1998)		half of Horseshoe Lake, as well as a small creek, Brister Creek, which flows from Horseshoe Lake across the property to the Econ River. Econ River is a Class III water and an OFW.	decreasing the amount and diversity of groundcover vegetation on portions of the property. On-site drainage ditches have had a major impact on the hydrological characteristics of the wetlands on the property, including the reduction of surface water elevations." (¶ 9). Live Oak proposes to develop a large multi-phased single-family project with two small commercial sites. The project, to be known as Live Oak Reserve, will be on approximately 1,041 acres. Petitioners allege negative impacts to area wildlife.	upland/wetland transitional edges of the floodplain wetlands, and portions … already degraded by a ranch roadway and ditch placement. Live Oak focused its impacts on areas, including wetlands, that were historically disturbed." (¶ 63). "The proposed on-site component of the mitigation plan entails the preservation of 19.3 acres of herbaceous marsh, 373.2 acres of forested wetlands, and 124.9 acres of uplands. The mitigation plan preserves approximately 5.65 acres of isolated wetlands on-site, and approximately 386.86 acres of [other] wetlands on-site." (¶ 68). "The off-site component of the mitigation plan is the contribution of $160,525 towards participation in the SJRWMD acquisition of a conservation easement over the 3,456 acre Yarborough parcel. The Yarborough parcel is located in the northeastern corner of the Econ River Hydrologic Basin. The Yarborough parcel encompasses property north and south of the Econ River." (¶ 79).	SJRWMD found in Chapter 40C-4, Florida Administrative Code." (¶ 12). "The evidence presented at the final hearing demonstrated that Live Oak has provided reasonable assurance that the requirements of SJRWMD rules have been met and the permit should be granted." (¶ 119). Live Oak will have no adverse effects on the health, safety, or property of others and any adverse impacts will be adequately offset by mitigation. Live Oak is not contrary to the public interest. Therefore, the ERP approval was upheld.
Michael Guttman v. FDEP and ADR of Pensacola, Case no. 00-2524 (2000)	Wetland resource permit and sovereign submerged lands authorization allowing the construction of a 30-slip docking facility on Big Lagoon, Escambia County, Florida.	Big Lagoon – Class III water and OFW.	Petitioner opposes the issuance of a WRP since he lives less than 1 mile from the proposed project, which is part of a condominium property to be constructed on the upland portion of the property. Reasons for Petitioner's opposition include the status of the water as an OFW and added navigational hazards	The negative impacts were secondary in nature, meaning the facility itself (the dock, platform, and pilings) would not cause the negative impacts. Rather, the real negative impacts were the secondary impacts associated with increased boat traffic that would likely cause more turbidity. The applicant proposed placing pilings with signage reading "NO BOATS BEYOND	Originally, there were three positive, one neutral, and four negative benefits or impacts associated with the project. In the ALJ's judgment, the negative impacts, which were secondary in nature, outweighed any positive benefits and the project was contrary to the public interest and was not

			from the project. Originally, the project was denied because of adverse affects of fish and their habitat because of a further thinning of seagrass colony and increased water turbidity.	THIS POINT" to deter boats from navigating across the seagrass. Similar pilings and signage have been successful on the North shore of Big Lagoon. (¶ 8). To mitigate the turbidity caused by wave action from the boats, the applicant proposes placing an aluminum baffle system along the outermost slips (waterward side) of the facility to disperse wave action. Once the baffle system is installed, it will become colonized with sessils (barnacles and oysters), which should provide new habitat for fish in the area.	permitted. However, on remand the applicant was given an opportunity to propose mitigation measures to offset the negative impacts. These were accepted by DEP and the permit was ultimately approved.
Hernstadt Broadcasting Corporation v. DER and The Charter Club, Inc., Case no. 80-1702 (1981)	ERPs for building a radio transmitter tower and access dock in state owned submerged lands in Biscayne Bay.	Biscayne Bay, a State Aquatic Preserve and OFW.	Petitioner applied for ERPs to construct a radio transmitter tower and access dock in state submerged land within the Biscayne Bay. "The placement of the pilings would cause the destruction of certain seagrasses in that area, while at the same time promoting the introduction of marine life along the surfaces of the tower and dock supports. Seagrasses in the area where the grounding system would be placed may be destroyed and although the copper to be used would be nickel plated, thereby inhibiting the release of the toxic properties of the coated copper, eventually the nickel plating would break down and the marine life	Petitioner intends to place channel markers to divert boat traffic away from the tower to aid in navigation. Petitioner contends its public service function through programs it broadcasts and its emergency capabilities and the ancillary opportunities to be offered to governmental bodies to use the transmitter tower as a communication link.	"Petitioner has failed to affirmatively demonstrate that this project is clearly in the public interest. The project is not in keeping with the provisions of the Biscayne Bay Aquatic Preserve Act and although it would insure to the benefit of certain governmental agencies (i.e. the City of Miami) it is incompatible with the efforts of Dade County through its Comprehensive Master Plan, its Biscayne Bay Management Plan and the Biscayne Bay Restoration Plan which is administered by the DER. The Biscayne Bay Act and the various plans call for the availability of this area of Biscayne Bay for purposes of recreation in a way which protects the

			communities adjacent to the mesh would be harmed by the copper. The loss of seagrasses under the grid could cause a reduction in fish population." (¶ 16). Moreover, the installation of the radio tower and access dock in the Biscayne Bay is an impediment to navigation. (¶ 17).		environment and emphasizes aesthetics." (¶ 33). "The project is an unreasonable interference with the lawful and traditional public uses contemplated for the preserve which would include fishing, boating and swimming, both in terms of the area that now exists and the area as it is contemplated to be developed in the future." (¶ 29).
Ralph Jensen v. DER, Case no. 89-2064 (1989)	Permit to fill submerged areas waterward of the mean high water line abutting property owned by Petitioner on Big Pine Key. Petitioner also proposed to place a riprap revetment over seagrass in the submerged area, and pilings for a stilted structure in the submerged areas.	Florida Keys – Class III Special Waters OFW	The proposed project site is very diverse and productive. The filling of this area would result in the direct elimination of healthy seagrass beds, a drop in the diversity of organisms existing in the filled area, and violate standards of turbidity. "Petitioner contends he's trying to reclaim a portion of his lot which has eroded, however the evidence of erosion was very slight and only found in a small area where the property adjoins the vertical seawall of the adjacent property." (¶ 5). Respondent claims valuable and diverse wildlife and habitat in the proposed activity area will be adversely affected.	"The filling proposal does not include any measures designed to mitigate for or offset these expected adverse impacts."	Evidence did not establish that project is clearly in the public interest. In fact, the evidence established that project is contrary to public interest. Because of the destruction of a healthy seagrass and algae community and the lack of any mitigation measures, the project will adversely affect fish and wildlife, and marine productivity, and will degrade the current condition and relative value of the affected areas." (¶ 27). The cumulative impacts of the project are great and the effects of "similar projects for which applications reasonably may be expected must be considered." (¶ 28).

Manasota-88, Inc. and Manatee County Save Our Bays Association, Inc., Martin Rosen, and Faye Rosen v. Hunt Building Corporation and DER, Case nos. 90-2350 and 90-2736 (1990)	Dredge and fill permit for construction of a 3,800 square foot dock and relocation of an existing access channel.	Property located contiguous to Sarasota Bay, a Class II water body and OFW.	Whether Hunt Building Corporation should be issued a permit to construct a linear dock along an artificial canal running into Sarasota Bay, and to relocate an existing access channel by dredging a replacement channel to the canal. DER identified several deficiencies in the proposal which it required be modified before a permit could be issued. Hunt agreed to comply with all of the Department's modifying requirements.	"Any sea grasses in the area of the channel will be protected by the installation of signs indicating their location. Speed will be limited by the installation of "No Wake" zone signs, and, in addition, the natural dog-leg in the channel should minimize the impact to adjacent shorelines and reduce the potential for shoaling or erosion." (¶ 9). Plan calls for the removal of approx. 20 trees and the trimming of an additional 230. Because the trimming, as a part of an exempt activity, is also exempt, mitigation in not required. Hunt, however, proposed to plant 3 trees for every tree removed or trimmed. This proposal was considered acceptable to the Department and was incorporated as one of the permit conditions. As a result of the mitigation activities, mangrove and seagrass populations should be increased and the shoreline enhanced. In regards to turbidity and water quality, to insure that existing ambient water quality standards are maintained during construction, the Department has established a mixing zone and will require the use of double turbidity curtains. To protect the manatee population, "the Department has also included conditions to the permit requiring the posting of manatee awareness signs along the canal and channel and the installation of a permanent informational display at the facility." (¶ 14).	ALJ found the project to be clearly in the public interest. There is no indication that significant historical and archeological resources will be substantially affected. In fact, none were shown to exist. The area is currently a mangrove swamp performing no function other than that of a step in the ecological water purification system. Evidence of record shows that this function, now only minimally effective, will be enhanced and improved by the project. As to the possible effect on the public health, safety, welfare, or the property of others, notwithstanding considerable cross examination of the applicant's and Department's witnesses, the Petitioners were unable to show any appreciable detriment to any." (¶ 25). "Since any discharge of pollutants into Sarasota Bay, an OFW, would be minimal, non-detectable and non-measurable, such pollutants as would exist are permissible under the water quality standards." (¶ 27).

Ocean Reef Club, Inc. v. DER, Case no. 87-4660 (1988)	Dredge and fill permit authorizing excavation of a marina basin, the connection through mangroves of that basin to an existing tidal creek, and the use of such creek for navigational access.	Key Largo – Class III Special Waters OFW. "The wetlands in and around the project site, including No Name Creek, are within an OFW, specifically the Florida Keys Special Waters. The project site is located in North Key Largo." (¶ 17).	Petitioner was issued a permit to construct residential docking spaces in Key Largo. "During the 2 year processing time leading to issuance of the permit, Petitioner sold a portion of their property including the access channel to third parties that then refused channel construction across their property." (¶ 5). Petitioners requested modifications to their permit. Respondent claims this project is so different that it requires a new permit application. (¶ 6). "DER's consistently applied policy is to require all such significant permit modifications to be processed de novo as wholly new permit applications because to do otherwise would not be in the public interest." (¶ 6).	"It is implausible that Petitioner's plans to limit boat size through condominium documents to be enforced through a homeowners association, to install mirrors, signaling devices, and latches at certain points along the creek, and to install tide staffs at creek entrances will prevent potential head-on boat collisions or bottlenecks in No Name Creek. It is equally implausible that these procedures can provide reasonable assurances that there will not be a chronic increase in water turbidity from increased use or damage to biota from propellers and boat impact." (¶ 19).	Ocean Reef Club has not provided reasonable assurance that this project will be clearly in the public interest or that water quality standards will not be violated. (¶ 32 and 35). "The increased boat use of No Name Creek inherent in this dredging project will adversely affect the quality and diversity of the biota," which currently enjoys a strong ecological status. (¶ 21). " This project will adversely affect fishing and recreational values as well as marine productivity in the creek, even while there is some increase in recreational and fishing values for marina residents." (¶ 41). "The current condition and relative value of functions being performed by the creek are extremely high and the factors proposed in mitigation will not ensure recolonization of the same high quality and diverse biota." (¶ 43). Permit denied.
Pine Island Properties, Ltd. v. FDEP, Case no. 93-2713 (1994)	Permit to fill 0.78 acres of wetlands for residential construction.	Project site immediately adjacent to Forty Acre Bay/Bay 36, a Class II OFW (part of the Pine Island Sound Aquatic Preserve).	FDEP initially denied Petitioner's permit request, over concerns about the potential for turbidity-related water quality violations due to increased boat use, the adverse floristic impact caused by fill washout into adjacent	Petitioner presented mitigation options, but FDEP was still not reasonably assured that the project's impacts would be offset.	"The evidence establishes that because this project will adversely affect the conservation and habitat of fish and wildlife, including endangered or threatened species, will cause harmful erosion of the shallow bay bottom,

			wetlands, the loss of the filtering benefits provided via the filled wetlands and the adverse impact on wildlife habitat. (¶ 22).		will adversely affect the fishing or recreational values or marine productivity in the vicinity of the project, and will cause a permanent adverse impact on the current condition and relative value of functions being performed by areas affected by the proposed activity, the proposed permit is contrary to public interest" and will result in an adverse impact to and degradation of an OFW. (¶ 67). The evidence establishes that adverse secondary and cumulative impacts will result from permitting this project. Permit denied.
Sarasota County and Midnight Pass Society, Inc. v. DER, Case no. 90-3533 (1990)	Permit to dredge two access channels and a deposition basin along Bird Island to connect the inlet to the Intracoastal Waterway. Approximately 283,000 cubic yards of material would be dredged. Some of the dredged materials were to be deposited along the nearby beaches of Siesta Key and Casey Key. The County owns a stretch of beach and uplands along the areas to be dredged.	Little Sarasota Bay – Class III OFW. "The project site is located at the juncture of Siesta Key and Casey Key. These Keys form a barrier along the western boundary of Little Sarasota Bay." (¶ 3).	The County's original plan for the reopening of an inlet that emptied into the Gulf of Mexico was denied by DER. The central issue in this case is whether the DER should grant a permit requested by Sarasota County. This request was supported by the Intervenor, Midnight Pass Society, Inc. and opposed by the Intervenors, Manasota-88, Inc., North Casey Key Association, Sierra Club, Inc., and Jeffrey Jones.	Since the area in discussion is critical habitat for the West Indian Manatee, the County proposed a manatee protection program. (¶ 22-23). They also proposed a turtle protection program to combat impacts to the Loggerhead Sea Turtle's nesting habitat. (¶ 27). If the channels are constructed, "the flushing and arrival of predator fishes will adversely affect the nursery habitat." (¶ 32). "The dredging proposed by the County would eliminate at least 50 acres of wetlands. At least ten acres of seagrasses to be dredged would not be expected to reseed or colonize in the deep channel cuts" and mitigation for loss of dredged seagrasses has not been proposed	The County failed to establish that the proposed project is clearly in the public interest. (¶ 43). "Based upon the criteria cited above, the County has not demonstrated that any of the positive consequences expected to flow from this project would balance or outweigh the negative impacts which are reasonably expected. Advantages to boaters or recreational users of the pass do not adequately offset the impacts to the manatee, the estuarine fisheries, the seagrasses, the mangroves, the turtles, and the birds

				by the County while mitigation for lost mangroves was proposed. (¶ 34). In order to complete both access channels it is expected that 43.8 acres of wetlands will be affected by the dredging. Additionally, "the proposed project will require beach renourishment to continue for an indefinite period of time." (¶ 37). Marine environments do not serve a more useful environmental purpose than estuarine systems. The water quality within LSB will not be significantly improved as a result of the reopening of the inlet. "The Department has not permitted the destruction of a habitat of this size without requiring the applicant to provide extensive mitigation." (¶ 40).	which are currently utilizing this estuarine environment." (¶ 49).
James Slater et al. v. Orange County and South Florida Water Management District, Case no. 97-0437 (1998)	An ERP for a park and boat ramp project.	Lake Isleworth – Class III OFW, part of the Butler Chain of Lakes, a series of interconnected lakes in Orange county, covering in excess of 5,000 acres.	Whether Orange County should be granted an ERP to expand access to the Lake by the addition of another boat park and ramp in the vicinity of the petitioners and intervenor's (Regina Gibbs) properties.	"The project is expected to result in 0.07 acres of secondary wetland impacts (removal of littoral zone vegetation) above that required for construction. (¶ 56). "A total of 0.14 acres of wetland impacts will occur from direct construction and secondary wetland impacts." (¶ 57). "Mitigation for the 0.14 acres of wetland impact includes 0.56 acres of wetland creation." (¶ 58).	Orange County provided reasonable assurances that the construction and operation of the proposed boat ramp will comply with all applicable water quality, water quantity, and environmental permitting criteria, will not cause adverse water resource impacts, will not cause violations of applicable state water quality standards, and is clearly in the public interest.

Sunset Acres Property Owners Association v. DEP, Case no. 91-7958 (1996)	Permit for the removal of a plug that, prior to a1991 storm, had separated the Sunset Acres channel and canal system from Florida Bay. (¶ 67). The project also includes the shoaling of the shore-parallel canal and the construction of bulkheads. (¶ 67). The permit sought would authorize (after-the-fact) the connection of the Sunset Acres canals with the open waters of Florida Bay.	"Sunset Acre's channel and canal system consists of a channel and four steep-sided canals." (¶ 6). Three of the four canals run east-west and connect at their western end with a fourth canal, referred to as the shore-parallel canal because it runs parallel to the perimeter berm that separates the development from Community Harbor, which is a part of Florida Bay." (¶ 7). Florida Bay – Class III OFW.	DEP denied a permit application by Sunset to connect to the then-closed (but now open) canal network in the Sunset Acres subdivision by removing a plug and excavating two flushing cuts through an earthen berm separating the shore-parallel canal from an existing access channel.	"Petitioner has not proposed, nor has it agreed to, any mitigation measures that likely would offset the adverse effects of the proposed project to such an extent as to justify the issuance of a permit." (¶ 75). However, Petitioner has requested that the Department, in the alternative, approve a modified version of the proposed project with the option of either installing "three boat lifts, one at the basin end of each of the three finger canals," in lieu of having notches in the bulkheads, or "install[ing] a single boat lift at the entrance channel and clos[ing] the entrance." (¶ 77).	Denied Petitioner's request for a dredge and fill permit for the proposed project and granted Petitioner's request for a dredge and fill permit for the modified proposed project. Petitioner did not provide reasonable assurance that the proposed project will not degrade the water quality of Florida Bay. (¶ 73). Also, the "Petitioner failed to provide reasonable assurance that the proposed project is not contrary to the public interest (much less shown that such activity is clearly in the public interest)." (¶ 74). Specifically cited was § 373.4593, Fla. Stat., which "declar[ed] that an emergency exists regarding Florida Bay due to an environmental crisis manifested in widespread die off of sea grasses, algae blooms, and resulting decreases in marine life, conditions [which] threaten the ecological integrity of Florida Bay and surrounding areas and the economic viability of Monroe County and the State of Florida." (¶ 71).

Delcie Suto, et al. v. Celebrity Resorts, Inc. and DER, Case no. 91-2722 (1991)	Permit for wastewater treatment and reuse/ disposal facility.	Project located in northern Marion County on the southern border of Orange Lake, an OFW.	"Celebrity is seeking a DER permit to construct a 0.065 million gallon per day wastewater treatment and reuse/disposal facility to serve a proposed recreation vehicle (RV) park. (¶ 1). "The RV park is to be located on 75 acres of land, and is to contain 372 RV and 'park model' sites, four bath houses, a clubhouse, and an expanded boathouse." (¶ 2).	No mitigation was discussed. However, although the proposed facility is not a highly sophisticated plant, reasonable assurances have been provided that it will comply with DER's requirements for secondary treatment and basic disinfection and proper operation. (¶ 14).	"Evidence presented in this case indicates that there is reasonable assurance that none of the applicable DER rules will be violated by the construction of the [facility] and spray irrigation system as proposed by Celebrity Resorts, Inc." (¶ 42).
Harold and Charlotte Toms v. FDEP and Springs on King Bay, Case no. 93-5724 (1994)	Dredge and fill permit for Springs on King Bay, a condominium association, to construct a 12-slip docking facility.	Hunter Spring Run – a Class III OFW.	FDEP issued an Intent to Issue the requested permit. Petitioners Harold and Charlotte Toms filed a challenge to the issuance of the permit. (Order Denying Amended Motion to Tax Costs and Reasonable Fees). The weight of the evidence proved the proposed facility would not lower water quality standards, would only have temporary turbidity during construction, would not affect the public health, safety, or welfare. (¶ 18, 19, and 21).	Springs, in negotiation with FDEP, amended the original proposal to reduce the size of the dock facility and agreed to a conservation easement. "Because of the conservation easement, the cumulative impact of the proposed project will be in the public interest due to the decrease in the potential number of boat slips in the area." (¶ 44). Moreover, Springs agreed to a number of measures to protect manatees during and after construction.	Springs provided reasonable assurance that, based upon a balanced consideration, the proposed project is clearly in the public interest. (¶ 59). Petitioners offered no evidence to rebut these assurances. Section 403.919(3), Florida Statutes, requires a consideration of the cumulative impacts of the proposed project. Cumulative impacts of the proposed project will be minimized and, because of the conservation easement, will be in the public interest. (¶ 60).
Robert Vanwagoner (95-3621) and Save Anna Maria, Inc. (95-3622) v. DOT and DEP (1995)	Department of Transportation sought a dredge and fill permit for bridge reconstruction.	Anna Maria Island Bridge is about 9000 feet south of the confluence of Sarasota Pass and Lower Tampa Bay. Sarasota Pass	Whether DOT is entitled to a "dredge-and-fill permit from DEP for the purpose of demolishing the Manatee Avenue drawbridge to Anna Maria Island and constructing a fixed-span, high-level bridge 20 feet south of the existing	DOT has not minimized the project by proposing the no-build alternative, so consideration of seagrass mitigation is premature. (¶ 193). The seagrass mitigation in this permit is vague, unenforceable, and ultimately nonexistent. "The seagrass mitigation offered by	Denied the DOT's application for a dredge-and fill permit. DOT failed to provide reasonable assurance that the proposed project is clearly in the public interest. "DOT has provided no reasonable assurance as to

		connects to the Tampa Bay estuary to the north and Sarasota Bay estuary to the south. Sarasota Pass and Sarasota Bay are OFWs. The waters in the vicinity of the Bridge are Class II waters. (¶ 58).	bridge." The project is likely to affect seagrass, manatees, and mangrove.	DOT is deficient in three respects. First, the transplant receiving site is too small. It is 0.19 acres as compared to the likely permanent loss of 2.5 acres and temporary loss of 2.0 acres. The second deficiency is that the primary seagrass mitigation is too speculative. The third deficiency of the seagrass mitigation plan is its contingent nature, which is perhaps inevitable when the primary seagrass mitigation plan is widely conceded as unlikely to succeed." (¶ 87-95).	five of the six applicable criteria and has provided reasonable assurance only as to part of the sixth criterion." (¶ 183). DOT failed to provide reasonable assurance that the project would not lower ambient water quality in Sarasota Pass. "DEP and DOT have not analyzed the water-quality impacts attributable to the probable destruction of an extensive area of seagrass. Underestimating the seagrass losses by an order of magnitude and lacking many important measures of water quality, DOT cannot provide reasonable assurance that the proposed project would not degrade ambient water quality in the area of the bridge. To the contrary, the proposed project would likely degrade water quality." (¶ 111).
Town of Windermere v. Orange County Parks Dept. and DER, Case nos. 90-1782, 90-1813, 90-2155, 90-2156 (1990)	Orange County Parks Department applied for a dredge and fill permit for construction and installation of a floating boat dock to accommodate boats and pedestrians loading and unloading boats from an existing boat ramp.	The Butler Chain of Lakes, including Lake Down, Wauseon Bay, and the interconnecting waterway – All OFWs. (¶ 93).	Whether the "Orange County Parks Department is entitled to a dredge and fill permit from the DER for the construction and installation of a boat dock on Lake Down."	"Suggestions that the dock could be moved lakeward of its proposed location were vague and never crystallized into a formal request to amend the application. If such suggestions qualify as a proffer of a mitigative condition, the condition is concluded to be insufficient." (¶ 103).	Orange County has failed to provide reasonable assurance that the proposed project would not result in a violation of applicable ambient water quality standards and has failed to provide reasonable assurance that the proposed project is clearly in the public interest. (¶ 98-99).

Henry Ross v. City of Tarpon Springs and FDEP, Case no. 00-2100 (2003)	City of Tarpon Springs applied for an ERP and lease to use Sovereign Submerged Lands for dredging and maintenance dredging of sediment from eleven locations in or adjacent to the Anclote River and surrounding bayous and lagoons in order to maintain/improve navigation for commercial and recreational boating.	Pinellas County waters – all of which are designated aquatic preserves and OFWs.	After Tarpon Springs applied for the permits, DER issued a notice of intent to issue. Petitioner challenged the intent to issue. The issue is whether Tarpon Springs should be issued an ERP and Authorization to Use Sovereignty Submerged Lands for the dredging of existing channels in order to improve/maintain navigation for commercial and recreational boaters.	The City amended the original application to address several of DER's concerns. The modified application "significantly changed the whole concept of the project from one that would increase boating traffic to one that would maintain the current boating traffic." (¶ 16). However, no additional mitigation was offered.	The evidence established that the project will not result in violations of the water quality standards nor degrade the ambient water quality in an OFW. The City provided reasonable assurances that its activities will not adversely impact OFWs or Class II waters and will not contribute to boat traffic in a manner that will adversely impact the manatee. The evidence demonstrates that the proposed activity is clearly in the public interest.
Stanley Dominick, et al. v. Leland Egland and FDEP, Case no. 01-1540 (2002)	Leland Egland, applied for an ERP "to fill an illegally-dredged trench or channel in mangrove wetlands between Florida Bay and what was a land-locked lake, to restore preexisting conditions."	Florida Bay – Class III OFW. The channel connecting the land-locked lake to Florida Bay was man-made and not an OFW. Manatees began using the channel to enter the lake from Florida Bay.	DEP issued a notice of intent to issue the permit and Petitioners challenged. This issue is whether DEP should grant the application of Leland Egland.	N/A	Egland gave reasonable assurance that filling the trench or channel at issue to restore preexisting conditions will not degrade the water quality of Florida Bay. To the contrary, "if the water quality changes as a result of this project, it will likely improve since less lower-quality water from South Lake will enter Florida Bay." (¶ 35). Egland provided reasonable assurances that the restoration project will not adversely impact manatees. (¶ 40). "Egland's evidence was sufficient to provide reasonable assurance that his proposed restoration project is clearly in the public interest." (¶ 41).

Singer Island Civic Association, Inc. and 1000 Friends of Florida, Inc. v. Robert Simmons, Jr., Little Munyon Island of Palm Beach County, and DEP, Case no. 01-1800 (2001)	ERP and consent to use sovereign submerged lands for construction of a single-family residential dock and to fill wetlands on Little Munyon Island located in Lake Worth Lagoon, a saltwater estuary. (¶ 1). "The proposed dock is significantly larger than a typical private, single-family dock. No other of its proportions can be found in Palm Beach County" and it is more of a commercial nature. (¶ 49). "The dock was specifically designed for use in construction of an 8,000 to 10,000 square-foot residence, plus swimming pool, on the island." (¶ 23). Little Munyon Island is a 1.5 acre undeveloped island surrounded by 16 acres of privately owned, mostly submerged land. (¶ 4-5). The area is vegetated with very high quality seagrasses and there is a high degree of biological diversity. (¶ 15).	Little Munyon Island is located just south of the John D. MacArthur State Park and Big Munyon Island. The Park waters are Class II OFWs	Whether Respondent, Robert J. Simmons, Jr. should be issued an ERP and a Consent to Use Sovereign Submerged Lands to construct a private, single-family, residential dock for access to Little Munyon Island and to fill jurisdictional wetlands on the island in order to construct a residence on the island. It was estimated that, to fill the island, if applicant "used barges 120-130 feet long and capable of hauling 300 tons of fill, he would need to deliver 27-30 barge loads of fill to the dock and there is a reasonable likelihood that some of this fill will fall into the water." (¶ 64).	Simmons modified the application, which proposed mitigation for the loss of .15 acres of wetlands. (¶ 29). The proposed mitigation did not create wetlands, but rather would replace "submerged and intertidal habitat with mangroves and cordgrass habitat. (¶ 34). "Simmons proposed placement of rip-rap breakwaters just landward of the existing limit of seagrass, or further landward, to provide wave and scouring protection and planting of mangrove and other species landward of the rip-rap." (¶ 29). After DEP denied the modified application, another modification was made with more mitigation steps related to the proposed dock. "Simmons also offered to record a conservation easement on the 16 acres of privately-owned submerged lands surrounding Little Munyon Island." (¶ 40).	ALJ found the real purpose of the dock was to construct a 8,000 – 10,000 square foot home. "A less intense use of the island would have fewer impacts on the environment" and alternatives were available. (¶ 50). Damage to the seagrasses will result from direct construction of the dock and resulting shading. Even if the dock was shortened by 35 feet to avoid the need to obtain consent to use sovereign submerged lands, the water depths at the alternative location would be even shallower and impacts on seagrasses from scouring and turbidity would be even greater. (¶ 85). "Simmons did not provide reasonable assurances that resulting secondary impacts … would be acceptable." (¶ 107). Even if the dock is not shortened, there are significant secondary impacts to water quality and seagrasses surrounding Little Munyon Island and possible impacts on the Class II OFW in MacArthur State Park. Risk of those impacts is contrary to the public interest. (¶ 107).

Daniel Rothenberger, Michael Irwin, and Vernon Powers v. Southwest Florida Water Management District and DOT, Case no. 02-3423 (2003)	Florida Department of Transportation applied for an ERP "to construct the Pinellas Bayway Bridge Replacement and associated surface water management system."	The existing Pinellas Bayway Bridge is a two-lane bascule structure located within and spanning Boca Ciega Bay, an OFW.	Whether the DOT should be granted an ERP authorizing constructions of "the Pinellas Bayway Bridge Replacement and associated surface water management system."	"The mitigation project to compensate for impacts by the Replacement Bridge to sea grass beds within the affected surface waters is a water circulation project at Fort DeSoto Park, located at the southern end of Boca Ciega Bay," in the same receiving waters where the impacts will occur. (¶ 31).	ALJ found the Project will not degrade water quality in Boca Ciega Bay. Also found the record established that the Project will actually improve water quality in the Bay. (¶ 32). The project will not adversely impact fish or wildlife "based upon the stipulation with respect to the adequate protection of sea turtles and manatees during bridge construction." (¶ 52). "The Department has presented a prima facie case that it has provided the reasonable assurances necessary to obtain the ERP." (¶ 72). Reasonable assurance has been provided that the Project will be clearly in the public interest. "Petitioner has failed to present contrary evidence of equivalent quality showing that the Department is not entitled to the permit." (¶ 72).
Butler Chain Concerned Citizens, Inc. v. Windermere Botanical Garden, L.P., and DEP, Case no. 03-2471 (2003)	ERP for a muck-removal project in an eight-acre cove at the northwest corner of Lake Butler. Windermere Botanical Gardens sought to remove invasive aquatic vegetation from wetlands within the landward extent of Lake Butler.	Lake Butler, part of the Butler Chain of Lakes, is an OFW.	Petitioners challenge DEP's consent agreement with WBG that, after the fact, authorized WBG to remove invasive aquatic vegetation. Petitioners alleged the scope of the work far exceeded the work permitted. Despite finding multiple violations, DEP issued the consent agreement.	N/A	Petitioner lacks standing despite the multidimensional role of Lake Butler in the lives of substantial numbers of its members and WBG's obvious violations of the laws protecting OFWs and governing the private use of sovereign submerged lands. Petitioner's standing is precluded by the fact that the record

					does not support a finding that the acts and omissions of WBG contributed to any water quality violations in Lake Butler, including an algae bloom that took place in early August 2002. To the contrary, the ALJ found that the removal of the tussock and muck from the cove, especially in tandem with the completion of the revegetation required by a 2001 permit, will improve the water quality of Lake Butler and add to the diversity of the habitat associated with the lake. And, in the short run, the berm and turbidity barriers protected the open waters of the lake from construction- and stormwater-related turbidity. Under these circumstances, Petitioner lacked standing to dispute the proposed agency action of DEP in finalizing the consent agreement with WBG. (¶ 60-61). WBG's multiple violations were left to DEP to punish.
Bd. of Comm'rs of Jupiter Inlet Div. and Jeffery and Andrea Cameron and Doug Bogue v. Paul Thibadeau and DEP, Case no. 03-4099 (2005)	ERP and authorization to use Sovereign Submerged Lands for noticed general permit to construct a single family dock.	Loxahatchee River-Lake Worth Creek Aquatic Preserve – Class II OFW.	Noticed general permit to "install a 900 square-foot dock comprising a three-foot by 250-foot access walkway, a six-foot by 25-foot terminal structure, and two eight-foot by 30-foot boat slips – one a wetslip and the other a boatlift" in	"The platform covers submerged bottom that is uncolonized by seagrass, and, given its coarse sand and shell hash, as well as the water depths and water clarity, this bottom is unlikely ever to be colonized by seagrass. The portion of the dock that traverses seagrass will shade	"The Revised Application meets the requirements of an NGP. It is a single-family pier that will accommodate the mooring of no more than two boats. The handrails and high deck will discourage mooring along the dock,

			the central embayment of the Loxahatchee River in Palm Beach County.	this vegetation, but the effect of shading is mitigated by the seven-foot elevation of the deck, translucency of the decking material, and near north-south orientation of the deck." (¶ 28). "To mitigate for any cumulative impacts to these resources, to avoid adverse precedent for two dock structures per parcel, and to limit adverse precedent for lengthy docks to comparable water depths, the Letter of Consent must contain the condition – already agreed to by Applicant – that he remove the existing dock before constructing the new dock." (¶ 66).	and the terminal platform is not designed to moor safely more than two boats. At the boat moorings, the water depth will be in excess of two feet at mean low water. The terminal platform and moorings are not over seagrass. The deck that traverses seagrass is elevated two feet more than what is required in the rule, and it is one foot narrower than what is permitted in the rule. The platform and deck do not significantly impede navigation. Applicant will conduct no dredging and filling beyond what is required to install the pilings." (¶ 40-42).
Captiva Civic Association, Inc. et al. v. SFWMD and Plantation Development Ltd., Case no. 06-0805 (2006)	ERP for construction and operation of a surface water management system serving a 78.11-acre condominium development known as Harbour Pointe at South Seas Resort, with discharge into wetlands adjacent to Pine Island Sound.	Pine Island Sound – Class II OFW.	Whether the SWFWMD should issue a ERP Modification to Plantation Development, Ltd. for construction and operation of a surface water management system. "The project will destroy and fill 2.98 acres of these wetlands. Indirect (secondary) impacts to the adjacent preserved wetlands will result from alteration of hydrology of the 2.98 acres of directly impacted wetlands." (¶ 50).	"The proposed mitigation for the mangrove impacts included: restoration (by removal and replanting) of .6 acre of the north-south sand/shell road, with resulting enhancement of the adjacent preserved mangrove wetlands through improved hydrologic connection across the former shell/sand road and improved tidal connection to Pine Island Sound to the east; and preservation of the rest of PDL's property." (¶ 17). "A conservation easement was offered for the 73.31 acres to be preserved, including 71.10 acres of wetlands. PDL also offered to purchase .11 credits of offsite mitigation from the Little Pine	"The current condition and relative value of the functions being performed by the areas affected by the proposed activity are very valuable. That is why the reduction and elimination analysis is particularly important in this case. Assuming appropriate reduction and elimination, mitigation according to the UMAM assessment can offset unavoidable impacts to the functions performed by the areas affected by the proposed activity." (¶ 79). Moreover, "the proposed system is not located in

				Island Wetland Mitigation Bank." (¶ 19). A monitoring program lasting at least five years was offered to ensure success of the restoration and mitigation proposal.	the Pine Island Sound OFW; rather, it discharges into adjacent wetlands. Secondly, PDL offered the unrebutted expert testimony that the system will not measurably degrade Pine Island Sound. Therefore, PDL's burden was to provide reasonable assurances that the project is not contrary to the public interest" and they provided such reasonable assurances. (¶ 117).
Ian and Keli Lineburger, et al. v. Prospect Marathon Coquina and FDEP, Case no. 07-3757 (2008)	ERP for construction of a dock expansion to serve a residential condominium development. Prospect Marathon Coquina (PMC) is the developer.	Big Bayou, near the southern end of the St. Petersburg peninsula. The mouth of the bayou opens to Tampa Bay. Big Bayou is part of the Pinellas County Aquatic Preserve, which includes most of the coastal waters of Pinellas County. Pinellas County Aquatic Preserve is a Class II water and OFW.	Whether PMC is entitled to an ERP for the proposed expansion of a docking facility, and whether PMC is entitled to a modified sovereignty submerged land lease for the proposed project.	PMC agreed to the following to meet the public interest criteria: (a) contribute $300,000 to the construction of a second boat ramp at the current Sutherland Bayou Boat Ramp project in Palm Harbor; (b) install and maintain navigational aides marking the main channel in the bayou; (c) install markers indicating the location of seagrass beds; (d) install and maintain an informational display at the public boat ramp in Grandview Park, relating to the protection of seagrasses and natural resources within the bayou; and (e) install and maintain an aerial map at the Grandview Park boat ramp depicting the location of the navigation channel and the seagrass beds in the bayou. (¶ 56).	Taking into account the proposed conditions, the adverse environmental impacts would be insignificant. However, the second ramp would put boats into waters where there has been greater seagrass losses, more prop scarring, and more manatees killed by boat collisions than in Big Bayou. PMC's contribution to the boat ramp would actually increase the secondary and cumulative impacts of PMC's proposed project and causes it to fail the public interest criteria. Without the $300,000 contribution, PMC would meet the "clearly in the public interest" test because the other mitigation would offset the impacts of the proposed project." (¶ 61-61).

Normandy Shores, LLC v. DEP, Case no. 08-0217 (2008)	Exemption from ERP requirements for the construction of ten docks to serve a luxury townhome community.	Normandy Waterway and Indian Creek. Both of these waterbodies are in the northern portion of the Biscayne Bay Aquatic Preserve, a Class III water and OFW.	Whether the applications filed by Petitioner for an exemption from ERP requirements to construct and install ten docks to serve eighteen private boat slips and a letter of consent to use sovereign submerged lands in Indian Creek, within the Biscayne Bay Aquatic Preserve, Miami Beach, Florida, should be approved.	No mitigation discussed.	Because the private docks were associated with upland "multi-family living complexes," and less than 65 feet apart, the project does not meet the requirements of the rule and cannot qualify for an exemption. To qualify for a letter of consent, the docks must first qualify for an exemption from ERP requirements. (¶ 38). Petitioner also failed to show that the project will not cause unacceptable cumulative impacts: "the more credible evidence supports a finding that the proposed activities will cause direct and indirect adverse impacts on the Preserve's natural systems, so that the submerged lands and associated waters will not be maintained "essentially in [their] natural or existing condition" as required by r. 18-18.001(1), Fla. Admin. Code.
Project Key West and the Florida Keys, Inc. d/b/a Last Stand v. Monroe County and South Florida Water Management District, Case no. 08-3823 (2009)	Modification to ERP for an airport runway safety area.	Airport located in the City of Key West. There are approximately sixteen wetlands, five surface waters, and some salt ponds in and around the project area. The salt ponds are OFWs.	Whether to approve an application by Monroe County to modify its ERP to authorize the construction and operation of Runway Safety Area improvements for the existing runway and associated wetland mitigation work at Key West International Airport.	The County proposes to implement a mitigation proposal at two different locations within and adjacent to the Airport that includes 11.30 acres of mangrove swamp and tidal flat creation, 3.64 acres of bay and estuary creation, 5.21 acres of wetland enhancement, and 0.96 acres of upland hammock enhancement, for a total of 21.11 acres. (¶ 13).	Although Last Stand failed to prove the elements of associational standing, it was allowed to fully participate and litigate all issues raised in its Petition. "The County has established its entitlement to the requested modification of its ERP. Where conflicting evidence

				In addition to Mitigation Area Nos. 1 and 2, which on their own offset the wetland impacts, the County agreed to preserve an additional 55 acres of salt pond habitat. These 55 acres are referred to as Preservation Area No. 3.	on the issues was presented, the more credible and persuasive evidence was accepted in favor of the applicant. Therefore, the County's application to modify its existing ERP should be approved." (¶ 109).
Bayshore Homeowners Association, et al. v. DER and Grove Isle, Inc., Case nos. 79-2186, 79-2324, 29-2354 (1980)	Water quality control permit for the construction of a 90-boat wet-slip marina on Grove Isle.	Biscayne Bay – Class III OFW.	Whether Grove Isle has provided reasonable assurances that the construction and operation of the proposed marina will not cause a violation of state water quality standards, will not interfere with the conservation of fish and other marine wildlife, and will not create a hazard to safe navigation of Florida waters.	No mitigation was discussed. However, "the original plan for the marina, which was objected to by DER was modified to protect a bed of seagrasses." (¶ 1). DER attached several conditions to the notice to issue the permit, including: measures to control turbidity, prohibition of live-aboard vessels, water markers, a chemical monitoring program, and manatee warning signs.	Grove Isle failed to demonstrate that its project is affirmatively in the "public interest" and it is undetermined whether the applicant can meet ambient water quality standards within the project area. "After a consideration of all the foregoing factors, the intent of the preservation acts, and DER's rules, it is concluded … that the greater benefit to the greater number of Floridians lies in denying the application of Grove Isle." (¶ 25).
Charlie Toppino & Sons, Inc. v. DOT and DER, Case no. 80-0854 (1980)	Variance for construction and operation of a borrow pit (mining operation) in the Florida Keys to provide fill material, currently provided by a pit in Cudjoe Key.	Proposed site comprised entirely of tidally inundated wetland areas in Key Deer Refuge, in the Florida Keys, an OFW. The area is a feeding ground for the Florida Key deer.	DOT is seeking a variance from various water quality provisions to construct and operate a "borrow pit" in the Florida Keys. "The issue in this proceeding is whether the variance sought by DOT should be granted because of the financial benefit that would accrue to the State, or denied because of adverse environmental impacts."	No mitigation was discussed.	Proposed borrow pit would result in violations of DER's standards for dissolved oxygen. But, operation of state-owned borrow pit would save the state money. Variance request should be denied because potential savings were not established with precision; the project is in an OFW; and the adverse environmental consequences were established with precision.

Wilber Walton v. DER, Case no. 80-2315 (1981)	Dredge and fill permit for the construction of a 12-foot wide road across approximately 270 feet of swampy area dominated by bald cypress. The proposed fill would result in permanent elimination of at least 3,240 square feet of area within the landward extent of the Suwannee River.	Project site is a tract of land adjacent to the Suwannee River in Dixie County, Florida. Suwannee River – Class III OFW.	Whether petitioner has established his entitlement to the requested permit and concomitantly whether the proposed project will be in the public interest and whether it will have a negative impact on the waters of the state.	Mitigation not discussed.	Project was clearly shown to reduce the quality of the receiving waters below the classification established for them, and exacerbate the degradation of the receiving waters of the river already occasioned by existing fill roads in the swamp. Petitioner failed to provide affirmative reasonable assurances that proposed project will not result in violations of water quality standards. A preponderance of the evidence demonstrates clearly that the proposed project will cause pollution in contravention of the Department's rules and will result in violations of the water quality standards. Moreover, the cumulative effect of permitting the project is great.
Raymond Hodges, Jr. and Anne Hodges v. DER, Case no. 81-1088 (1981)	Dredge and fill permit for construction of boat basin, boat ramp, and a retaining wall. The proposed dredging operation would connect the canal system to the navigable portion of the Suwannee River. The area in question provides flood protection and controls sedimentation.	Tract of land adjacent to and partially within the landward extent of the Suwannee River in Dixie County, Florida. The Suwannee River is a Class III OFW.	Whether Petitioners provided affirmative reasonable assurances that the proposed project will not result in violations of the water quality standards or Department rules and whether the project will cause pollution.	No mitigation was discussed to offset the numerous and serious adverse affects of the project.	Petitioner failed to provide reasonable assurances that project will not result in violations of water quality standards. Thus, project is not in the public interest. Preponderance of the evidence also demonstrates that the project will cause pollution in contravention of Chapter 17, Fla. Admin. Code.

DER v. Noel Brown and Carolyn Brown Case no. 81-2629 (1981)	Unauthorized filling activities were discovered during an aerial inspection of property along Yellow River. The filling and bulkheading activities around a boat slip occurred in an area dominated by species listed in r. 17-4.02(17), Fla. Admin. Code.	Activities occurred in the Yellow River marsh system. The Yellow River is classified as a Class II water, an Aquatic Preserve, and an OFW.	During an aerial inspection in August 1980, a DER employee noticed what appeared to be unauthorized filling activities on Respondents' property. The issues was whether Respondents may continue to operate and maintain the stationary installation, consisting of a bulkhead and fill, on the subject property without an appropriate and valid permit from DER.	Mitigation was not discussed. However, DER issued an Order of Corrective Action that set forth the following requirements: Respondents (1) must stop further dredging or filling, (2) pay a fine to reimburse the expenses of investigation, and (3) submit a plan of the total restoration of the area following specific requirements of DER. (¶ 11).	Respondents' activities were undertaken without an appropriate and valid permit. "The activities resulted in the alteration of the chemical, physical, and biological integrity of the waters of the Yellow River, including the marsh area fringing the river, by the destruction of wetlands which provide food and habitat for wildlife, and which provide a filtrative and assimilative capacity to remove nutrients and other pollutants from the lake waters. The discharge of fill onto the marsh areas … resulted in injury to the biological community that existed there." (¶ 9). The discharge of fill "has resulted in injury, and in the obliteration of animal, plant, and aquatic life." (¶ 23). Thus, the Respondents have violated § 403.161(1)(a), Fla. Stat.
George DeCarion and James Roberts v. DER, Case no. 81-3242 (1982)	Dredged and fill permit from DER to construct an upland canal and access channels for a private, 70-acre, residential development on Key Largo in Monroe County, Florida.	John Pennekamp Coral Reef State Park is a Class III OFW renowned for its unique coral reef formation and a diversity of marine organisms.	Whether any portion of this project, specifically the northern circulation channel, lies within the boundaries of the John Pennekamp Coral Reef State Park.	Petitioners propose to recreate a similar number of mangroves as are removed by the dredging and to replant seagrasses in the proposed channels. However, "the probability of a successful replanting of seagrasses in the proposed artificial canal and access channels was not adequately demonstrated by the evidence in this proceeding." (¶ 19).	"For purposes of locating a boundary, the physical location of a monument controls over written calls of its location." (¶ 14). It was determined that the project site was not within the Park boundaries, but located approximately 363 feet south of the Park's southerly boundary. "The petitioners have failed to affirmatively provide reasonable assurances

					that the construction of a 4,400 foot long upland canal with access channels, and the consequent destruction of mangroves and grass bed communities, will not cause violations of the State water quality standards regarding dissolved oxygen and biological integrity. The petitioners have likewise failed to demonstrate that their project, located in close proximity to the John Pennekamp Coral Reef State Park, will not cause environmental damage to such an extent as to be contrary to the public interest." (¶ 21). Thus, the petitioners have failed to provide reasonable assurances that the short- and long-term effects of the proposed activity will not violate water quality standards for Class III waters and will not significantly degrade the OFW located just 363 feet to the north.
Sierra Club, Calusa Group, c/o Ellen Peterson, Co-chair v. Lee County, Black Island Resort, and DER, Case no. 82-0159 (1982)	Three permits for a sewage treatment plant, disposal system, and reverse osmosis water treatment plant.	Groundwater at the drain field site mixes with the surrounding waters within Estero Bay Aquatic Preserve, a OFW.	Whether the proposed sewage treatment plant and attendant waste disposal system will violate water quality standards.	No mitigation discussed.	Applicant did not provide reasonable assurance that the nutrient pollutants involved will not constitute significant degradation of the OFW, will not lower existing ambient water quality, or that the project is clearly in the public interest. Permit denied.

Richard Buchanan v. DER, Case no. 82-3543 (1983)	Permit to dredge an access channel.	Apalachicola Bay – Class III OFW.	Whether petitioner should be authorized to dredge a channel to restore the access he had to deeper water before another's illegal "prop-dredging" caused sediment to accumulate and block his access. Before the disturbance, the configuration of the bottom allowed small boats to come all the way into shore.	Rule 17-4.28(8)(a), Fla. Admin. Code, requires a plan for minimization of the environmental effects of projects of this kind. Ordinarily, it would fall to the applicant to devise such a plan to conserve Departmental resources. In the present case, however, "where petitioner is volunteering to effect partial restoration at his own expense, it would be oppressive to saddle him with the additional burden of retaining persons with the expertise necessary to formulate such a plan, particularly when respondent, whose interests petitioner is advancing, has persons with such expertise in its employ." (¶ 18).	"It is very clearly in the public interest to allow a citizen, at his own expense, to restore bottomlands to the condition in which they existed for decades before illegal activities of a stranger altered them, especially where the citizen alerted the authorities to the illegal activities while they were in progress." Neither petitioner nor any predecessor in title was responsible for the sudden man-made transformation. Petitioner complained to the appropriate authorities contemporaneously with the illegal acts that caused the problem and took steps to prevent the illegal damage. "It is sound policy to encourage such participation by citizens in protecting the environment." (¶ 17). Evidence didn't suggest any long-term adverse, cumulative, environmental impact, if petitioner's proposed project was allowed. (¶ 14). Permit granted "on such reasonable conditions, including turbidity curtains, as are necessary adequately to protect the project vicinity." (Recommended Order at 6).

Joel Beardsley et al. v. Mark Bartecki and DER, Case no. 83-1532 (1983)	Permit to construct a dock and boat slips. "The proposed dock would be the first structure of its type permitted by DER on Cudjoe Bay." (¶ 13).	Cudjoe Bay – Class III OFW within the Key Deer National Wildlife Refuge.	Mark Bartecki and associates are seeking various governmental approvals for construction of a 50-unit duplex housing development on 25 lots on the shore of Cudjoe Bay. Bartecki initially sought mooring facilities for as many as 25 boats, but through negotiations with the Department amended the application to provide that no more than eight boat slips and eight boats will be accommodated. Issue is whether permit should be granted.	Bartecki's planned to mark a channel which would help reduce random boat traffic and concentrate boat traffic in the marked lane so as to reduce consequential propeller damage to grass beds in a wider area of Cudjoe Bay.	"[N]o such construction [should] be permitted in waters accorded this high degree of protection unless the public will actually be substantially served by the installation of such a facility." (¶ 25). Although applicant affirmatively demonstrated reasonable assurances that the project would be environmentally palatable, he has nevertheless failed to meet the heavy burden of the "public interest test." Permit denied. ***REVERSED by the District Court of Appeal for the First District in holding that "Denial by the [DER] of a permit to construct a dock adjacent to applicant's property, based on applicant's failure to show that the project was clearly in the public interest, was erroneous, as reflected in contemporaneous case in which imposition of such a public interest requirement prior to issuance of construction permit for stationary installation not involving the discharge of waste into state waters was an invalid exercise of delegated authority."

Craig Zabin (84-0358) and Judy Ryan and Robert Sampson (84-0449) v. Brevard County and DER (1984)	Permit to construct a sludge wastewater treatment plan utilizing chemical additives, a tertiary sand filter, disinfection by chlorination, and effluent disposal to a drainage canal and then to Newfound Harbor.	Effluent will be discharged into a ditch that eventually intersects with Newfound Harbor. At that point the Harbor waters are classified as Class III waters. A portion of the Harbor, well to the south of the discharge point, is classified as an OFW. The discharge would not have an impact that was technically measurable on that portion of Newfound Harbor.	Whether a permit should be issued to Brevard County authorizing the construction of certain modifications to its Fortenberry wastewater treatment and disposal plant in Merritt Island, Florida. Petitioners contend that the construction would result in the discharge of effluent containing toxic substances into an OFW. Furthermore, petitioners contend that the plant has no operating permit, that it has violated "discharge standards" for the last three years, and that the plant's present discharge is harmful to human health and aquatic life in violation of various DER rules.	No mitigation was discussed. However, the draft permit authorized the activity subject to fifteen general and ten specific conditions. (¶ 3).	Applicant provided reasonable assurance that the proposed improvements to the Fortenberry Plant will comply with the various standards and not discharge, emit, or cause pollution in contravention of Department standards or rules. The permit is granted in accordance with the terms and conditions of the draft permit. "The construction of the improvements authorized by the permit should not be delayed since the Fortenberry Plant is currently violating its waste load allocation and polluting the waters of Newfound Harbor." (¶ 13).
Sierra Club, et al. v. DER and Port Bouganville, Inc. Case nos. 84-2364, 84-2365, 84-2385, 84-2327: (1984)	Seeking authorization to modify an existing boat basin and marina on northern Key Largo Florida. The facility is designed to serve a real estate development.	Existing boat basin in marina lies on northern Key Largo in Monroe County, adjacent to Garden Cove, an embayment of the Atlantic Ocean. Garden Cove is a Class III OFW. Marina is also on the western edge of John Pennekamp Coral Reef State Park, an OFW.	Whether an existing marina, already authorized by DER, DNR and by the "Development of Regional Impact" Development Order, should be granted an application for modification and reconstruction. In addition, whether the marina modification project will comport with the various water quality, marine life protection and environmental safety parameters, and if so, whether and under what conditions, the permit should be issued.	Port Bougainville agreed to modify the marina to shoal the marina basin and canal system to a depth of no more than -4 feet mean low water at the north end of the basin and -6 feet in other areas; to reduce the capacity of the marina to 311 boat slips; to install a bubble screen around the fueling facilities and relocate those facilities; to provide for marking of the access channel and installing tidal gauges at the entrance; to reconfigure the access channel; to grant the Department a conservation easement providing that there would be no connection between the marina and certain upland	The Department shall issue a permit to Port Bougainville to make the proposed modifications to the marina. It was established that "the modification of the marina as proposed will actually be clearly in the public interest inasmuch as it will substantially improve the existing marina." (¶ 43). "Moreover, the evidence clearly shows that the activity sought to be permitted will not 'significantly degrade' the waters of Pennekamp Park either alone or in combination with other

				lakes, that Port Bougainville would not use boat lifts requiring dredging and filling, that it would not apply to increase the number of boat slips above 311, and that it would take certain precautions to protect John Pennekamp State Park.	existing installations. Thus, it has not been established that the OFW rule will actually apply, [as it was not established that] the modifications to the marina will significantly degrade these [OFW]." (¶ 44). Permit granted subject to the conditions incorporated in the agreement and the conservation easement. A further condition was added to the conservation easement that the deposition of boats from the inland lakes system into the marina and its access canal be prohibited." (RO pg. 22).
Jolly Rogers Estate Property Owners Association, Inc. v. Charles Loverino and DER, Case no. 84-2716 (1984)	Permit to construct a 165-foot extension to an already existing wooden dock.	National Key Deer Refuge and Pine Channel, classified as an OFW.	Whether permit should be granted to construct a 165-foot long by 6-foot wide extension to his present wooden dock. "The dock will run parallel to an existing canal which serves as the main entrance channel to Jolly Roger Estates, a subdivision which is currently being developed, and which possesses a network of dead end canals." (¶ 2).	No mitigation discussed.	No evidence was introduced that proved the project would lower existing ambient water quality. "The existence of the proposed dock extension will have no effect on ambient water quality itself." (¶ 15). Petitioners were concerned that live-aboards would adversely affect water quality. "However, DER's proposed permit conditions would prohibit live-aboards from utilizing the proposed dock extension." (¶ 15).

River Trails, Ltd. v. South Florida Water Management District, Case nos. 85-2272 and 85-3678 (1986)	Permit for the construction of a boat ramp and docking facility.	The Loxahatchee River, classified as an OFW and critical habitat for the Florida manatee. Portions of the River and the canal system have also been included by the Department of Natural Resources as within the Loxahatchee River Zone of the Florida Manatee Sanctuary Act.	Whether petitioner should be granted a right of way occupancy permit to construct a boat ramp and docking facility within the works (canal system) of the South Florida Water Management District. River Trails' facility will increase boating within C-18 (within the Loxahatchee River) well beyond the 37-slip capacity of its dock facility. The District's management plan for the area is designed to restructure the canal's present configuration to provide natural habitat, reduced erosion and scenic beauty.	No mitigation discussed.	"Due to the restricted access from C-18 into the Loxahatchee River, boats located at River Trails' development will likely be approximately 23' in length and powered by outboard motors. Such watercraft, through their introduction of oils and greases, contribute to a degradation of water quality." Neither party, however, addressed the potential impacts to water quality from the total number of boats that would utilize the boat ramp and boat slips at the proposed facility. "By failing to address this issue, and limiting its proof to the impacts from a maximum of 97 boats, River Trails has failed to give reasonable assurances that its proposed project will not cause or contribute to a violation of Class II water quality standards." (¶ 22). Permit denied.

Ralph Kehn, et al. v. City of Sarasota and DER, Case nos. 85-2382 and 85-2385; Myakka Valley Ranches Improvement Association, Inc. v. City of Sarasota and DER, Case no. 85-3409; City of Sarasota v. DER, Case no 85-3410; Wyatt Bishop, et al. v. City of Sarasota and DER, Case nos. 85-0337, 85-0338, 85-0339, 85-0340, 85-0341 (1986)	Permits for wastewater treatment improvements, dredge and fill, and exemption to use wetlands for recycling.	Surface and groundwater presently flows from the proposed spray site to the south-southwest into Howard Creek, and to the south-southeast into East Ditch, both Class III waters, which then converge and flow into Upper Lake Myakka, a Class I water and a OFW. From Upper Lake Myakka, water flows into Vanderipe Slough, a class III water body, and Lower Lake Myakka; a Class I water and OFW via the Myakka River.	The city has three applications involved in this matter, including: (1) an application for a permit to construct wastewater treatment plant and disposal system improvements: (2) an application for a permit for dredging and filling for activities associated with this project and (3) an application for a wetlands exemption to allow the use of wetlands for water and wastewater recycling through the use of a sprayfield.	Proposed project will preserve 96 acres of natural wetlands on the East Ditch and create a total of 196 acres of artificial or mitigation wetlands. (¶ 11).	Recommended that the Department enter a Final Order denying the City of Sarasota's Application for Wetlands Exemption, Application for Construction Permit, and Application for Dredge and Fill Permit. Since the City has not demonstrated its entitlement to a wetlands exemption, its efforts to mitigate the project's adverse effects with the use of mitigation wetlands cannot be pursued, and the exemption provided in § 403.918(2)(b), Fla. Stat. from dredge and fill criteria and water quality standards is therefore not applicable.
Friends of Fort George, Inc., et al. v. Fairfield Communities, Inc. and St. Johns River Water Management District, Case nos. 85-3537 and 85-3596 (1986)	Permit for surface water management system and Consumptive Use Permit.	Fort George Island and surrounding surface waters, which are Class II and III OFWs.	Friends of Fort George, Inc., et al., challenge the District's proposed issuance of a conceptual approval with conditions for the surface water management system of a development which includes residential units, commercial space, and a 27-hole golf course on Fort George Island. Fairfield Communities concedes that even if	"Mitigation will be required for any disturbance of a small wetland area on the west side of the Island which is approximately 3/4 of an acre in size." (¶ 56). Moreover, the District recommended that fourteen specific conditions be placed on the conceptual approval.	Recommended that the District issue a conceptual approval to Fairfield Communities for the surface water management system, as well as the Consumptive Use Permit with conditions as set forth by the District. This recommendation was affirmed and ordered in the final agency order

			conceptual approval is obtained, it will have to apply for actual construction, operation or maintenance permits pursuant to §§ 373.413 and 373.416, Fla. Stat.		after all exceptions to the original recommendation were heard.
Boca Grande Club, Inc. v. DER, Case no. 85-3849 (1986)	Dredge and fill permit to construct an additional 25 boat slips with a private docking facility in conjunction with its multi-family, residential development. Boca Grande Club currently operates an existing 58-slip marina at the same location.	Project is to be located in Gasparilla Sound, in the Charlotte Harbor Aquatic Preserve, a Class II OFW	Whether Petitioner has provided reasonable assurances that the proposed dredge and fill project will not lower ambient water quality in the Charlotte Harbor Gasparilla Sound Aquatic Preserve or violate Class II water quality standards. Additionally, it must be determined whether the Petitioner has provided reasonable assurances that the proposed project is clearly in the public interest.	Petitioner failed to propose any measures designed to mitigate the adverse effects that may be caused by the project. The biological communities or "fouling organisms" which may attach to the proposed dock pilings will not constitute mitigation for the likely loss of the seagrass habitat. The fouling communities do not provide significant habitat for marine organisms or detrital production for the higher forms of marine organisms such as fish.	Petitioner failed to provide reasonable assurances that the project will not lower ambient water quality in the OFWs nor did it provide reasonable assurances that the project will be clearly in the public interest. The adverse effects to marine productivity, conservation of fish and wildlife and their habitats, and the other ill effects which will result from the advent of this project outweigh any benefits inuring to the public and to the local community from the project. (¶ 44).
Sante Fe Lake Dwellers Association, Inc. v. DER and Sante Fe Pass, Inc., Case no. 85-4446 (1986)	Permit to construct sewage treatment plant to treat sewage generated by staff and diners at a 150-seat restaurant and by inhabitants of 150 lodge or motel rooms, comprising 100 distinct units. The applicant assumed that 150 rooms could house 275 persons who would generate 75 gallons of sewage a day and that a 150-	Sante Fe Lake and Little Sante Fe Lake are OFWs.	Whether SFP's revised application for a permit to construct a sewage treatment plant with percolation ponds should be granted or should be denied for failure of SFP to give reasonable assurances that the plant will not cause pollution significantly degrading the waters of Gator Cove. Evidence showed that effluent from the proposed plant would enter OFWs under overflow conditions and there was a	No mitigation discussed.	It is likely that the proposed water treatment plant would indeed result in effluent seeping to the surface of the ground down slope from the percolation ponds and flowing overland to Gator Cove, ultimately inducing eutrophication of the Cove, in violation of the legal prohibition against significant degradation of waters designated OFW. (¶ 67). Permit denied.

	seat restaurant would generate 50 gallons of sewage per seat per day. Full occupancy is projected to engender 28,125 gallons of sewage per day. (¶ 4).		likelihood that effluent would enter under normal weather conditions, therefore r. 17-4.242, Fla. Admin. Code, also applies. (¶ 57).		
Leisey Shellpit, Inc. v. DER and Manasota-88, Inc., et al., Case nos. 86-0568 and 86-0569 (1986)	Variance and a dredge and fill permit to construct and operate a 870-boat marina. Petitioner proposes to develop 55 acres located on a 16-acre lake adjacent to the waters of Little Cockroach Bay in Hillsborough County. Leisey Shellpit proposes to widen and deepen existing canals and mosquito ditches to provide access from the marina to Cockroach Bay and the open waters of Tampa Bay. The developer also plans a flushing channel, a 250-seat restaurant, a 24-unit hotel or motel, a museum, fueling facilities with upland gas storage, an 8-boat ramp launching area, a convenience store, a boat repair facility, a dockmaster's office and 688 parking spaces. A 114-unit apartment complex and 23 single-family residential lots are	Cockroach Bay Aquatic Preserve – Class II OFW approved for shellfish harvesting. The proposed marina would be located in a lake created by shell mining, which is not a state water at this time. It will, however, become a state water when connected to other state waters by the proposed access channels and flushing channel. Upon connection, it would be classified as a Class III water body. (¶ 3).	Whether Leisey Shellpit, Inc. is entitled to a variance of Rule 17-4.28(8)(a), Fla. Admin. Code (renumbered as 17-4.280(8)(a) effective November 20, 1986) in order to apply for a dredge and fill permit for its project known as Mangrove Bay Marina located in Hillsborough County; and, if so, whether petitioner is in fact entitled to a dredge and fill permit from the DER.	Petitioner offers mitigation plans with regard to seagrasses, mangroves, stormwater, agricultural runoff and sewage treatment. Petitioner argued that this mitigation, along with the provision of a secure and well-policed facility, will have a beneficial effect upon public health, safety and welfare and will conserve fish and wildlife and their habitat. It is also urged that its well-marked and maintained channels will improve navigation and not contribute to harmful shoaling or erosion and will provide for an adequate flow of water."	The Cockroach Bay and Little Cockroach Bay areas are relatively undisturbed by development. The area is important as a research area and as a nursery area for juvenile fish and shellfish. "Even if petitioner were entitled to a variance, it has not provided reasonable assurances that the short and long term effects of the proposed activities will not violate water quality standards and public interest requirements so as to be entitled to a dredge and fill permit." (¶ 37). "The petitioner's mitigation plans for the removal of seagrasses and mangroves is likewise unacceptable." (¶ 42) "While the project may provide some advantages with regard to recreation and public safety, its adverse effects upon fish, wildlife, harmful erosion and shoaling, marine productivity and the present condition and value of the functions being performed in the area are contrary to the

	also planned on other lakes nearby, which would require, stormwater and agricultural runoff systems and a sewage treatment plant.				public interest. Petitioner has failed to demonstrate any overriding public interest that would outweigh these considerations." (¶ 47). Permit denied.
Sante Fe Pass, Inc. v. DER and Sante Fe Lake Dwellers Association, Inc., Case no. 86-1445 (1986)	Permit to construct stormwater management system to serve all of Phase II of the Santa Fe Pass development, which consists of approximately 20 acres. Phase II contains an access road, tennis and racquet ball facilities, 50 cabanas or villas (constructed as duplexes) which will serve as overnight accommodations for a private club, a restaurant and other common buildings for recreational use, and a dry boat storage facility.	Sante Fe Lake and Little Sante Fe Lake are OFWs.	Whether Petitioner is entitled to the issuance of an individual construction permit for a proposed stormwater management system intended to serve Phase II of the Petitioner's land development project.	No mitigation discussed. However, "every aspect of the proposed stormwater management system exceeds the Department's design and performance criteria, and the evidence clearly establishes that the facilities comply with the best management practices and performance standards outlined" by the Department. Moreover, "the design for this system includes ample considerations for sediment, turbidity, and erosion controls during the construction phase of this project, and the operation and maintenance schedule will ensure continuing compliance with Department criteria" (¶ 6).	Because applicant provided additional storage as specified in § 17-25.025(9), Fla. Stat., it has presumptively afforded the OFWs additional protection. In addition, the special protections afforded OFWs by § 17-4.242(1) have been satisfied. "The applicant has provided competent and substantial evidence by comparing the predicted concentrations of the waters discharged with ambient water quality that there will be no degradation of the receiving waters. Furthermore, the public interest criteria … are inapplicable to this application since the proposal does not involve the discharge of waste into an OFW." (¶ 12).
Richard O'Malley v. DER and Meister Developments, Case no. 86-4747 (1987)	Dredge and fill permit issued to Meister Developments for a revetment with riprap. The project's purpose was to combat erosion that was threatening to undermine a condominium complex. At the time of the	The revetment is located near the northerly coast of Pine Island in Charlotte Harbor. The property fronts on Pine Island Sound, a Class II OFW.	Whether DER should issue a dredge and fill permit to construct a 205 linear feet interlocking block revetment with riprap toe stones and deposit approximately 296 cubic yards of fill 196 feet waterward of mean high water in Charlotte Harbor. Challengers alleged that	No mitigation discussed. However, Meister agreed to grant a conservation easement to DNR and an easement to allow the public access across the property seaward of the residential development. Additionally Meister conferred with the OFW Group to obtain their acquiescence to the project and agreed to provide navigational aids to mark the Jug	The water quality issues were limited to those due to or caused by erosion and the public interest issues only involved the adverse effect on neighboring property. The effect of the project on other property should be considered, but the weight of the evidence suggests the revetment is not the

	challenge, the permit had already been issued and the project completed.		the project is causing severe erosion; does not meet water quality standards; is not in the public interest; and will have secondary and cumulative adverse impacts.	Creek Channel. Additionally, "to enhance the public interest concept the applicant agreed to place toe stones at the foot of the revetment and plant mangroves." (¶ 6).	proximate cause or a contributing factor of beach erosion at O'Malley's property. Project, with the conditions imposed, is in the public interest. The permit was rightfully granted.
Harvey Higgins and Charles Coe v. George Roberts and DER, Case no. 87-1188; Villa City Homeowners Association, Inc. v. George Roberts and DER, Case no. 87-1253 (1987)	Permit to construct a water ski course.	Lake Emma, a 175-acre lake located within the Palatlakaha River Basin. Lake Emma is the northernmost lake in the Clermont Chain of Lakes, an OFW. The course itself will take up only approx. 1.39 acres, however, with the turnarounds at each end and an additional 75 feet of width to complete the course's circuit, 4.82 acres of lake surface would be affected.	Whether a permit/water quality certification should be granted to construct a permanent slalom water ski course 800 feet long and 75 feet wide in Lake Emma. "Harvey Higgins and Charles Coe (Case No. 87-1188) and the Villa City Home Owners Association, Inc. (Case No. 87-1253) timely filed petitions for a formal administrative proceeding to challenge the application." (¶ 2).	No mitigation was discussed. The project would have the greatest negative impact on the property of other Lake Emma shore owners and residents. However, Roberts proposes to make the ski course open to the public. "Ironically, the more the ski course is used by the public, the more that use will clash and interfere with existing use of the lake." (¶ 22).	Fourteen residents along the shore of Lake Emma opposed the project and no public sentiment in favor of the ski course was expressed at the hearing. (¶ 13). "It is recommended that the DER enter a final order denying the application of George A. Roberts for a permit for a permanent slalom water ski course on Lake Emma." (RO: pg. 7). "It cannot be found or concluded that the applicant has provided "reasonable assurance that the project will be clearly in the public interest." (¶ 28).
James and Regina Williams and Charles Causey v. Charles and Julia Moeller and DER, Case no. 87-5392 (1988)	Dredge and fill permit to widen an existing dock to four feet wide. No dredging or filling is necessary to add plankings to the existing dock. The widening of the dock is to alleviate safety problems associated with the narrow dock. Mrs. Moeller's (Respondent) mother,	Property located in Islamorada, Monroe County, located on Florida Bay, an OFW.	Whether or not Moeller is entitled to the issuance of a dredge and fill permit to widen and existing dock from two to four feet wide.	A number of factors stand to mitigate any adverse impact caused by increased shading from the wider dock, including the site's high dissolved oxygen content, the movement of the dock's shadow with the passage of the sun and the seasons, and ability of seagrasses to adapt to certain degrees of shading. DER also imposed conditions, including a prohibition on liveaboards, fueling facilities,	"The only certain environmental impact associated with the widening of the existing dock is the additional shading of the grassbeds that lie under the dock." (¶ 13). "The applicants clearly demonstrated both reasonable assurances that the water quality standards will not be violated and that the

	confined to a wheelchair, is not able to use the existing dock at all.			boat and motor maintenance, and hull scraping or painting. Also, the original dock permit was conditioned on the grant of a conservation easement prohibiting any other docking structures from being built upon their shoreline.	project is clearly in the public interest. The permit, as appropriately conditioned, and dependent upon the conservation easement, should be granted." (¶ 42).
Vincent Drost v. DER, Case no. 87-4067 (1988)	Permit to construct vertical seawalls bulkheads and patios. Florida law prohibits the construction of vertical seawalls unless vertical seawalls already occupy the canal in whole or in part. Because the FDEP exempted most of the project, only 8,000 liner feet of shoreline is in issue.	Bow Channel and Cudjoe Bay – Class III OFWs	Whether petitioner's application to construct vertical bulkheads and patios on top of existing caprock within the manmade canals of Cudjoe Gardens should be approved. DER issued a notice to deny based on § 403.918(5)(b), Fla. Stat., which "prohibits the installation of vertical seawalls in lagoons unless within existing canals that are currently occupied in whole or in part by vertical seawalls," and § 403.918(2) which prohibits such activities in OFWs unless the project is clearly in the public interest.	No mitigation was discussed to offset the adverse impacts the seawalls would have on fish and wildlife, their habitats, and marine productivity. "The destruction of the intertidal vegetation where the seawalls would be replaced and the total isolation of the remaining wetland vegetation located landward of the seawalls, would prevent those species from providing their traditional wetland values." (¶ 15).	"Upon consideration of the criteria set forth in § 403.918(2), Fla. Stat., it is concluded that the petitioner has failed to meet the burden of proof" to show that the project is clearly in the public interest. (¶ 32). "In fact, the weight of the evidence fails to show that the project is not contrary to the public interest." (¶ 32).
Sunland Estates, Inc. v. DER and The Izaak Walton League, Mangrove Chapter, Case no. 88-1813 (1989)	Permit to remove a canal plug and dredge an access channel. Petitioner's property in Key Largo contains a dead-end canal and a plug at the mouth of the canal prevents boat traffic from entering and exiting. Petitioner proposes to remove the plug and shallow the canal to a uniform depth of -10 feet and two years	Florida Keys Special Waters (Key Largo) – Class III OFWs.	Whether Petitioner's application for a dredge and fill permit should be approved.	Sunland Estates contends it is willing to install a curb around the existing canal to prevent runoff into the canal, but no evidence was offered to show that such a result would in fact be likely. Further, even if such a curb could be constructed, it would not prevent surface runoff or have any effect on pollutants and nutrients discharging into the canal directly or through the adjacent ground. Similarly, Petitioner's contention that the adverse impacts would be reduced by the mechanical	Given the additional discharge of pollutants and nutrients expected and the fact that the area is not expected to revegetate, the adverse effects of the project will not be offset. On balance, the proposed project fails to be clearly in the public interest, and in fact would be detrimental to the public interest. The increased pollution expected from the planned development by way of

	later to a uniform depth of -6 feet. Petitioner further proposes to dredge an access channel from the mouth of the canal to an existing channel.			planting of seagrass and algae in the dredged channel is unlikely since the evidence clearly reveals that such replanting efforts have met with only very minimal success, and such efforts have been unsuccessful when attempted in an adjoining channel."	septic tank discharges, boats and boat engines, lawn fertilizers, and stormwater run-off from paved areas will degrade the adjacent OFWs. Recommended denial of permit.
Chipola Basin Protective Group, Inc. and Florida Chapter Sierra Club v. DER and Developers Diversified, Case no. 88-3355 (1988)	Dredge and fill permit to fill approximately 0.83 acres of wetlands and for construction and operation of a shopping center.	Project site includes an unnamed watercourse (referred to as the "north/south watercourse") which exits the site under U.S Highway 90 and connects to a floodplain to the Chipola River, an OFW, which is about one mile away. The watercourses on the actual project site are not OFWs because they are not specifically named in the Florida Administrative Code.	Whether DER should issue a dredge and fill permit/ water quality certification to Developers Diversified to construct the Crossroads Shopping Center. Other issues involved include whether the unnamed jurisdictional watercourses on the project site are OFWs and whether Developers Diversified has provided "reasonable assurances" such that the permit should be issued.	The project was modified to reduce impact to the wetlands. The stormwater treatment system was also modified to alleviate DER's water quality concerns. Additionally DER imposed a number of permitting conditions. "The project without mitigation would be contrary to the public interest because of the overall loss of 0.83 acres of wetlands, including approximately 0.4 acres of good quality seepage slope streams in the north and west areas of the project." This permanent loss violates § 403.918(2)(a)(2) concerning effects on the conservation of fish and wildlife and their habitats. "This is especially important in view of the fact that the seepage slope systems are subject to adverse impacts from development which are not under the jurisdiction of the [DER]. Although the loss of these small wetlands alone would not greatly impact the existence of seepage slope systems in the region, the impact of the loss must be considered in light of the previous seepage slope systems lost in conjunction with the Merrits Mill Pond dam." (¶ 62).	The watercourses on site are not OFW or tributaries to the Chipola River, because they are not specifically listed as such in r. 17- 3.041, Fla. Admin. Code. "Where the Department intends to include specific tributaries, they are expressly designated as part of the related river's OFW designation. The express language of r. 17-3.041, clearly indicates that any tributaries intended to be so designated are listed in the rule." (¶ 60). "Developers Diversified has provided reasonable assurances that the proposed project will not violate water quality standards." (¶ 61). "The preponderance of the evidence indicates that the project with the proposed mitigation is not contrary to the public interest." (¶ 63).

Canrael Investments, Inc. and Jack and Harriet Kaye v. Sunrise Bay Harbour, Inc. and DER, Case nos. 88-5535 and 88-5536 (1989)	Fill permit to construct a 33-slip marina with four sections of dock facilities to accommodate yachts 70 feet in length or longer.	Proposed marina would be located on Coral Bay, which opens onto the Intracoastal Waterway at the Sunrise Boulevard Bridge. Coral Bay a Class III OFW.	Whether Sunrise is entitled to the permit to construct the proposed marina. Tidal flushing in Coral Bay is sufficient to remove incidental levels of discharged pollutants, so the marina will not have a significant impact on water quality.	No mitigation was discussed. However, a number of birds feed and rest in the area. "The docks are likely to displace the birds' direct access to feeding areas but it is anticipated that the riprap will increase the surface areas available for organism development and thereby enhance the environment for fishes." (¶ 13).	Sunrise has established that the proposed marina will not violate water quality standards, and that the project is not contrary to the public interest. The specific conditions required for this project adequately offset any adverse affect anticipated to result from this project. (¶ 21). Also, "the Kayes have not presented any facts which refute this evidence. The personal desire to have the property remain undeveloped and available for the general public's use does not establish that the proposed project will adversely affect the water quality of Coral Bay or that the proposed project is contrary to the public interest." (¶ 27).
The Conservancy, Inc. and Florida Audubon Society (88-6212 and 89-4159) and Citizens to Preserve Naples Bay, Inc. (89-4407) v. Collier Development Corporation et al. and DER (1990)	Dredge and fill permit for a development project. DER authorized a Notice of Intent to Issue dredge and fill permit to Collier Development Corporation for a development project known as the Villages of Sabal Bay. This was issued after DER approved the mitigation and water quality monitoring program imposed upon CDC as requisite permit conditions. These	The closest OFW to the entire project is the Rookery Bay Aquatic Preserve, approximately 2.5 miles south of the proposed marina and about a mile south of the intersection of the Lely Canal and the Intercoastal Waterway south of Dollar Bay. The closest OFW to the proposed marina is located in	Whether DER should grant Collier Development Corporation a dredge and fill permit for a development project known as the Villages of Sabal Bay.	"Habitat changes within the development have been balanced with mitigation and monitoring requirements set forth as conditions in the Notice of Intent to Issue. This includes enhancing approximately 164 acres of wetlands, a donation of 740 acres of wetlands, and a conservation easement over another 200 acres." (¶ 78).	"The flushing characteristics of the proposed marina are important because water quality in the marina and its affects on surrounding waters depend on how long the water resides in the marina." (¶ 29). "The application does not provide reasonable assurance that the marina will have adequate flushing characteristics so as to prevent violations of water quality standards in the estuary." (¶ 38). However, it was found that the OFWs in

	measures were placed in the permit to offset adverse effects within the surrounding estuary that may be caused by the creation of the marina basin and the redesign of the Lely Canal proposed in the permit application.	portions of Dollar Bay.			the designated portions of Dollar Bay and Rookery Bay will not be significantly degraded by the project. (¶ 92).
Lester Westerman et al. v. Escambia County Utilities Authority and DER, Case no. 89-0035 (1989)	Permit to construct pumping station, force main, and land application facility	Big Lagoon – Class III OFW	Whether DER should grant the revised application Escambia County Utilities Authority (ECUA) has made for a permit to construct a pumping station, force main, and land application facility, in order to dispose of effluent from ECUA's Warrington Sewage Treatment Plant on a site in southwest Escambia County near Big Lagoon.	No mitigation discussed	It was recommended that the permit should be denied. However, the evidence was clear that no direct discharge to OFWs would occur under any circumstances. Effluent already significantly diluted before reaching the lagoon would be further diluted dramatically before a portion mingled with the OFWs. The evidence gave reasonable assurance that the project would not significantly alter OFWs.
William Depkin v. DER, Case no. 89-1309 (1989)	Permit to dredge a 600 square foot area of bay bottom in the cove immediately waterward of the seawall. The proposed dredging project would increase the water depth by two feet and "thereby enable the Depkins to dock their boat alongside the seawall, a location they consider safer than the one they presently use for this purpose." (¶ 3)	Key Largo, Florida Bay – Class III OFW.	Whether Petitioner's application for a permit to dredge 45 cubic yards of material in Florida Bay immediately adjacent to the seawall on his bayfront property in Key Largo should be granted. The project which the "Depkins now propose to undertake involves the dredging of primarily bedrock, not sand. Revegetation typically does not occur following such dredging activity." (¶ 9).	"More likely than not, the Depkins' proposed dredging project, if permitted, will result in the permanent loss of vegetation and consequently will have a long-term adverse effect on ambient water quality, the conservation of fish and other aquatic wildlife, and marine productivity. Furthermore, if the project was completed and the Depkins were to begin docking their boat alongside the seawall, there would be an increase in conflict turbidity attributable to the movement of the boat in and out of this area of shallow water. No measures to mitigate these	Petitioner failed to provide reasonable assurances that project will be in the public interest or that water quality standards will not be violated. "If anything, it appears that both water quality and the public interest would suffer, given that there would likely be a permanent loss of valuable and productive vegetation which would not be offset or mitigated." (¶ 20). The area is dominated by a "marine macroalgae community" within the meaning of r.17-

				adverse consequences have been proposed or suggested." (¶ 9). No other mitigation was proposed except installing turbidity curtains during construction.	2.410(1)(a), Fla. Admin. Code, and the project should therefore not be permitted. (¶ 19). Granting the permit would set a precedent that would have a cumulative impact and "adversely impact areas well beyond the boundaries of the proposed dredging site." (¶ 20).
Florida Audubon Society, et al. v. William Cullen and DER, Case nos. 89-3779, 89-3780, 89-3781, 89-3782, 89-4060, 89-4388 (1989)	Dredge and fill permit for 42-slip commercial marina that would require the excavation of uplands and the dredging of an existing basin created by the excavation of materials used for road construction. The Applicant seeks to attract boats in the range of 30 – 50 feet in length.	The project site is in Key Largo, Florida and located in Buttonwood Sound, within Florida Bay, a Class III OFW.	Whether the DER should grant a dredge and fill permit to construct a commercial marina that would require the excavation of 30,170 square feet of uplands and the dredging of approximately 18,460 dredged square feet of an existing basin.	Applicant proposed to install turbidity curtains during the construction phase.	It was not established that water quality standards would be met and that the waters within the Buttonwood Sound would not be degraded. Applicant also failed to show that the project is clearly in the public interest. The Applicant even failed to meet the burden of the lesser standard, that the project is not contrary to the public interest. Permit denied.
Charms Clarke and Judith Clarke (89-6051) and Claudette Traurig (89-6135) v. Floyd Melton, Alice Melton and DER (1990)	An "after-the-fact" dredge and fill permit for an already constructed 48' x 20' portion of a finger dock. There are seagrasses under the entire length of the dock.	Key Largo, Florida Bay – Class III OFW	Whether the applicants-respondents Floyd and Alice Melton have provided reasonable assurances that their proposed dock meets the requirements for issuance of an "after-the-fact" dredge and fill permit.	"The Meltons and DER entered into several stipulations which will promote the absence of impact to the seagrass community." (¶ 15). "It is strongly recommended that DER also condition the Melton dock permit with the requirement that the dangers at nighttime be mitigated by some form of reflective paint or lighting for that section of the dock which extends beyond the distance of the other docks in the immediate vicinity." (¶ 22).	The permit is granted, conditioned upon the stipulations and mitigation requirements. "Reasonable assurances have been given that the project will not adversely affect any water quality standards, and that it will affect neither the public interest in navigation nor public recreation in the vicinity." (¶ 19). Rule 17-312.420, Fla. Admin. Code creates a presumption that docks that extend out to the 5' depth contour, where seagrasses are otherwise

					present, are clearly in the public interest." (¶ 20). Project "is clearly in the public interest by preventing ongoing adverse impacts of the existing dock, allowing the recolonization of habitat in those disturbed areas, and by extending the dock to prevent the destruction of the bay bottom." (¶ 14).
CW Pardee, Jr. v. DER, Case nos. 90-5734 and 90-0911 (1991)	Permit to dredge a man-made canal and to construct two boathouses with six boat slips.	Property located in Marion County, Florida. Petitioner has legal access to a man-made canal that intersects the Oklawaha River, an OFW. While the canal itself is not an OFW, the Oklawaha River's ambient water quality would be at risk from the dredging activities contemplated by this project. (¶ 40).	Whether Petitioner's request for a permit to dredge in a man-made canal and to construct two boat houses and six boat slips should be granted. DER initially issued a notice to deny the permit.	To mitigate the effects of this project, Petitioner has offered to place a recycling waterfall in or near the proposed boat basin to increase oxygenation. Petitioner also proposes to landscape the slopes of the basin with boulders and natural vegetation and place "no wake" signs along the basin. Moreover, Petitioner proposes to use a turbidity curtain to protect against violations of turbidity standards.	"Necessary reasonable assurances have not been given that the ambient water quality in the Oklawaha River will not be degraded by this project." (¶ 44). Turbidity and water quality violations are probable, given the river's fast current which precludes the efficient use of turbidity screens or curtains. (¶ 21). "Petitioner has failed to give reasonable assurances that the project is not contrary to the public interest. In this balancing test, the proof shows that the project would adversely affect fish and wildlife and their habitat. Further it has been shown that the project is contrary to public health, safety and welfare and to property of others." (¶ 45). The artificial waterfall is not an acceptable solution as it only would address dissolved oxygen water quality and not other regulatory parameters.

Kathryn Haughney v. DER, Case no. 90-7215 (1991)	Dredge and fill permit for dock and seawall construction.	The Halifax River, a Class III water. The Haughney property is located and the dock and seawall are proposed within the Tomoka Marsh Aquatic Preserve, an OFW.	Whether Petitioner is entitled to a dredge and fill permit to construct a dock and seawall.	The area to be filled provides lush wetland vegetation that provides valuable habitat for fish and wildlife. "There was no mitigation offered by Petitioner to make up for the loss of habitat to be occasioned by the proposed construction." (¶ 6).	Because the proposed seawall is to be constructed within an OFW, Petitioner bears the burden to go forward and prove that the project is clearly in the public interest. "As the permit application now stands, it must be denied because it has the potential to adversely affect the property of others and the conservation of fish and wildlife, and because it may cause harmful erosion." (¶ 17). "Construction of seawalls, especially those that extend out from the existing shoreline, typically causes erosion on adjacent shorelines, and additional seawalls exaggerate wave energy and can have a cumulative erosive effect." (¶ 8).
John Armenia v. Board of Trustees of the Internal Improvement Trust Fund, et al., Case no. 91-3249 (1991); Case revisited in 91-36770.	Dredge and fill permit "to construct a 490-foot elevated driveway or timber bridge across Clam Bayou from the Sanibel-Captiva Island Road to Silver Key, on and in the vicinity of Sanibel Island to allegedly provide reasonable access to the property upon which he intends to construct residences.	Pine Island Sounds Aquatic Preserve, an OFW.	Petitioner argues that a statement by DER contained in a letter "was a rule, not duly promulgated, and thus that it constituted an invalid exercise of delegated legislative authority." The agency statement in question, in effect, made a determination that the Petitioner's proposed project was within the boundaries of the Pine Island Sound Aquatic Preserve and thus imposed a more restrictive body of rules on the Petitioner.	N/A	"It was not proven in this proceeding that the agency statement evidences any intent to amend or change the legal description of the preserve … Rather, it represents … an interpretation concerning whether the Petitioner's property is located within the legal boundaries." (¶ 8). Final Order: Although it was the intent of the Board of Trustees to include Clam Bayou in Pine Island Sound Aquatic Preserve, the ambiguity of

					the legal description and the exclusion of Clam Bayou from DNR's maps do not effectuate this position. The Petitioner's challenge is dismissed. The DER statement is merely an interpretation of the scope of the existing rule, not a change to the existing rule.
Sarah Berger v. William Kline, DER, and Citrus County, Case no. 93-0264 (1993)	Permit to construct a private boat dock with a roof, designed to cover a boat.	Withlacoochee River – Class III OFW.	Whether Applicant for the dredge and fill permit has provided reasonable assurances that the project will comport with state water quality and public interest standards; whether Citrus County has standing to challenge the project; and whether the Department is required or authorized to enforce the provisions of the Citrus County Comprehensive Plan.	Conditions in the Notice of Intent to Issue required Kline to clear the existing bank of nuisance plants and to plant and maintain identified native plant species and to grant to the FDEP a perpetual conservation easement along his shoreline. The conservation easement was required in order to help protect the replanted shoreline and prevent further shoreline hardening through construction of a seawall or other structures in the future. Moreover, eleven specific permit conditions pertaining solely to protection of manatees were required.	The mitigation requirements are significant conditions that are "clearly in the public interest." No adverse cumulative impacts are expected on water quality or the public interest because "evidence does not establish that other similar structures are contemplated or the subject matter of other permit applications." (¶ 39). The application is granted under the conditions found and contained in the intent to issue.
Helen Sutton v. Tana Hubbard and DEP, Case nos. 93-1499 and 93-6507 (1994)	Dredge and fill permit and after-the-fact consent of use for existing retaining wall and dock.	The project is located in a lagoon off Kings Bay, in the Crystal River in Citrus County, Florida. It is in a man-altered Class III waterbody and OFW.	Whether DEP should issue a permit for an existing retaining wall and dock located at the residence of Respondent Hubbard and whether the Department should issue an after-the-fact consent of use for the dock.	The permit required Hubbard to create 346 square feet of wetlands as mitigation and to dedicate all remaining wetlands on the site to the FDEP as a conservation easement.	"Any impacts that have occurred from the dock are minimal and are compensated for in the mitigation plan. The project creates a permanent conservation easement over 400 feet of shoreline and wetlands, thereby preserving fish and wildlife habitat. The retaining wall provides some water quality benefit." (¶ 64). "The as-built dock, existing docks, and reasonably anticipated

					future docks do not create any adverse cumulative impacts." (¶ 65). The Consent Order is approved and the after-the-fact application for consent of use for the sovereign submerged lands underlying the dock is granted.
Clifford Hunter v. DEP, Case no. 93-5924 (1994)	After his home was destroyed by storm in 1993, Mr. Hunter applied for a dredge and fill permit for construction of a bulkhead, dock, and to rebuild his pile-supported house. "Approval of Mr. Hunter's proposed project would allow the placing of fill in an intertidal area and the elimination of the portion of the intertidal area filled." (¶ 13).	A canal adjacent to Mr. Hunter's northern property boundary connects with the waters of the Gulf of Mexico surrounding Dekle Beach. These waters, except for an area extending 500 feet outward from the town limits of Dekle Beach, is within the Big Bend Seagrasses Aquatic Preserve, an OFW. Therefore, the project site is adjacent to an OFW.	Whether Petitioner should be permitted to rebuild a pile-supported house, to construct a bulkhead, to fill 1750 square feet of salt marsh, and to construct a dock. DEP originally issued a Notice of Permit Denial denying the requested permit.	No mitigation discussed.	"Mr. Hunter failed to provide reasonable assurances that the existing ambient water quality of the canal adjacent to Mr. Hunter's property and the OFW located 500 feet from the boundary of Dekle Beach will not be lowered." (¶ 39). "Mr. Hunter failed to provide assurances that his project is clearly in the public interest." (¶ 42). "Rather, the unrebutted evidence presented by the Department supports a finding that Mr. Hunte's proposed project will not be in the public interest, especially when the cumulative impacts of the proposed project are considered." (¶ 16). Moreover, "the evidence presented by the Department proved that the proposed project in fact will negatively impact the public interest …"(¶ 43).

Alden Pond, Inc. v. DEP, Case no. 93-6982 (1994)	Petitioner proposes to construct a canal with littoral zones on either side, a hydrological channel to enable a proper flow of water through the canal, and a barrier at the north terminus of the canal to prevent manatees and boats from entering the canal from the north. (¶ 33). An access channel is also proposed from the south terminus to the Intercoastal Waterway to enable boats access to the canal. A total of 62 docks are proposed.	Much of the property abuts a section of the Indian River. The Indian River at the project site is within the Indian River Aquatic Preserve, a Class II OFW.	Whether Petitioner is entitled to a wetland resource permit to construct an artificial waterway to be connected to the Indian River and, if so, the conditions that should be attached to the permit. Whether Respondent is estopped to deny the issuance of the permit. Whether Petitioner is entitled to a default variance pursuant to § 120.60(2), Fla. Stat., to dredge and fill in Class II waters that have been conditionally approved for shellfish harvesting.	After the original proposed project was rejected by DEP, Petitioner amended its application. "Under the revised project, Petitioner has taken all reasonable steps to minimize the adverse impacts associated with the type project it is proposing." (¶ 81). "Petitioner proposes to create approximately 14 acres of wetlands. These areas will be revegetated with various wetland plant species including red, black, and white mangroves." (¶ 83). Petitioner also proposes to create about three acres of littoral zones on either side of the waterway and the littoral zone will be revegetated with cord grass and red mangrove. (¶ 84). "Petitioner also proposes to implement an open marsh mosquito control management program consisting of the elimination of natural accumulations of water in low lying areas within the impoundment." (¶ 85). "Petitioner will remove exotic plant species throughout the impoundment and will revegetate with native species such as red, black, and white mangroves." (¶ 86). "Petitioner proposes to monitor the project area to assure that exotic plant species do not re-colonize." (¶ 87). "After completion of the enhancement program, Petitioner proposes to donate all the property it owns within the impoundment to the State of Florida." (¶ 88). "Petitioner offers to waive its right to construct single family docks from its property directly into the Indian River." (¶ 89).	"Although Respondent established that boat traffic on the Indian River has increased, this project is unique in scope and design, and it is concluded that Petitioner has given reasonable assurances that no negative cumulative impacts will be associated with the project." (¶ 77). However, Petitioner's request for variance is denied. "Without the variance to construct the hydrological channel, the modified application for this project should be denied." (¶ 114). "The modified application should be denied even if the variance to construct the hydrological channel is granted. Specific findings of fact have been made as to the adverse impacts of this project and as to the mitigation plan proposed to offset those adverse impacts." (¶ 115).

DEP v. Ben Leasure, Case no. 04-3688 (2005)	Respondent allegedly filled wetlands on his property without a permit.	The western boundary of Leasure's parcel is approximately 500 feet east of the Withlacoochee River, a Class III OFW.	Whether Respondent Leasure should have a $3,000.00 administrative penalty imposed, take specific corrective action, and pay investigative costs for allegedly illegally filling 0.17 acres of wetlands contiguous with the Withlacoochee River.	"While Respondent may have been well-intentioned in trying to prevent flooding on the backside of his property, there are no circumstances present here which would allow a mitigation of the statutory penalty." (¶ 33).	"Here, there were no good faith efforts to comply prior to and after the discovery of the violation by the department. Had Respondent agreed to remove the fill after the first warning letter was sent, or even after the first inspection, it is likely that an enforcement action would not have been initiated." (¶ 32). Section 403.121(3), Fla. Stat., sets forth the administrative penalties that must be imposed (absent mitigating circumstances) for specified violations. Paragraph (3)(c) provides that "the department shall assess a penalty of $1,000 for unpermitted or unauthorized dredging and filling … plus $2,000 if the dredging and filling occurs in an … [OFW]." Therefore, because the filling here occurred in an area connected to an OFW, absent mitigating circumstances, an administrative penalty of $3000.00 must be imposed." (¶ 30). Moreover, the Department has suggested specific corrective action that should be taken by Respondent.

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