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Bootlegging, Oysters, and Closed-to-Harvest Waters: Adding Teeth to the Coastal Zone Management Act to More Effectively and Efficiently Restore the Coastal Zone

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Clare M. Harmon*

INTRODUCTION

As the impacts of climate change and the need to efficiently preserve and cultivate the resources of the coastal zone become more apparent, it becomes increasingly critical that the traditional uses of the coastal zone are better balanced with its current needs and capabilities.[1] A degraded coastal zone affects a variety of

* J.D., Roger Williams University School of Law, Dec. 2016; B.A., Marine Biology and Sustainability, Roger Williams University, 2013. For my parents, Mary Ann and Justin Harmon, for each and every time you allowed me to break into your bank so I could save a whale, single-handedly stop mass climate change, or otherwise follow my blind ambition to keep the ocean alive. And for John J. Roy of The Sound School Regional Aquaculture Center, in New Haven, CT, for forcing me to apply to college when I was not ready and trusting me with the lives of thousands of black sea bass. My personal growth that year came at the expense of hundreds of fish that died. I am not very sorry about the fish, but I am thankful for the options you ensured I had—when you knew I would be ready for them come graduation.

1. *See* 16 U.S.C.A. § 1453(1) (Westlaw through Pub. L. No. 114-327) (defining the coastal zone to include the coastal waters of every state with a shoreline and the land inland from the shorelines to the extent necessary to control shore lands); *see also* BILIANA CICIN-SAIN & ROBERT W. KNECHT, THE FUTURE OF U.S. OCEAN POLICY: CHOICES FOR THE NEW CENTURY 263 (2000) (discussing the interplay between the ocean and weather conditions and predicted changes in connection with global warming).

interests and requires a comprehensive solution.[2] However, those attempting to conserve and restore the public resources of the coastal zone are being bogged down by the chaotic amalgamation of laws necessary for permitting and licensure. Their efforts are largely outpaced by the human demands of the coastal zone's resources.[3] This Comment will point to some of the inefficiencies of the current coastal restoration framework and focus on the intersection between coastal health and the oyster fishery; it will explore ways in which the coastal restoration framework may be improved so that those attempting to restore the coastal zone for the benefit of the public are not overly burdened.

The inefficiencies of the U.S. coastal and fisheries management approach are well illustrated in the century-long decline of the oyster fishery and the associated degradation of the oyster's coastal habitat.[4] A century of treating oysters as an exploitable fishery resource and giving their management to diverse fishery agencies resulted in fragmented decisions about harvest controls, restoration, and introduction of alternative, non-commercial substitutes, which contributed to the national coastal conservation crisis.[5] In response to the failed preservation of the oyster, scientists sought a single approach that addressed the concurrent goal of restoring shellfish populations and the living and non-living resources they affect. The 2005 Scientific Consensus Statement set forth a working definition of an Ecosystem-Based Management Approach (EBM):

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2. *See* KAREN L. MCLEOD, ET AL., SCIENTIFIC CONSENSUS STATEMENT ON MARINE ECOSYSTEM-BASED MANAGEMENT 1 (2005), http://www.marine planning.org/pdf/Consensusstatement.pdf [hereinafter SCIENTIFIC CONSENSUS STATEMENT] ("Over half of the U.S. population lives along the coast, and more than $200 billion in economic activity was associated with the ocean in 2000."). Of that $200 billion, the commercial fishing industry contributed over $28 billion and the revenue. U.S. COMM. ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY 31 (2004), http://www.aquariumof pacific.org/images/mcri_uploads/ocean_full_report.pdf [hereinafter OCEAN BLUEPRINT].

3. OCEAN BLUEPRINT, *supra* note 2, at 32 ("Americans consume more than 4 billion pounds of seafood at home or in restaurants and cafeterias every year.").

4. *See* B.J. Rothschild et al., *Decline of the Chesapeake Bay Oyster Population: A Century of Habitat Destruction and Overfishing*, 111 MAR. ECOL. PROG. SER. 29 (1994).

5. OCEAN BLUEPRINT, *supra* note 2, at 40 ("Although U.S. fishery management has been successful in some regions, failures elsewhere have resulted in substantial social and economic costs.").

> [A]n integrated approach to management that considers the entire ecosystem, including humans. The goal of [EBM] is to maintain an ecosystem in a healthy, productive and resilient condition so that it can provide the services that humans want and need. [EBM] differs from current approaches that usually focus on single species, sector, or activity or concern; it considers the cumulative impacts of different sectors.[6]

EBM is the best management approach to address a degraded coastal zone because it recognizes the interconnectedness of the coastal zone's components including linkages across systems and disciplines. EBM should be incorporated into marine resource management through the Coastal Zone Management Act (CZMA), because the CZMA is the primary framework for coastal restoration.[7] EBM offers the necessary framework for individual states to strike a balance among competing demands for the natural resources of the coastal zone. Despite its recognition among the scientific community and policy recognition in coastal management programs, very little has been done to implement EBM in marine resource programs. Coastal states could more effectively utilize the CZMA federal regulatory program to more efficiently restore and protect the coastal zone.

The CZMA provides coastal restoration proponents the opportunity to cut through excessive and conflicting state regulation around coastal conservation and aquaculture to focus directly on a solution that could preserve and clean up the coastal zone.[8] A key challenge in implementing the CZMA for coastal restoration purposes is the lack of a streamlined procedure for proponents acting for the public benefit.[9] While either a new legal authority or an appropriate amendment to the CZMA would be ideal and may eventually become necessary, the CZMA allows a state to adopt EBM without the added hassle of creating new authority.[10] This Comment will examine ways in which a coastal state could use the CZMA to more efficiently restore its coastal zone in light of EBM, using Rhode Island as an example. Part I will

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6. SCIENTIFIC CONSENSUS STATEMENT, *supra* note 2, at 1.
7. 16 U.S.C.A. §§ 1451–1462 (Westlaw through Pub. L. No. 114-327).
8. *See* id. § 1452(2)(G), (I) (Westlaw).
9. *See generally id.* § 1455 (Westlaw).
10. *Id.* § 1454 (Westlaw) (allowing states to submit their own coastal management plans to the Secretary for review and approval).

assess the federal coastal regulatory regime and Rhode Island's program pursuant to it. Part II will discuss the development of shellfish aquaculture for the purpose of increasing habitat. And finally, Part III will address some regulatory inefficiencies and discuss possible improvements.

I. THE COASTAL ZONE MANAGEMENT FRAMEWORK

A. *The Federal Coastal Zone Management Act*

> "Today, people who work and live on the water . . . face a patchwork of confusing and sometimes contradictory federal and state authorities and regulations. No mechanism exists for establishing a common vision or set of objectives."[11]

In 1972, Congress passed the CZMA after a finding that there was a "national interest in the effective management, beneficial use, protection, and development of the coastal zone."[12] The CZMA is a cooperative federal regime that resembles a contract between the federal government and coastal states.[13] The National Oceanic Atmospheric Administration (NOAA), a scientific agency within the Department of Commerce, holds the regulatory authority. Congress passed the CZMA in order to "preserve, protect, develop, and *where possible*, to *restore* or enhance, the resources of the Nation's coastal zone."[14] Congress also wanted to encourage states to "exercise *effectively* their responsibilities in the coastal zone through the development and implementation of management programs to achieve *wise use* of the land and water resources of the coastal zone."[15] Thus, unlike other federal acts, the CZMA incentivizes participation, but does not punish the state for inaction, and provides states great discretion to prioritize their local interests.[16]

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11. S. REP. NO. 106-301 at 3 (2000).
12. § 1451(a) (Westlaw).
13. *See* John A. Duff, *The Coastal Zone Management Act: Reverse Pre-Emption or Contractual Federalism*?, 6 OCEAN & COASTAL L.K. 109, 111–12 (2001) (analogizing the CZMA to contractual agreements).
14. § 1452(1) (Westlaw) (emphasis added).
15. *Id.* § 1452(2) (Westlaw) (emphasis added).
16. *See* Patrick J. Gibbons, *Too Much of a Good Thing? Federal Supremacy and the Devolution of Regulatory Power: The Case of the Coastal Zone Management Act*, 48 NAVAL L. REV. 84, 91 (2001).

The CZMA encourages coastal states to formulate coastal management plans (CMP) and to submit them to the Secretary of Commerce (Secretary) for approval.[17] In formulating its CMP, a state must account for a list of program elements.[18] This list includes, *inter alia*, an identification of coastal zone boundaries, an inventory and designation of areas of particular concern, a description of the organizational structure charged with implementing its CMP, and a complete list of the federal license and permit activities that affect its coastal zone that the state wants to review for consistency.[19] In exchange for participation, a coastal state receives federal funding and cooperation in effectuating its CMP and retains veto power for land uses that are inconsistent with its CMP.[20]

Once the Secretary approves a state's CMP, federal agency activities and private party projects affecting the coastal zone must be consistent with that CMP.[21] Federal agency activities must be consistent to the *maximum extent practicable* with the state's CMP.[22] The federal agency that is managing the activity makes the consistency determination for the relevant state agency.[23] The state then approves or rejects the determination.[24] For all other activities, the state conducts the consistency determination according to its CMP.[25] Applications for federal permits must ensure that the activity corresponds with the state's CMP.[26] If the state objects to a permit, it will not be issued unless the Secretary overrides the objection.[27] If the state does object, the agency may pursue judicial intervention to enjoin the activity or mediation with the Secretary.[28]

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17. § 1454 (Westlaw).
18. *Id.* § 1455(d)(1)–(2) (Westlaw).
19. *Id.*
20. To receive approval under the statute, a state's CMP must manifest a series of program elements that include: defining the coastal zone, establishing permissible land and water uses, and describing the way in which the state intends to enforce control. *See id.* § 1456 (Westlaw).
21. *Id.* § 1456(c) (Westlaw).
22. *Id.*
23. *Id.* § 1456(c)(1)(C) (Westlaw).
24. *Id.*; *see also* 15 C.F.R. § 930.1 (2014).
25. § 1456(c)(3)(A)–(d) (Westlaw).
26. *Id.* § 1456 (c)(2) (Westlaw).
27. *Id.* § 1456(c)(3)(A) (Westlaw).
28. 15 C.F.R. § 930.35(e) (2014).

B. *Rhode Island's Coastal Zone Management Program*

The Rhode Island General Assembly formulated the Rhode Island Coastal Resources Management Council (CRMC) in 1971—a year prior to federal enactment of the CZMA—to effectuate its duties in the coastal zone.[29] The Federal Office of Coastal Management approved Rhode Island's first regulatory program integrating federal approval criteria in 1977, qualifying the state for $1.2 million annually in implementation funds.[30]

The Rhode Island Ocean Special Area Management Plan (Ocean SAMP) serves as the state CMP for CZMA purposes.[31] The Ocean SAMP establishes state policies to serve as criteria for granting or denying permits, but these are unenforceable.[32] The Rhode Island General Assembly requires the CRMC to "where possible, restore the coastal resources of the state . . . through comprehensive and coordinated long range planning and management designed to produce the maximum benefit for society from these coastal resources."[33] Rhode Island's CRMC is required to use the preservation and restoration of ecosystems as primary guidance principles when considering alteration of coastal resources.[34] Rhode Island's Ocean SAMP is a milestone recognized by President Obama's Ocean Policy Task Force as a national model for marine spatial planning.[35] The Ocean SAMP is expected to "promot[e] a balanced and comprehensive [EBM] approach to development and protection of Rhode Island's ocean resources."[36] The Ocean SAMP cites, incorporates, encourages, and enforces the Scientific Consensus on Marine Ecosystem-Based Management in

29. § 1456 (Westlaw); 46 R.I. GEN. LAWS § 46-23-6(1)(i) (West, Westlaw through 2016 Legis. Sess.).

30. R.I. COASTAL RES. MGMT. COUNCIL, RHODE ISLAND COASTAL RESOURCES MANAGEMENT COUNCIL: OVER 30 YEARS OF ACCOMPLISHMENTS IN COASTAL MANAGEMENT 6 (2005), http://www.library.state.ri.us/publications/CRMC/CRMC_30YearsBW.pdf.

31. R.I. COASTAL RES. MGMT. COUNCIL, UNIV. OF R.I., THE OCEAN/OFFSHORE RENEWABLE ENERGY SPECIAL AREA MANAGEMENT PLAN 1 (2008).

32. *Id.*

33. 46 R.I. GEN. LAWS § 46-23-1(a)(2) (West, Westlaw through 2016 Legis. Sess.).

34. *Id.*

35. Letter from Michael M. Tikoian, Chairman, R.I. Coastal Resources Management Council (Oct. 19, 2010), www.crmc.ri.gov/samp_ocean/finalapproved/0_TikoianIntroLetter.pdf.

36. *Id.*

its management of the coastal zone. The Ocean SAMP identifies four goals to balance coastal development with the protection of its marine resources:

> 1. Foster a properly functioning ecosystem that is both ecologically and economically beneficial.
>
> 2. Promote and enhance existing uses.
>
> 3. Encourage marine-based economic development that considers aspirations of local communities and is consistent with and complimentary to the state's overall economic development, social, and environmental needs and goals.
>
> 4. Build a framework for coordinated decision-making between state and federal management agencies.[37]

It is quite fitting that the Ocean State has such a comprehensive CMP. Nevertheless, even the front runner has room to improve as the problem with shellfish restoration discussed below illustrates.

II. RESTORATION AQUACULTURE: AN EBM METHOD

> "We forget that the water cycle and the life cycle are one."
> – *Jacques Cousteau*

This Comment focuses on the framework applicable to a hypothetical coastal shellfish habitat restoration project to bolster ecosystem health that incorporates aquaculture for public benefit within the State of Rhode Island.[38] A secondary and indirect objective of this project and other projects of this kind is often to increase species abundance to potentially improve the fishery. This hypothetical project involves the laying of oyster shell along the ocean bottom to increase substrate for other species to colonize. The laying of shell, while minimally invasive, is considered "fill" and qualifies as aquaculture for permitting purposes.[39]

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37. R.I. ADMIN. CODE 16-1-17:130.4(a)–(d) (West, Westlaw through Feb. 2017 amendments).

38. Though this Comment limits itself to the confines of Rhode Island, this is a problem shared by all of the coastal states, and none of the coastal states forbid such projects by its laws.

39. Federal Water Pollution Control Act, 33 U.S.C.A. § 1344 (Westlaw through Pub. L. No. 114-327). A "dredge and fill" permit is required from the

A. *The Benefits of Shellfish Restoration*

The proposed introduction of oyster into the coast is an EBM approach to coastal restoration and fisheries management. Such projects are becoming increasingly common in the United States, catalyzed by the public's increased awareness of oyster's important ecological role in coastal waters as well as by the fact that they are relatively budget-friendly compared to alternatives. The American Oyster (Oyster), *Crassostrea virginica,* is a keystone species with an unparalleled ability to restore ecosystem integrity.[40] Oysters are nicknamed "ecosystem engineers" because of the multiple roles they play, including *inter alia*: (1) improving water clarity by filtering large volumes of water per day; (2) improving water quality by removing nitrogen; (3) increasing the three-dimensional complexity of the ocean bottom, thereby serving as a habitat for other species; and (4) protecting shorelines from erosion.[41]

Shellfish restoration is a powerful way to restore the integrity and resilience of ecosystems.[42] Given the variety of species associated with three-dimensional structures formed from the vertical filling of oyster cultch, as well as the complex interactions that occur between the species, the NOAA, National Fish and

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U.S. Army Corps of Engineers for most dredging aquaculture activities within the coastal zone. *Id.* Aquaculture is defined as "the breeding, rearing, and harvesting of fish, shellfish, plants, algae and other organisms in all types of water environments." *What is aquaculture?*, NOAA, http://oceanservice.noaa.gov/facts/aquaculture.html (last updated Mar. 28, 2016).

40. *See* COMM. ON NONNATIVE OYSTERS IN THE CHESAPEAKE BAY, NAT'L RESEARCH COUNCIL OF THE NAT'L ACADS., NONNATIVE OYSTERS IN THE CHESAPEAKE BAY 323 (2004); *see also* Juliana M. Harding, *Observations on the Early Life History and Growth Rates of Juvenile Channel Whelks Busycotypus canaliculatus (Linnaeus, 1758)*, 30 J. OF SHELLFISH RES. 901, 901–03 (2011) (suggesting that oyster reefs may provide a higher diversity and availability of food or a greater amount of higher quality food compared to other marine habitats); Jonathan H. Grabowski & Charles H. Peterson, *Restoring Oyster Reefs to Recover Ecosystem Services, in* ECOSYSTEM ENGINEERS: PLANTS TO PROTISTS 281–83 (2007).

41. DOROTHY LEONARD & SANDRA MACFARLANE, BEST MANAGEMENT PRACTICES FOR SHELLFISH RESTORATION: PREPARED FOR THE ISSC SHELLFISH RESTORATION COMMITTEE 4 (2011), http://www.ecsga.org/Pages/Sustainability/ShellfishRestorationBMPs.pdf (presented at the joint meeting of the Northeast Aquaculture Conference on Shellfish Restoration).

42. *See e.g.*, Jamie Coelho, *How Roger Williams is Saving Our Wild Oysters,* RHODE ISLAND MONTHLY, http://www.rimonthly.com/Rhode-Island-Monthly/December-2015/How-Roger-Williams-is-Saving-Our-Wild-Oysters/ (last visited Mar. 20, 2017).

Wildlife Foundation, and the Environmental Protection Agency recognize shellfish habitats as priority habitats; these habitats are considered an "essential fish habitat."[43] Studies show that merely laying a couple of inches of oyster shells along the ocean bottom has drastic benefits for ecosystem health because the vertical lift differential allows species to form habitats higher up in the water column where dissolved oxygen levels are more concentrated and conducive to life.[44] The ecological services the oyster provides have been estimated to provide an economic value between $5,500 and $99,000 per hectare per year.[45] The more oysters there are in an ecosystem, the healthier the water is. The healthier the water, the healthier the oyster. The healthier the oyster, the healthier its population and dependent species become.

1. The Problem with Shellfish Restoration: Restoration in Closed-to-Harvest Waters

The physical introduction of oysters poses a unique problem for coastal restoration proponents and, consequently, restoration is rarely undertaken in the waters that need it most. The best restoration sites for a project of this kind are most often locations where oysters once flourished—old commercial harvest sites that are now too polluted to rear food for human consumption.[46] These waters are the most degraded, and they are not certified for commercial harvest.[47] Of the 33,000 square miles of shellfish

43. *See id.* Oyster reefs have been considered an "essential fish habitat" for resident and transient species. However, because transient generalist species solely rely on oysters for habitat, it is not considered an "essential fish habitat" or a "critical habitat" warranting MSA and/or ESA protections. *See* 16 U.S.C.A. § 1533(a)(3) (Westlaw through Pub. L. No. 114-327). A "critical habitat" is an area "essential to the conservation of the species." *Id.* § 1532(5)(A)(i) (Westlaw); *but see id.* § 1802(10) (Westlaw) (An "essential fish habitat" is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.").

44. *See* ROBERT D. BRUMBAUGH ET AL., THE NATURE CONSERVANCY, A PRACTITIONERS GUIDE TO THE DESIGN & MONITORING OF SHELLFISH RESTORATION PROJECTS 7, 8 (2006).

45. *See* Jonathan H. Grabowski et al., *Economic Valuation of Ecosystem Services Provided by Oyster Reefs*, 62 BIOSCIENCE 900, 900 (2012), http://www.northeastern.edu/grabowskilab/wpcontent/uploads/2012/04/Grabowski-et-al-2012-BioScience_oyster-valuation.pdf.

46. *See* LEONARD & MACFARLANE, *supra* note 41, at 4; *see also* Coelho, *supra* note 42 (discussing the effects of the "attractive nuisance" created by restoration projects in these areas).

47. LEONARD & MACFARLANE, *supra* note 41, at 8.

growing water within the United States, just over 10,000 square miles are restricted.[48] The volume of water being classified and having harvest restrictions has increased through the years.[49] The primary objection to shellfish habitat restoration is the fear that their physical reintroduction, given their commercial and recreational value, will create an "attractive nuisance"[50] for bootleggers to harvest in uncertified waters.[51] Contaminated shellfish on the market would pose both health and economic risks.[52] While there are methods to reduce the risk, they come with a heavy price that most proponents are ill-equipped to bear and thus reluctance remains to conduct restoration projects in these locations.[53] Moreover, state law and local regulations do little to deter bootlegging. An individual who harvests shellfish in these locations may be guilty of a misdemeanor.[54] But to many, a misdemeanor or a fine is one cost of doing business.[55] A bootlegger's

48. *See* CHARLES ALEXANDER, NOAA, CLASSIFIED SHELLFISH GROWING WATERS (1998), http://oceanservice.noaa.gov/websites/retiredsites/sotc_pdf/SGW.PDF.

49. *See* LEONARD & MACFARLANE, *supra* note 41, at 8 (citing an Office of Ocean Resources Conservation and Assessment done by the ISSC in 2006). The Assessment found that in 2005, just under 10 million acres had harvest limitations in some capacity as compared to about 7 million acres in 1995. *Id.*

50. The "attractive nuisance" that proponents are referring to is a legal tort law doctrine in which a landowner may be held liable for injuries to children who trespass on land if the injury resulted from a hazardous object or condition on the land that is likely to attract children who are unable to appreciate the risk posed by the object or condition. Though this age-old principle refers to children, the nuisance presented here attracts adults who are well seasoned on the threats of stealing these oysters. *See Maryland Officials just don't get it: taking away the license of waterman who poached is silly—he doesn't need a license!*, THE CHESAPEAKE TODAY (July 1, 2014), http://www.the-chesapeake.com/2014/07/01/maryland-officials-just-dont-get-taking-away-license-waterman-poached-silly-doesnt-need-license/ [hereinafter *Maryland Officials just don't get it*] (discussing a recent case decision and why the determination is moot). This being said, because attractive nuisances have historically been viewed as a land based issue and addressed by land use principles, I too focus my solution on the predominant land based coastal regime, the CZMA.

51. LEONARD & MACFARLANE, *supra* note 41, at 4; Coelho, *supra* note 42.

52. LEONARD & MACFARLANE, *supra* note 41, at 4.

53. *Id*.

54. 20 R.I. GEN LAWS § 20-1-16 (West, Westlaw through 2016 Legis. Sess.).

55. *See Maryland Officials just don't get it*, *supra* note 50; Cynthia J. Bashore et al., *Analysis of Marine Police Citations and Judicial Decisions for Illegal Harvesting of Eastern Oysters (Crassostrea Virginica, Gmelin 1791) in the Maryland Portion of the Chesapeake Bay, United States, from 1959 to 2010*,

self-help decision to break the law outweighs the risk of being caught.[56] Ironically, many bootleggers who are robbing the coastal projects are also shell fishermen who would personally reap the economic benefits of successful habitat restoration.[57] But the consequences of bootlegging ripple beyond the edges of the coastal zone.[58] Any potential coastal habitat restoration project must address this impediment that results from bootlegging, as neither the National Shellfish Sanitation Program (NSSP), the CZMA, nor state law provides the answer.[59]

Many proponents feel that efforts may be better placed in upgrading the healthier areas than working in the prohibited areas.[60] As a consequence, habitat restoration efforts are largely conducted in water already healthy enough to rear our food, but not in the waters that need it most.[61] If the objective of almost all restoration projects is to "clean up" the quality of water in some respect, then restoration should be conducted in water that is *too*

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31 J. OF SHELLFISH RES. 591, 596 (2012) (finding that there is a positive correlation between years of low oyster harvests and citations for illegal harvests and citing a 2008 study where 43% of bootleggers held a valid fishing license).

56. *See* Bashore et al., *supra* note 55, at 596 (describing the various motivations for illegal harvesting and the state of Maryland's attempts to correct the economic imbalance between the cost of getting caught and the potential economic benefit of harvesting the resource). Moreover, ensuring environmental enforcement is complex. Decisions whether to break the law in the context of criminal enforcement largely turn on a calculus of four factors: (1) the benefit of noncompliance weighed against the chance of apprehension; (2) the likelihood of conviction; (3) the judicial and administrative processes that convert observed noncompliance into a legal judgement against the offender; and (4) the sanctions that are significant enough to achieve the rules objective. *See* Gary Becker, *Crime and Punishment: An Economic Approach*, 76 J. OF POL. ECON. 169 (1968). Though there is little documentation on bootlegging in Rhode Island, this is likely because proponents, too, see that the benefit of breaking the law largely outweighs the other factors. This is illustrated in other locations, such as the Chesapeake Bay where restoration aquaculture is more common.

57. The NSSP despite being a voluntary nationwide program depends upon and directly involves the cooperation between shellfish shipping states, the FDA, and the shellfish industry to ensure that shellfish in interstate commerce are safe for public consumption.

58. *See* Joyce R. Lombardi, *Modern Oyster Wars: Off the Water and into Court*, 47 MD. B.J. 50, 53 (2014) (discussing the negative impact bootlegging has had on many facets of society, particularly the courts, in the Chesapeake area).

59. *Maryland Officials just don't get it*, *supra* note 50.

60. LEONARD & MACFARLANE, *supra* note 41, at 36.

61. *Id.*

polluted to rear food for human consumption.[62] Drawing attention to bodies of water compromised to that degree would encourage the community to identify and clean up sources of pollution. While restoration in some form is conducted in these more polluted locations, the placement of these projects is erratic and their performance inconsistent. Regulators should make every effort to incentivize action in these locations in order to improve their classification and to more appropriately value ecosystem services to better deter and enforce bootlegging.

2. The Rhode Island Shellfish Industry

What once was a historic hotbed for growing shellfish supporting the state's primary fishery in the early 1900s is now no longer.[63] The Rhode Island wild harvest is nearly zero naturally occurring oysters as they are now considered an "endangered species."[64] This decline is attributable primarily to the degradation of habitat, water quality, harvest pressure, and disease.[65] Oyster

62. There are many reasons why restoration should be conducted in these locations. First, closed-to-harvest locations serve as a *de-facto* sanctuary. *See id.*; Jason Patlis et al., *The National Marine Sanctuary System: The Once and Future Promise of Comprehensive Ocean Governance*, 44 ENVTL. L. REP. 10932, 10934 (2014) (citing a study that shows that marine reserves achieve greater population density and species diversity in as little as one year). The limited harvest in its very nature reduces fishing pressure, which allows for shellfish populations to increase. This, however, is conditioned on the sustained health of oyster habitat—necessary for juvenile shellfish to accumulate and grow. It is impractical to assume that proponents would be successful in attaining sanctuary designations for these locations. *See* Jason Patlis et al., *The National Marine Sanctuary System: The Once and Future Promise of Comprehensive Ocean Governance*, 44 ENVTL. L. REP. 10932, 10936–39 (2014). The process is lengthy and involves extensive stakeholder involvement. *See id.* No sanctuaries have been designated since 2000. *Id.* at 10939.

63. *See* SARAH SHUMAN, RHODE ISLAND SHELLFISH HERITAGE: AN ECOLOGICAL HISTORY, 12 (2015), http://shellfishheritage.seagrant.gso.uri.edu /RI_Shellfish_Heritage_complete. The oyster was once at home in Rhode Island, as Rhode Island's hardy and rocky bottom shoreline provided the species ideal conditions for its proliferation. *Id.* In the early 1990s the oyster industry produced 1.3 million bushels of oyster a year. *Id.* But with the onset of pollution and the Hurricane of 1938, the fate of the oyster's natural population was seemingly sealed. *Id.*

64. COASTAL RES. CTR., RHODE ISLAND SHELLFISH MANAGEMENT PLAN 156 (2014); Coelho, *supra* note 42.

65. JOSEPH T. DEALTERIS ET AL., NARRAGANSETT BAY SUMMIT 2000, WHITE PAPER: FISHERIES OF RHODE ISLAND 8, 39 (2000), http://nbep.org/ publications/other/water-quality2009/NBEP%20Bay%20Summit%20%20 fisheries.pdf.

restoration efforts have only been conducted in spawner sanctuaries and coastal ponds.[66] The restoration project that served as the one exception to the stipulation against restoration in closed waters, the Roger Williams University Oyster Gardening for Restoration and Enhancement (RWU-OGRE) program—"piggy-backed" its permitting off a previously authorized emergency restoration activity.[67] And though the cost-to-ecosystem benefit analysis of the RWU-OGRE restoration project has been critiqued, even the critics support the continuation of such projects and recognize the potential the state has to maximize ecosystem services through further research and implementation.[68] And fifteen years of research leads Rhode Island's leading scientists to believe that "self-sustaining populations may never be realized within the current framework of oyster restoration within Rhode Island."[69] A change is needed in coastal and fisheries management to encourage continued restoration efforts; there currently is no organized planning to evaluate and oversee shellfish restoration[70]

It is important to note, however, that the RWU-OGRE program is distinguishable from the hypothetical discussed in this Comment for a variety of reasons. RWU-OGRE involved the relay and depuration of oysters to increase oyster spawning stock biomass.[71] The RWU-OGRE program was primarily conducted in approved waters—with oysters being relayed from only a few privately leased plots in closed-to-harvest or unassessed waters to approved waters to depuriate before they reach a harvestable size.[72] The project also

66. COASTAL RES. CTR., *supra* note 64, at 156.

67. COASTAL RES. CTR., *supra* note 64, at 219 (noting that restoration projects implemented as a result of an oil spill in Block Island Sound in 1966 have been adopted and continued by other restoration efforts). These projects have since been discontinued due to funding restraints. Interview with Dale Leavitt, Assoc. Professor of Biology, Roger Williams University, in Bristol, R.I. (Aug. 2016).

68. Matthew Griffin, *Fifteen Years of Rhode Island Oyster Restoration: A Performance Evaluation and Cost-Benefit Analysis* 44 (2016) (unpublished thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Ecology and Ecosystem Science) (on file with the University of Rhode Island), http://digitalcommons.uri.edu/cgi/viewcontent.cgi?article=1550&context=oa_diss.

69. *Id*. at 45.

70. COASTAL RES. CTR., *supra* note 64, at 129.

71. *Id.* at 2.

72. *Id.* at 222; *see also* Griffin, *supra* note 68, at 44.

involved a mix of techniques and variables that are beyond the scope of this Comment. Though distinct, the grievances associated with the "attractive nuisance" aspect of the state approach to restoration is shared. Matthew Griffin, an RWU-OGRE participant who recently wrote his dissertation on oyster restoration within Rhode Island, notes that while "admirable," the attractive nuisance aspect of the state approach has the practical effect of blocking the implementation of restoration in locations with more appropriate conditions than those not conducted in the closed-to-harvest waters.[73]

B. *Responsible Agencies*

Rhode Island's CRMC and the Department of Environmental Management (DEM) are the agencies that oversee shellfish-habitat restoration.[74] The CRMC is the lead agency for coastal issues: it develops and implements Rhode Island's coastal area and special area management plans, handles CZMA consistency reviews, and issues permits and leases for shellfish aquaculture.[75] The DEM is the lead agency for fisheries management and shellfish

73. Griffin, *supra* note 68, at 44 (noting that the attractive nuisance aspect of the approach is preventing restoration in sites with more appropriate salinity regimes or known and reliable recruitment of oysters).

74. 20 R.I. GEN. LAWS § 20-1-2 (Supp. 2016); § 20-8.1-5 (West, Westlaw through 2016 Legis. Sess.); § 46-23-1(b)(1) (West, Westlaw through 2016 Legis. Sess.). In Alabama, the Department of Conservation and Natural Resources and the DEM are the lead agencies for the state's coastal and fisheries programs. ALA. CODE §§ 9-2-2, 9-7-16 (West, Westlaw through 2016 Legis. Sess.). In California, the Coastal Commission is the lead agency for the state's coastal programs and the Department of Fish and Wildlife life is the lead agency for fisheries and aquaculture. CAL. PUB. RES. CODE §§ 30330, 30411 (West, Westlaw current with all 2016 Reg. Sess. laws).

75. 46 R.I. GEN. LAWS § 46-23-6(1)-(4) (Supp. 2016). While Rhode Island has a single centralized agency at the state level that administers the entire coastal program, other states, such as Washington, engage in partnerships with local and county government to implement their coastal programs. *See* WASH. REV. CODE ANN. § 90.58.050 (West, Westlaw through 2016 Reg. and Spec. Sess.). Rhode Island has eight Ocean SAMPs to address the different regional issues. *Special Area Management Plans*, R.I. COASTAL RES. MGMT. COUNCIL, www.crmc.ri.gov/samps.html (last modified Feb. 8, 2017) (stating that the eight SAMPs are Metro Bay, Greenwich Bay, Aquidneck Island West Side, Narrow River, Salt Ponds Region, Pawcatuck River, Ocean, and Shoreline Change (Beach)). The Ocean SAMPs are the same as CMPs. These plans are "ecosystem-based management strategies" that are allegedly consistent with the CRMC's "mandate to preserve and restore ecological systems." *Id.*

sanitization: it protects, manages, and restores the state wildlife and fish resources and also identifies polluted shellfish grounds for NSSP purposes.[76] The State of Rhode Island is a member of the Interstate Shellfish Sanitation Conference (ISSC).[77] DEM and the Department of Health are the agencies responsible for shellfish sanitation.[78] Currently fourteen percent of the growing waters have harvest limitations.[79] While the *Rhode Island Shellfish Management Plan* says restoration in closed waters is prohibited,[80] no state law expressly provides so,[81] and exceptions have been

76. 20 R.I. GEN. LAWS § 20-1-2 (Supp. 2016); *see also* § 20-8.1-5 (West, Westlaw through 2016 Legis. Sess.).

77. *List of Members*, INTERSTATE SHELLFISH SANITATION CONFERENCE, http://www.issc.org/r (last visited Mar. 30, 2017). The ISSC was formed to foster and promote shellfish sanitation through the cooperation of federal and state agencies, the shellfish industry, and various other stakeholders. COASTAL RES. CTR., *supra* note 64, at 222. The ISSC sets the regulations for *inter alia* harvest-area classifications and the harvesting, processing and sale of oysters. *Id.* It adopts uniform procedures that are incorporated into the NSSP in its Model Ordinance. *Id.* at 250. The Model Ordinance is mainly concerned with consumer health and interstate shipment. *Id.* at 265.

78. 20 R.I. GEN. LAWS § 20-8.1-5 (West, Westlaw through 2016 Legis. Sess.). In Alabama, the Department of Public Health is responsible for shellfish sanitation. ALA. ADMIN. CODE r. 420-3-18-.03(13)-(14), -.04 to -.05 (2016). Similarly, in California, the Department of Health Services is responsible for shellfish sanitation. CAL. HEALTH & SAFETY CODE §§ 112155(i)-(j), 112160-80 (West, Westlaw current with all 2016 Reg. Sess. laws).

79. C.E. Alexander, *Classified Shellfish Growing Waters*, *in* NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), STATE OF THE COAST REPORT (1998), http://oceanservice.noaa.gov/websites/retiredsites/sotc_pdf/SGW.PDF. In contrast, 100% of Alabama's growing waters have harvest limitations, and 96% of California's growing waters have harvest limitations. *Id.*; *cf.* Jeff Mercer, Principal Biologist, R.I. Dep't of Envtl. Mgmt., Following the Quahog Through Time and Space, Address at the University of Rhode Island Annual Ronald C. Baird Sea Grant Science Symposium (Nov. 14, 2013) (suggesting that Closed Areas may contribute as much as half the effective reproductive potential of the Narragansett Bay).

80. COASTAL RES. CTR., *supra* note 64, at 222.

81. *See id.* (explaining that Rhode Island has some statutes in place for oyster restoration projects, but those statutes are applied inconsistently); *see also* 20 R.I. GEN. LAWS § 20-2-44 (Supp. 2016) (requiring the division of fish and wildlife to develop a sustainable shellfish management plan); § 20-2-45(2) (authorizing the DEM to solicit federal funding for oyster restoration); § 20-3-4 (permitting the DEM, upon recommendation from the CRMC, to designate certain portions of the shores and fisheries as "shell fish or marine life project management areas" for purposes of, among other things, "managing the harvest of marine species"); § 20-9-1 (West, Westlaw through 2016 Legis. Sess.) (authorizing the director of the DEM to perform "acts that may be necessary to the conduct and establishment of cooperative wildlife restoration projects"). Likewise, neither Alabama nor California expressly prohibits

made.[82]

C. *Property Ownership and the Public Trust Doctrine*

The State of Rhode Island claims title to coastal waters and submerged lands from the mean high water mark (HWM)[83] to three nautical miles offshore;[84] its coastal zone includes this state-owned water and its adjacent land.[85] This land is held for the public in trust under the state constitution, which preserves the public rights "including but not limited to fishing from the shore, the gathering of seaweed, leaving the shore to swim in the sea and passage along the shore . . . ."[86] The *Rhode Island Special Area Management Plan*

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restoration in closed waters. MISSISSIPPI-ALABAMA SEA GRANT LEGAL PROGRAM, INVENTORY OF SHELLFISH RESTORATION PERMITTING AND PROGRAMS IN THE COASTAL STATES 10, 17 (2014), http://masglp.olemiss. edu/projects/files/tnc-report.pdf.

82. COASTAL RES. CTR., *supra* note 64, at 222 ("The restoration program under RWU is the one exception to this stipulation, with some of the sites located within closed and un-assayed waters.").

83. The HWM is the average height of all the high tides at a particular place measured over an 18.6-year period. State v. Ibbison, 448 A.2d 728, 730 (R.I. 1982).

84. 42 R.I. GEN. LAWS § 42-1-1(c) (West, Westlaw through 2016 Legis. Sess.). In Alabama**,** most tidal waters below the mean high tide line are held in trust by the state and managed for the public benefit and in compliance with state law. ALA. CODE §§ 9-12-20, 9-15-55(a) (West, Westlaw through 2016 Reg. Sess.). In California**,** the state owns tidelands, submerged lands, and beds of navigable waterways below the ordinary HWM of tidal waterways and below ordinary low water mark of non-tidal waterways. *See* CAL. CIV. CODE §§ 670, 830 (West, Westlaw 2016 Reg. Sess.).

85. 46 R.I. GEN. LAWS § 46-6.1-4(2) (West, Westlaw through 2016 Legis. Sess.). Alabama's coastal zone is as convoluted as its geographic boundary. *See* ALA. CONST. art. II, § 37 (West, Westlaw through Mar. 2016 amendments); ALA. CODE § 9-7-10(1) (West, Westlaw through 2016 Reg. Sess.) (defining Alabama's coastal zone as the "area [that] extends seaward to the outer limit of the United States territorial sea and extends inland from the shorelines only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters"). In contrast, California's coastal zone is defined broadly as the land and water area "extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea"). CAL. PUB. RES. CODE § 30103(a) (West, Westlaw through 2016 Reg. Sess.).

86. *See* R.I. CONST. art. I, § 17 (calling for balancing of public access to fishery resources with protection of natural environment); 20 R.I. GEN. LAWS § 20-1-1 (West, Westlaw through 2016 Legis. Sess.) (calling for use of management techniques to "develop[], preserve[], and maintain[] . . . the beauty and mystery that wild animals bring to our environment"); Riley v. Dep't of Envtl. Mgmt., 941 A.2d 198, 208 (R.I. 2008) (holding that the public trust right is a qualified right and is subject to the General Assembly's duty to

defines public trust resources as the "tangible physical, biological matter substance or system, habitat or ecosystems contained on, in or beneath the tidal waters of the state."[87] Rhode Island's "free and common" fishery is limited by its constitutional requirement that the public waters *must* be managed in such a manner as to preserve and protect the natural resources of the environment of the state.[88]

D. *Aquaculture as Applied to Cultch*

Generally speaking, Rhode Island believes that it is within the best interest of the people "to provide for the conservation of water, plant, and animal resources" through aquaculture.[89] The CRMC and DEM[90] are responsible for the necessary permitting.[91] Aquaculture has "one-stop" permitting with the lead agency and its own Aquaculture Coordinator.[92] Aquaculture is even recognized as a form of agriculture for tax purposes. Aquaculture activities must

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preserve, regenerate, and conserve resources); *see also* Nat'l Audubon Soc'y v. Superior Court, 33 Cal. 3d 419, 434 (Cal. 1983) (recognizing commerce, navigation, fisheries, ecological habitat protection, water oriented recreation, and preservation of land in its natural condition as public trust rights in California); *see also* Greater Providence Chamber of Commerce v. State, 657 A.2d 1038, 1041 (R.I. 1995).

87. R.I. COASTAL RES. MGMT. COUNCIL, RHODE ISLAND OCEAN SPECIAL AREA MANAGEMENT PLAN ch. 1, p.13 (2010) [hereinafter SPECIAL AREA MANAGEMENT PLAN].

88. R.I. CONST. ART. 1, § 17 (West, Westlaw through 2016 Legis. Sess.) ("[I]t *shall* be the duty of the general assembly to provide for the conservation of the air, land, *water*, plant, *animal*, mineral, and *other natural resources* of the state, and to *adopt all means necessary* and *proper by law* to protect the natural environment of the people of the state by providing adequate resource planning for the control and regulation of the use of the natural resources of the state and for the preservation, regeneration and restoration of the natural environment of the state.") (emphasis added).

89. *See* 20 R.I. GEN. LAWS § 20-10-1 (West, Westlaw through 2016 Legis. Sess.); § 20-10-2 (defining aquaculture as "the cultivation, rearing, or propagation of aquatic plants or animals under either natural or artificial conditions").

90. Alabama adopted a shellfish aquaculture easement program in 2014. But this may have limited application to restoration work. *See* ALA. ADMIN. CODE R. 220-4-.17 (2016).

91. 20 R.I. GEN. LAWS § 20-10-3; *see also* ALA. ADMIN. CODE r. 420-3-18-.06 (2016) (providing that bootleggers are subject to a $500 fine and, if the violation is continuous, he "shall be punished accordingly); CAL. HEALTH & SAFETY CODE § 112240 (West, Westlaw through 2017 Reg. Sess.) (providing that a bootlegger is guilty of a misdemeanor, and subject to a fine between $100 and $500).

92. R.I. Coastal Res. Mgmt. Council, *Aquaculture and You—Frequently Asked Questions*, RI.GOV, http://www.crmc.ri.gov/aquaculture/aquaculture faq.html (last visited Mar. 24, 2017).

adhere to the same water quality based closures and prohibitions as wild harvesters.[93] The process of obtaining an aquaculture lease is essentially a public review process led by the CRMC.

III. ADDRESSING REGULATORY INADEQUACIES

A coastal state could more efficiently manage its coastal zone by aggressively using its CZMA powers. First, a coastal state must maximize its substantive breadth by incorporating EBM into its CMP. EBM provides a better valuation system for ecosystem services than "current management approaches to fisheries, water quality, [and] coastal [management] . . . that are basically focused on a single service or small set of services, not an interlocking set."[94] If a coastal state incorporates EBM, then EBM issues such as coastal restoration utilizing shellfish to increase ecosystem services, will be addressed as well. Rhode Island's CMP is exemplary in this respect. The Ocean SAMP is very broad and incorporates EBM,[95] allowing it to potentially challenge and direct activities in its coastal zone through its consistency program. While there is a looming fear of litigation challenging a state's expansive management—if the state covers its bases by having comprehensive regulations and policies and enveloping them in public doctrinal language—challenges of this kind should not be an issue.[96] Rhode Island's CMP could be improved, however, if its governance structure did more than merely recognize the linkage between the commercial and recreational fishing industry and restoration. The Ocean SAMP recognizes that this issue needs redress but there is no mechanism to hold the CRMC accountable.[97] Moreover, Rhode Island's Ocean SAMP must be cross-sectorial and must address human activity that may impact coastal and ocean resources—the Ocean SAMP does not mention anything about bootlegging and natural resource robbery. Rhode Island must publicly denounce bootlegging in order to strengthen the

93. COASTAL RES. CTR., *supra* note 64, at 178.

94. Elliot Norse, *Regional Governance and Ecosystem-Based Management of Ocean and Coastal Resources: Can We Get There From Here?*, 16 DUKE ENVTL. L. & POL'Y F. 179, 180 (2006).

95. SPECIAL AREA MANAGEMENT PLAN, *supra* note 87, at ch.11, p. 6.

96. DAVID C. SLADE, PUTTING THE PUBLIC TRUST DOCTRINE TO WORK: THE APPLICATION OF THE PUBLIC TRUST DOCTRINE TO THE MANAGEMENT OF LANDS, WATERS AND LIVING RESOURCES OF COASTAL STATES 245–62 (1990).

97. R.I. ADMIN. CODE 16-1-17:900 (West, Westlaw through Feb. 2017 amendments).

interaction between the fishery and coastal sectors. It can do this by including its management in its current programs and increasing the fines and penalties on the bootleggers because it is more appropriate they bear the cost of the loss they caused. The implementation of a state regulation, outside the Ocean SAMP, requiring EBM considerations for ocean and coastal resources and recognizing the interdependence between fishery populations, habitat, and coastal health would greatly improve accountability.[98] While Rhode Island zealously embraces aquaculture, the public trust has a comprehensive CMP and openly embraces activities of this kind. However, its implementation is extremely limited; the "one exception" to the state's attractive nuisance approach, the RWU OGRE project, was canceled in January 2016, and no other restoration activity that mirrors the minimally invasive procedures discussed here has occurred in state waters. Further, no case law exists on the direct issue. Rhode Island's constitutional recognition of such rights is not self-executing—it must be made effective by legislation.[99] A legally binding distinction needs to be carved out for less-invasive aquaculture procedures that in the short term may impair the public's enjoyment of the oyster fishery, but in the long term has a direct positive impact on the environment and provides a public benefit.[100] A law of this kind, declaring an overriding public interest, catered to enhancing public resources over private industry, would encourage these kinds of practices. Such a law could create an entity or vest the duty in a pre-existing agency to design and implement an adaptive approach that builds upon Rhode Island's current laws to advance activities that affect coastal ecosystems in order to ensure the coexistence of healthy ecosystems and human activities. Such a group could also be specifically tasked with creating routine reports to the governor and legislature that define needed legislative and executive actions and funding needs. In addition to appropriate regulations, Rhode Island could create a separate permitting system for projects of this kind that, instead of

98. *See, e.g.*, N.Y. ENVTL. CONSERV. LAW § 14-0103 (West, Westlaw through L.2017) (declaring that the policy of the state "shall be to conserve, maintain and restore coastal ecosystems so that they are healthy, productive and resilient and able to deliver the resources people want and need").

99. *See* State v. Cozzens, 2 R.I. 561 (1850) (construing Art. I, § 17 of the Rhode Island Constitution).

100. *See* N.C. GEN. STAT. § 113–202 (West, Westlaw through 2016 Reg. Sess.).

having minimal negative impacts on the environment, make positive improvements. A separate permitting procedure would expedite the time spent in the permitting process and allow projects of this kind to better utilize their resources.

Coastal management could be improved by strengthening governance through required coordination of the fishery and coastal sectors, increasing public participation, and overseeing resource expenditures. To address this problem, the state legislature could enact a law that tasked a single agency, or required coordination and cooperation between the DEM and CRMC, with the obligation of preparing a plan for establishing an integrated system for improving closed-to-harvest protected areas and improving their management.[101] By creating an agency whose purpose is to encourage cooperation between the fishery and coastal sectors, management will be centralized, and less energy will be lost trying to effectuate individual interests when both have a shared stake in the outcome. As noted earlier, Roger Williams University recently canceled its RWU-OGRE program for lack of funding.[102] The program relied on the University and private grants for its continuation—it did not receive state or federal funding.[103] Rhode Island should prioritize programs like the RWU-OGRE program not just because of its coastal and fishery implications, but because the community engagement helps to boost support for the cause and volunteers help draw out resources. To alleviate the problem, Governor Gina Raimondo could do what Washington's Governor did when it created the Puget Sound Partnership—she could issue an executive order to develop recommendations for permanent partnerships of this kind—either to save the RWU-OGRE program or something similar. Rhode Island's leadership need not wait for another emergency like the 1966 North Cape Oil spill to carve out a second exception to the attractive nuisance approach given that the science and legal authority already exists. Though the Ocean State's coastal and shellfish management plans are exemplary in many respects, its implementation of restoration that impacts both sectors lags far behind other leading coastal states. A stronger movement towards a healthier coast could be catalyzed by state

101. *See, e.g.*, CAL. FISH & GAME CODE § 2855 (West, Westlaw through 2017 Reg. Sess.).
102. Interview with Dale Leavitt, *supra* note 67.
103. Coelho, *supra* note 42.

leadership drawing attention to the issue. Money may be less of an issue, if the large number of coastal property owners were made aware of what they are up against and what support they could give to curb the issue. The amalgamation of laws that exist may deceive those not trained in law to believe that progress is being made. Efforts by leaders like Governor Raimondo is essential to correct the mistaken belief that progress is being made because laws exist and to close the knowledge gap between coastal and fisheries management and the rest of society.[104]

Coastal management could be improved if state policies included measurable indicators to more effectively attain its well established goals and objectives. To improve, the Ocean SAMP could provide specific methods for how to achieve these goals and detail them within.[105] The approach could be improved by creating measurable indicators that would evolve from the traditional single species, or specific delineated plot, to an EBM approach.[106] The program should revise its implementation goals in order to account for its limited resources—oysters and locations closed-to-harvest. Taking realistic targets of what can be done with this, and taking into consideration the historic and existing programs' funding, the program should create a coastal wide measure that supports all topic areas, reflecting achievable objectives given the programs current resource and initiatives. It is my hope then that, instead of prioritizing activities in waters healthy enough to grow food, polluted waters will receive help as well. Multi-species management would include those species that rely on oysters for habitat. This species management could also include water quality indicators or water quality indicators could be a separate measure. Management may also be improved if the risk of bootlegging is assessed against the status of local fishery, current water quality levels, and other local indicators. Rhode Island's wild oyster fishery

104. *See What is Action Agenda?*, PUGET SOUND PARTNERSHIP, http://www.psp.wa.gov/action-agenda-what.php (last visited Mar. 24, 2017).

105. *See, e.g.*, CHESAPEAKE BAY PROGRAM, CHESAPEAKE BAY HEALTH & RESTORATION ASSESSMENT: A REPORT TO THE CITIZENS OF THE BAY REGION (2007), http://www.chesapeakebay.net/content/publications/cbp_26038.pdf (The program's goal was to "develop, promote, and achieve sound land use practices which protect and restore watershed resources and water quality . . . and restore and preserve aquatic resources.").

106. *See* U.S. ENVTL. PROT. AGENCY, CHESAPEAKE BAY PROGRAM OFFICE: STRENGTHENING THE MANAGEMENT, COORDINATION, AND ACCOUNTABILITY OF THE CHESAPEAKE BAY PROGRAM ii–iii (2008).

is nearly dead and thus its justification for applying the attractive nuisance approach is weaker than those coastal states with thriving wild fisheries and heavy involvement in interstate commerce.

Substantively, Rhode Island's Ocean SAMP is limited because it does not address all living marine resources based on maintaining the health of the ecosystem. While the Ocean SAMP recognizes and promotes EBM, it needs to go a step further by explicitly recognizing significant species vital to a sustainable coast. This would require the CRMC to designate species as being exploitable or protected. As applied to the issue presented in this Comment, the oyster should be acknowledged and should receive heightened protection. By explicitly acknowledging the importance of the oyster and the ecosystem services it provides, the CRMC would better position itself to combat the bootlegging *faux pas*.

IV. CONCLUSION

Coastal states are at a crossroads between competing uses of the coastal zone. States need to take full advantage of their CZMA authority to more efficiently restore their coastal zones. A coastal state would first accomplish this by incorporating EBM into its approach and by making its CMP as comprehensive as possible. Second, a coastal state should enact state regulations that recognize and reinforce EBM as well as incentives and practices that pursue its coastal zone's most polluted waters. Once EBM is embedded in its laws, a coastal state may more effectively enforce its policies through an aggressive implementation of its CZMA authority. While the use of the state's powers in such style may cause some short-term economic and political disruption, the feasible results that likely will be achieved outweigh such negative results in the long run. But as fisheries continue to be exploited, as the oyster in Rhode Island illustrates, and coastal areas remain degraded and largely untouched, there does not seem to be a choice.

Armed with the CZMA authority and state regulations that add some teeth, coastal states have the scientific, congressional, and stakeholder support to implement a new coastal restoration policy that will change the way in which activities are conducted in the coastal zone. Rhode Island is in the best position to continue to lead the coastal states in efficiently managing its coastal zone through the aggressive implementation of its CZMA authority because of its limited size and because it already incorporates EBM

in its Ocean SAMP. While the proposals made in this Comment are not particularly novel, successful implementation of them would be. The exercise of state powers in this manner should overcome a court challenge because such actions are the product of states acting pursuant to their duty as a trustee to ensure the sustainability of their coastal resources.

To summarize, Rhode Island and other coastal states have little to lose and much to gain by aggressively implementing their CZMA authority. As the threat climate change poses becomes more of a reality, I urge Rhode Island to consider implementing the proposals made in this Comment as soon as possible. The longer we wait the less we can revive, and the more it will cost at a later date.