From Stratton to USCOP: Environmental Law Floundering at Sea

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I. THE EVOLUTION OF OCEAN AWARENESS

Roll on, thou deep and dark blue Ocean—roll!
Ten thousand fleets sweep over thee in vain;
Man marks the earth with ruin—his control
Stops with the shore;
-George Gordon, Lord Byron
Childe Harold’s Pilgrimage
Canto the Fourth, CLXXIX

In the late 1960s, the environmental movement was budding in the United States, and a land ethic was quickly emerging. The National Environmental Policy Act of 1969 ushered in a decade of environmental legislation addressing numerous areas of the human environment. In the midst of this environmental awakening, a report entitled Our Nation and the Sea was issued in January 1969 by a presidentially-appointed commission. This report of the Commission on Marine Sciences, Engineering, and Resources, commonly known as the Stratton Commission Report, provided the first comprehensive review and assessment of U.S. ocean policy. Because of its timing, people looking back often presume that the health of the nation’s seas was the primary focus of the Stratton Commission Report. This was not the case.


Environmental concerns, particularly pollution issues, were a recurring underlying theme in the Stratton Report, and threats to the ocean environment were certainly recognized. But like Lord Byron, Americans of the 1960s largely perceived the resources of the oceans as virtually infinite and did not seriously believe that man could cause long-term damage to the vast oceans. Rather, the Stratton Commission’s work was influenced by a 1966 report of the President’s Science Advisory Committee entitled *Effective Use of the Sea,* and the concept of effective use of oceans for exploitation of resources and expansion of economic activities permeates the report. The report was not so much the product of the environmental movement as it was of other developments of the previous decade.

The first development was the United States’ new emphasis on science after the Russian launching of Sputnik in 1958. Following a decade dedicated to winning the space race, Congress was ready to initiate a scientific program to address the exploration of the earth’s “last frontier”—the oceans. The Marine Resources and Engineering Development Act of 1966 mandated the development of a comprehensive program of marine activities and created the Stratton Commission to “make a comprehensive investigation and study of all aspects of marine science . . .” The Commission was directed to “[r]evie[we] the known and contemplated needs for natural resources from the marine environment to maintain our expanding national economy,” and recommend a “[g]overnmental organizational plan” and an “adequate national marine science program that will meet the present and future national needs . . .”

The second development leading to the nation’s need to consider a comprehensive national ocean policy was the quickly developing international law of the sea and ocean enclosure movement. At the commissioning of an oceanic research vessel in 1966, President Lyndon

5. Id. § 5(b), 80 Stat. 203, 206.
6. Id. § 5(b)(1), 80 Stat. 203, 206.
7. Id. § 5(b)(6), 80 Stat. 203, 206.
8. Id. § 5(b)(5), 80 Stat. 203, 206.
Johnson expressed concern about the competition for ocean resources, declaring that:

[under no circumstances, we believe, must we ever allow the prospects of rich harvests and mineral wealth to create a new form of colonial competition among the maritime nations. We must be careful to avoid a race to grab and to hold the lands under the high seas. We must ensure that the deep seas and the ocean bottoms are, and remain, the legacy of all human beings.]

The Stratton Commission Report reflected a more parochial concern, stating: "[t]here is the threat inherent in any failure by the Nation to utilize successfully its fair share of a major planetary resource; the United States simply cannot afford less than its best effort to utilize the global sea." National ocean policy was not just a question of use of coastal seas, but a question of assuring that the United States be able to exploit its fair share of global high seas resources.

The Stratton Commission recognized that the continued intensive development of the coasts was having a detrimental effect on coastal systems and competed with other coastal uses, and envisioned relieving stresses on the coastal zone by moving coastal operations offshore. For example, the Commission suggested the possibility of moving power generation offshore and developing underwater nuclear power plants; underwater storage systems could be developed for crude oil and petroleum and other bulky and dangerous products; offshore and underwater cargo facilities would free coastal lands and alleviate the need for dredging channels for deep draft vessels. To encourage private entrepreneurial efforts in the coastal seas, the Commission even recommended that states develop leasing procedures to permit non-extractive seabed activities and proposed a system of "seasteads," analogizing offshore development to frontier development under the Homestead Act of 1862.

The Stratton Commission viewed pollution of the nation's oceans and estuaries as interfering with effective use of the oceans. Pollution was consequently the primary environmental concern addressed in the

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12. See id. at 69–70.
13. See id.
14. See id. at 72.
15. See id.
Commission’s report. Recognizing that the assimilative capacity was extremely great, but not infinite, the Commission recommended more research on pollutants, strengthening enforcement of pollution laws, and expanding the Corps of Engineers permitting authority to consider the environmental effects of projects.16 The Commission’s recommendations became subsumed, however, in the nation’s larger water pollution control agenda when the Santa Barbara oil spill occurred in January, 1969,17 the same month as the publication of the Stratton Commission Report.18

At a time when there existed only a small fraction of the laws that currently regulate coastal and ocean uses, pollution of air and waters, and management and exploitation of resources, the Stratton Commission thought the most serious barrier to effectively managing coastal uses was the conflicts, overlaps, and gaps in federal, state, and local laws.19 The Commission also found that the institutional framework for providing the scientific and technological foundation for effective coastal management was in disarray.20 The primary outcomes of the Stratton Commission—the Coastal Zone Management Act21 and the creation of the National Oceanic and Oceanographic Administration (NOAA)—were intended to address the governance issues, coordinate federal and state efforts in the coastal zone,22 and create a federal agency that would prioritize, carry out, and coordinate a program for marine science and technology development to facilitate the effective use of the coasts and oceans.23

16. See id. at 72–81.
19. See id. at 8.
20. Id. at 21–23.
23. Id. at 4, 37–38.
As we fast forward over thirty years, not one, but two commissions have recently produced reports to recommend new directions for United States ocean policy in this century. The Pew Oceans Commission released an independent report, *America’s Living Oceans: Charting a Course for Sea Change*, in May 2003. A year later, the United States Commission on Ocean Policy (USCOP), a body appointed by President Bush, published *An Ocean Blueprint for the 21st Century*. During the intervening period since the Stratton Commission, the nation’s seas changed substantially: most notably, the recent commissions were dealing with a very different American ocean. The United States ocean jurisdictional claims had expanded to a twelve-mile territorial sea, a twenty-four-mile contiguous zone, a 200-mile exclusive economic zone (EEZ), and a continental shelf that potentially could extend more than 300 miles offshore—quite different from the narrow three-mile belt of sovereignty and more limited continental shelf claim at the time of the Stratton Commission. Stresses on coastal waters increased because of population growth in coastal watershed counties, which exceeded thirty-seven million people between 1970 and 2000 and is expected to increase another twenty-one million by 2015. Much of this coastal population is concentrated in coastal areas that are the most ecologically sensitive and in areas that are the most susceptible to hurricanes. The overall condition of coastal waters is now judged to be somewhere between poor and fair, and beach closures due to the presence of pathogens or algae outbreaks, like red tide, have become common. Numerous offshore hypoxic areas and “dead zones,” including a major dead zone in the Gulf of Mexico, have been identified. Moreover, in this intervening period, concerns about the effect of global climate change on the oceans

26. See Stratton Commission Report, supra note 2, at 49–51; see also USCOP Report, supra note 25, at 70–73.
27. USCOP Report, supra note 25, at 41–42.
28. See id.
emerged, and the nation became aware that the oceans were not endlessly resilient but, in fact, both finite and fragile.\footnote{See, e.g., \textit{id.} at v–vii, 83–87; USCOP Report, \textit{supra} note 25, at 43–44.}

In addition, the number of laws and agencies involved in the management of ocean resources dramatically expanded. The Pew Oceans Commission and USCOP estimated that at least twenty federal agencies are involved in implementing over 140 ocean-related statutes.\footnote{See \textit{Pew Oceans Commission Report}, \textit{supra} note 24, at 26; USCOP Report, \textit{supra} note 25, at 77–78.} It is not surprising that these commissions continued to view the jurisdictional scope and the fragmented and over-lapping system of ocean governance as primary impediments to implementing coherent and effective ocean policy.\footnote{See \textit{Pew Oceans Commission Report}, \textit{supra} note 24, at 26; USCOP Report, \textit{supra} note 25, at 77.} Neither the creation of NOAA nor the development of state coastal management regimes under the Coastal Zone Management Act provided a framework sufficient to coordinate the regulation and management of ocean and coastal activities and the conflicts that have proliferated as coastal and ocean uses have continued to intensify.\footnote{See generally USCOP Report, \textit{supra} note 25, at 110–13.} Both reports also continued to echo the findings of the Stratton Commission in recommending the enhancement of the knowledge of the oceans and the modernization of ocean science institutions and infrastructure.\footnote{Pew Oceans Commission Report, \textit{supra} note 24, at 88–90; USCOP Report, \textit{supra} note 25, at chapters 25–29.}

The Pew Oceans Commission and USCOP were fundamentally different from the Stratton Commission, however, in their philosophy of ocean management. Both commissions concluded that human activities severely stressed ocean systems and that major changes in ocean management were needed to stop the degradation of ocean resources and to restore and protect the oceans for future generations.\footnote{Pew Oceans Commission Report, \textit{supra} note 24, at v, x–xi; USCOP Report, \textit{supra} note 25, at 1–4.} In light of their findings and the nation's new understanding of the oceans, these commissions approached development of ocean policy from principles of sustainability and stewardship. These principles translated into proposals for an ocean policy based on preservation of marine
biodiversity, an ecosystem-based approach to management, and a governance structure aligned with ecosystem boundaries.\textsuperscript{38} 

II. THE CASE OF FISHERIES

... long years—
Long, though not very many—since have done
Their work on both; some suffering and some tears
Have left us nearly where we had begun:
-George Gordon, Lord Byron
Childe Harold's Pilgrimage
Canto the Fourth, CLXXVI

To this point, fishery resources have not been discussed, but it is in the assessment of the future of fishery resources that the Stratton Commission most clearly betrayed its overly optimistic view of the limits of the seas' resources. In spite of the recognition that some species were already being overexploited, the Commission made the following assessment of future fisheries production:

It is... realistic to expect total annual production of marine food products (exclusive of aquaculture) to grow to 400 to 500 million metric tons before expansion costs become excessive. Even this estimate may be too conservative if significant technological breakthroughs are achieved in the ability to detect, concentrate, and harvest fish on the high seas and in the deep ocean.\textsuperscript{39}

The Commission made numerous recommendations designed to encourage the expansion of U.S. fisheries and the rehabilitation of the antiquated and technologically-outmoded fleet, so that American fishermen could claim their share of this anticipated ocean bounty.\textsuperscript{40} The Food and Agriculture Organization of the United Nations' annual reports on world fisheries,\textsuperscript{41} however, indicated that although fisheries catch increased more than threefold between 1950 and 1970, by the mid-1980s


\textsuperscript{39} Stratton Commission Report, supra note 2, at 88.

\textsuperscript{40} Id. at 92–94, 97–103.

the world's capture fisheries leveled out at well below 100 million metric tons annually.  

The Fishery Conservation and Management Act of 1976 (now the Magnuson-Stevens Act), which extended exclusive United States fishery management authority to 200 miles, cannot be characterized as an outcome of the Stratton Commission. The Commission specifically rejected the proposal that coastal nations should have exclusive access to living resources in the seas superadjacent to the continental shelf, and concluded that U.S. objectives could be achieved by improving international treaties and institutions. In enacting the legislation, Congress also overlooked the Commission's criticism of the inconsistency and conflict created by individual state regulation. Instead, Congress continued to recognize state fisheries management authority within state waters, fragmenting authority between the states and the newly created regional fishery management councils. Further, Congress did not heed the warnings of the Commission to consider efficiency and problems of excess capacity in rehabilitating the U.S. fishing fleet. The legislation did, however, reflect the Commission's optimism that fisheries could continue to expand far beyond current limits, and that maximum sustainable yield producing the greatest economic return should be the goal of fisheries management, rather than preservation of stocks.

The Magnuson-Stevens Act led to unprecedented expansion in the U.S. fishing industry, taking advantage of the excess stocks that fishermen presumed would be available when foreign fishers left U.S. waters. Fisheries management councils in many regions set unrealistic catch levels to support the over-capitalized and over-capacity U.S. fleet. Fisheries management was characterized by crisis-driven decision making when fish stocks did not recover, and even when fish

42. Id. at 6 (noting that from 1950 to 1970, the world fisheries catch increased from about twenty million tons to about sixty million tons).
44. See Stratton Commission Report, supra note 2, at 105.
45. Id. at 95-96.
47. See Stratton Commission Report, supra note 2, at 92; USCOP Report, supra note 25, at 275.
49. USCOP Report, supra note 25, at 275.
50. Id.
stocks continued to decline—some to the point of collapse.\textsuperscript{51} In 1996, Congress made major changes in the U.S. fisheries regime through the Sustainable Fisheries Act (SFA),\textsuperscript{52} but the difficulty of transitioning from a regime designed to build a modern, successful fishing industry in an “Americanized” ocean to a management system based on sustainability and ecosystem-based management was highlighted by the marked increase in litigation to enforce the Act.\textsuperscript{53} The ten years following the passage of the SFA has been a slow evolution of the Magnuson-Stevens Act toward sustainability through prevention of overfishing, rebuilding of overfished stocks, and movement towards ecosystem-based management of fisheries.\textsuperscript{54}

III. TOWARD STEWARDSHIP AND SUSTAINABILITY

\begin{quote}
Thou seest not all; but piecemeal thou must break,
To separate contemplation, the great whole . . .
-George Gordon, Lord Byron
Childe Harold’s Pilgrimage
Canto the Fourth, CLVII
\end{quote}

The journey from the Stratton Commission to USCOP seems a very short time to move from a perception of the oceans as a virtually infinite resource to an understanding that man’s activities both on land and in the seas have significant, even ecosystem-level, effects on the oceans. The lessons learned during this period, though, are reflected in management principles adopted by Pew Oceans Commission and USCOP Reports. These principles include preserving marine biodiversity, approaching management through an ecosystem-based method, and aligning governance and decision making with ecosystem boundaries.\textsuperscript{55}

We will likely never know enough about the oceans to anticipate all the ramifications of our actions. We will continue to make mistakes, and we can not always expect the oceans to be resilient enough to rebound. We are aware now, for example, that effects of overfishing are not

\begin{footnotes}
\item[51] Id. at 276–76; see also Donna R. Christie, \textit{Living Marine Resources Management: A Proposal for Integration of United States Management Regimes}, 34 ENVTL. L. 107, 135 (2004).
\item[53] USCOP Report, \textit{supra} note 25, at 276.
\item[54] Id. at 274–76.
\end{footnotes}
limited to the direct population effects on the target species. A report for
the Pew Oceans Commission entitled *Ecological Effects of Fishing in
Marine Ecosystems of the United States*\(^5\) surveyed the direct and
indirect effects of overfishing, bycatch, habitat degradation by
destructive fishing gear, and fishing-induced food web changes. The
consequences of these fishing practices include “changes in the structure
of marine habitats that ultimately influence the diversity, biomass, and
productivity of the associated biota; removal of predators, which disrupts
and truncates trophic relationships; and endangerment of marine
mammals, sea turtles, some seabirds, and even some fish.”\(^5\) The report
concluded that “the weight of evidence overwhelmingly indicates that
the unintended consequences of fishing on marine ecosystems are
severe, dramatic, and in some cases irreversible.”\(^5\)

Designation of marine reserves protects some habitat from the direct
effects of fishing and provides areas for recovery and restoration. Marine
reserves provide baseline information on habitat to help distinguish
natural variability from user impacts.\(^5\) Reserves can serve as
experimental sites for ecosystem restoration and for studying processes
that may be operable throughout an ecosystem or region.\(^5\) Finally,
reserves may provide “insurance policies” against excessive exploitation
in light of scientific indeterminacy and management uncertainty.\(^5\)

There is no shortage of legislative authority to provide a basis for
establishment of marine reserves. A partial list includes state and federal
fisheries management legislation, the National Marine Sanctuaries Act,\(^5\)
the National Wildlife Refuge System,\(^5\) the National Park Service
Organic Act,\(^5\) the Endangered Species Act,\(^5\) and

\(^{56}\) PAUL K. DAYTON, SIMON THRUSH, & FELICIA C. COLEMAN, ECOLOGICAL EFFECTS OF
FISHING IN MARINE ECOSYSTEMS OF THE UNITED STATES (Pew Ocean Comm’n 2002) [hereinafter
Ecological Effects of Fishing].

\(^{57}\) See id. at 1.

\(^{58}\) See id.

\(^{59}\) See STEPHEN R. PALUMBL, MARINE RESERVES: A TOOL FOR ECOSYSTEM MANAGEMENT

\(^{60}\) Ecological Effects of Fishing, supra note 56, at 34.

\(^{61}\) See ECOSYSTEMS PRINCIPLES ADVISORY PANEL, ECOSYSTEM BASED FISHERIES
MANAGEMENT, A REPORT TO CONGRESS 29 (1999) [hereinafter Ecosystem Management Report];
Ecological Effects of Fishing, supra note 56, at 34.


\(^{63}\) Id. § 668(d).

\(^{64}\) Id. §§ 1, 2–4.

\(^{65}\) Id. §§ 1531–1544.

\(^{66}\) Id. §§ 431–433.
state authority to manage sovereignty and public trust lands. The use of marine reserves as a legitimate management tool and viable “insurance policy” to maintain marine biodiversity, however, will depend on the establishment of a “true system” of marine reserves that are scientifically-based, represent and contribute to ecosystem-wide values, and are enforceable. The hodge-podge of authorities that currently exists is exactly the kind of fragmented approach to ocean management that has been criticized from Stratton to USCOP. A fragmented system of reserves and other marine protected areas will also fail to provide the greatest contribution to ecosystem-based management.

The arguments for managing ocean uses and ocean resources on an ecosystem-wide basis are compelling, but implementing ecosystem-based management can be overwhelming. We have given up the conceit of suggesting that we can manage ecosystems and now refer to the approach as an ecosystem-based approach to management. But even after changing the perspective of what we are doing, having enough information to consider and understand the complex interactions in an ecosystem seems to be impossible, and attempting to manage species by taking everything into account might be an interminable exercise. The 1999 report to Congress on using ecosystem-based management in fisheries by the Ecosystem Principles Advisory Panel concluded, however, that “the approach need not be endlessly complicated.” The Panel emphasized that “[e]cosystem-based fisheries management does not require that we understand all things about all components of the ecosystem.” The Panel recommended that an ecosystem-based approach be incorporated incrementally into the management process as data is gathered, training is carried out, and guidelines are developed to ensure compliance with ecosystem principles, goals, and policies. In other words, ecosystem-based management is a process and an aspiration that we can reach only by continuing to learn about the ecosystem and applying adaptive management measures.

Perhaps even more difficult than conceptualizing how to implement ecosystem-based management is conceptualizing how the regulatory and decision making process can be aligned with boundaries of the

67. Cf. The National Parks System or the current System of Marine Protected Areas that primarily provides an inventory and advisory role.
68. See generally Ecosystem Management Report, supra note 61, at 1, 10–11.
69. Id. at 1.
70. Id. at 10.
71. Id. at 33–34.
ecosystem. Political processes are no less complex than ecological processes and are much less prone to follow laws of nature. Our government’s structure does not easily accommodate a new level of regional decision-making that cuts across federal and state prerogatives.\textsuperscript{72} Regional fishery management councils are currently the best example of jurisdictional authority somewhat aligning geographically with large marine ecosystems. The substantive scope of the councils’ authority is limited, however, and even within their realm of authority, their legitimacy constantly receives criticism.\textsuperscript{73} At best, fishery management councils provide only a small piece of the puzzle in addressing the mismatch between governance structure and the quest for an eco-regional governance model for U.S. oceans.

The Pew Oceans Commission and USCOP presented radically different views of the model for regional ecosystem management. The Pew Commission proposed an ecosystem-based approach to ocean management through creation of regional ocean ecosystem councils composed of federal, state and tribal authorities with jurisdiction over relevant ocean space and resources.\textsuperscript{74} These councils would be empowered to develop regional ocean governance plans that would be binding and enforceable against all parties.\textsuperscript{75} The USCOP Report envisions a much less structured and evolving system of regional ocean councils. USCOP recommends the encouragement of voluntary regional ocean councils, established by the states, with a wide range of participants including all levels of government, persons from the private sector, non-governmental organizations, and academia.\textsuperscript{76} The exact


\textsuperscript{74} See Pew Oceans Commission Report, supra note 24, at 33, 103.

\textsuperscript{75} See id. at 33, 104.

\textsuperscript{76} See USCOP Report, supra note 25, at 87.
structure and function of the councils should be determined by the participants to meet the unique needs of each region.\textsuperscript{77}

Both models have their limitations. The Pew Commission model is perhaps too idealistic and takes little account of political realities. By contrast, under the USCOP approach, if only some regions respond or, if ocean issues continue to be addressed in a piecemeal fashion on the eco-region level, the nation’s response will be woefully inadequate to respond to the call for ecosystem-based management for oceans.

IV. CONCLUSION

Yet not in vain our mortal race hath run;
-George Gordon, Lord Byron
Childe Harold’s Pilgrimage
Canto the Fourth, CLVII

The Stratton Commission’s role in awakening the awareness of the role of the oceans in the life of our nation and justifying the need to understand the oceans cannot be understated. The importance of the Pew Oceans Commission and USCOP in awakening the nation to threats to our oceans and how those threats affect our nation will be just as important. The members of these two commissions should be applauded for their willingness to stay engaged in the development of national ocean policy and assure that the exhaustive work of their commissions not be put on the shelf and be of only academic interest. While it was possible that the two commissions could have seen themselves as competing to provide the “most correct” view of the state of the oceans and “best” way to address the future of national ocean policy, the commissions instead chose to cooperate to build momentum for ocean policy reform. In 2005, members of the two commissions announced a collaborative, bipartisan effort of the two commissions—the Joint Ocean Commission Initiative (Joint Initiative)—to catalyze ocean policy reform. The Joint Initiative includes a ten-member task force,\textsuperscript{78} five from each commission, and is led by chairs of both commissions. The Joint Initiative has continued to work with Congress, the Administration, and states to try to advance the pace of meaningful ocean reform. The Joint Initiative produced a report, \textit{From Sea to Shining Sea: Priorities for

\textsuperscript{77} Id. at 90.

Ocean Policy Reform,\textsuperscript{79} which provides Congress with priorities for implementation of the reports' hundreds of recommendations. Further, to keep the public aware of the progress (or lack of progress) in key areas of national ocean policy reform, the Joint Initiative issues an annual U.S. Ocean Policy Report Card.\textsuperscript{80}

The nation has been slow in recognizing the profound effects that human activities have had on the oceans. Indeed, environmental law continues to flounder at sea, and it is not clear that the Pew Oceans Commission and USCOP have provided workable solutions to address all the problems they identified. But they have at least clearly defined the problems the nation faces in assuring the sustainability of ocean resources, identified priorities in addressing the issues that can lead to significant policy reform, and have continued to work to keep the state of the oceans in the public's consciousness.

I love not Man the less, but Nature more . . .

-George Gordon, Lord Byron
Childe Harold's Pilgrimage
Canto the Fourth, CLXXVIII
