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John R. Nolon

Elisabeth Haub School of Law at Pace University

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NEWS & ANALYSIS

Disaster Mitigation Through Land Use Strategies

by John R. Nolon

Editors' Summary: The devastation wrought by Hurricane Katrina brought to public attention the role of land use planning in mitigating natural disasters and which level or levels of government should decide whether and how to undertake this planning. In the Upper Mississippi River Basin, 6 federal agencies, 23 state agencies in 5 states, and 233 local governments share jurisdiction over various areas of activity on the river; the complexity and disorganization of this legal framework stifles effective action. In this Article, John R. Nolon calls for cooperative federalism and a clarification of agency roles as a remedy for this complexity. Through case studies and analysis, he explores how federal and state framework laws can be linked vertically and horizontally to facilitate disaster mitigation planning.

I. Introduction: Who Should Decide?

The persistent question this Article raises is who should decide whether and how to mitigate the damages caused by natural disasters. Our understandable preoccupation with response, recovery, and rebuilding makes it hard to focus on this question as a central, even relevant, one. But it persists, nonetheless. The high-profile "blame game" played following Hurricane Katrina's devastation of the Gulf Coast is emblematic. In pointing fingers first at the Federal Emergency Management Agency (FEMA), then at the city of New Orleans, and then at the state of Louisiana, public officials exhibited an appalling lack of understanding of the roles that each sector and level of government should play.

To illustrate this point, the following "dialogue" is constructed from public statements uttered immediately following Hurricane Katrina when both floodwaters and temperatures were elevated:

"Under the law, state and local officials must direct initial emergency operations. The federal government comes in and supports those officials."

—Michael Chertoff, Secretary of the U.S. Department of Homeland Security.¹

"The moment the President declared a federal disaster, it became a federal responsibility. The federal government took ownership over the response."

—Jane Bullock, former FEMA Chief of Staff.²

"Clearly the FEMA response has been slow. We got a lot of good people on the ground here that are with FEMA and with the state agencies. They wear their badges, and they look good. But unfortunately, we just have not seen all the assets and all the resources that we need in our city."

—Pascagoula, Mississippi Mayor Matthew Avara.³

"This is a national emergency. This is a national disgrace. FEMA has been here 3 days, yet there is no command and control. We can send massive amounts of aid to tsunami victims, but we can't bail out the city of New Orleans."

—Terry Ebbert, New Orleans Homeland Security Director.⁴

"My mistake was in [not] recognizing that . . . Mayor Nagin and Governor Blanco were reticent to order a mandatory evacuation. . . . I guess you want me to be the superhero that is going to step in there and suddenly take everybody out of New Orleans. . . . The reason that this primary responsibility, this first response is at the local level is that it is inherently impractical, totally impractical for the federal government to respond to every

John R. Nolon is Professor of Law, Pace University School of Law, Director of the School's Land Use Law Center and its Joint Center for Land Use Studies, and a Visiting Professor at the Yale School of Forestry and Environmental Studies.

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1. Peter G. Gosselin & Alan C. Miller, *Why FEMA Was Missing in Action*, L.A. TIMES, Sept. 5, 2005, at B12.

2. *Id.*

3. *Mayors Fault FEMA Response*, CNN, Sept. 11, 2005, <http://www.cnn.com/2005/US/09/10/katrina.impact/index.html>.

4. Elisabeth Bumiller, *Democrats and Others Criticize White House's Response to Disaster*, N.Y. TIMES, Sept. 2, 2005, at A16.

disaster of whatever size in every community across the country.”

—Former FEMA Chief Michael Brown testifying before Congress.⁵

“Governor Blanco has refused to sign an agreement proposed by the White House to share control of National Guard forces with the federal authorities. ‘She would lose control when she had been in control from the very beginning,’ explained [the Governor’s] press secretary Bottcher.”⁶

“You mean to tell me that a place where you probably have thousands of people that have died and thousands more that are dying every day, that we can’t figure out a way to authorize the resources that we need? Come on man. I need reinforcements. I need troops, man. I need 500 buses, man. This is a national disaster. . . . I keep hearing that it’s coming. This is coming, that is coming. And my answer to that today is BS, where’s the beef? . . . Get off your asses and let’s do something.”

—New Orleans Mayor Ray Nagin.⁷

“The Department of Defense is not a first responder. You need to be invited.”

—Defense Secretary Donald Rumsfeld.⁸

“Katrina exposed serious problems in our response capability at all levels of government and to the extent the federal government didn’t fully do its job right, I take responsibility.”

—President George W. Bush.⁹

“There were failures at every level of government—state, federal, and local. At the state level, we must take a careful look at what went wrong and make sure it never happens again. The buck stops here, and as your governor, I take full responsibility.”

—Louisiana Gov. Kathleen Blanco.¹⁰

This bickering over roles and responsibilities was not caused simply by the chaos of the moment—it is endemic in our American system of land use control. Hurricanes Katrina and Rita struck the lower reaches of the Mississippi River watershed, which, in its totality, extends over more than 40% of the 48 contiguous states, reaching from the Gulf of Mexico to Canada and from New York to Colorado. The third-largest floodplain in the world, the Mississippi River runs through 10 states, and its watershed covers parts of more than 20 other states and provinces.¹¹

Because the Mississippi River Basin ecosystem is intersected by the boundaries of numerous states and municipal governments, it is affected by a mystifying tangle of laws and policies. This is further complicated by the regulations and influences of 22 federal agencies that deal with the basin’s hydrologic cycle, according to the National Academy of Sciences’ (NAS’) Committee on Watershed Management.¹² A five-state consortium of natural resource managers, in a study released after the devastating floods of 1993, reported that in addition to relevant federal statutes, there existed in the Upper Mississippi River Basin

a planning, regulatory, and management framework that includes at least 20 different categories of agencies (from federal to local) with jurisdiction over one or more of some 33 different functional areas of activity on the river. This includes at least six federal agencies with significant roles, 23 state agencies in five states, and 233 local governments.¹³

This legal complexity and disorganization stifles effective action regarding transportation planning,¹⁴ stormwater management,¹⁵ surface water pollution prevention,¹⁶ protecting the public from chemical hazards,¹⁷ mercury emissions, greenhouse gas control, and the transport of pollutants,¹⁸ among others.

II. The Local Role in Developing Disaster-Resilient Communities

Another question that arises is how to integrate land use decisionmaking—a role generally assigned to local governments under our federal system—with disaster mitigation

MISSISSIPPI RIVER (1999), available at <http://biology.usgs.gov/s+t/SNT/noframe/ms137.htm>.

5. *Brown Puts Blame on Louisiana Officials*, CNN, Sept. 28, 2005, <http://www.cnn.com/2005/POLITICS/09/27/katrina.brown/index.html>.
6. Scott Shane, *After Failures, Officials Play Blame Game*, N.Y. TIMES, Sept. 5, 2005, at A1.
7. *New Orleans Mayor Lashes Out at Feds*, CNN, Sept. 2, 2005, http://www.cnn.com/2005/US/09/02/katrina.nagin/index.html?section=cnn_latest.
8. Giles Whittell, *Warnings Were Loud and Clear—But Still City Drowned*, THE TIMES, Sept. 8, 2005, available at <http://www.timesonline.co.uk/tol/news/world/article564066.ece>.
9. Bush: “I Take Responsibility” for Federal Failures After Katrina, CNN, Sept. 13, 2005, <http://www.cnn.com/2005/POLITICS/09/13/katrina.washington/index.html>.
10. *Leadership Vacuum Stymied Aid Offers*, CNN, Sept. 16, 2005, <http://www.cnn.com/2005/US/09/15/katrina.response/index.html>.
11. See JAMES G. WIENER ET AL., U.S. GEOLOGICAL SURVEY, STATUS AND TRENDS OF THE NATION’S BIOLOGICAL RESOURCES: MIS-

12. COMMITTEE ON WATERSHED MANAGEMENT, NAS, NEW STRATEGIES FOR AMERICA’S WATERSHEDS 279 (1999), available at <http://www.nap.edu/books/0309064171/html/>.
13. UPPER MISSISSIPPI RIVER CONSERVATION COMMITTEE, FACING THE THREAT: AN ECOSYSTEM MANAGEMENT STRATEGY FOR THE UPPER MISSISSIPPI RIVER (1993), available at <http://www.mississippi-river.com/umrcc/Call-for-Action.html>.
14. The metropolitan transportation planning process created by the Federal Aid Highway Act of 1962 and subsequent legislation has required regional transportation agencies to achieve consistency with land use plans that are predominantly local in nature and not consistent with one another at the regional level. The Act deals with this critical lack of coordination by encouraging “each Governor with responsibility for a portion of a multistate metropolitan area and the appropriate metropolitan planning organizations to provide coordinated transportation planning for the entire metropolitan area” 23 U.S.C. §134(f)(1), and “authorizes interstate compacts in support of transportation planning” *id.* §134(f)(2).
15. Federal Water Pollution Control Act (or the CWA), 33 U.S.C. §§1251-1387, ELR STAT. FWPCA §§101-607. See §1342(p) (Phase I and Phase II stormwater discharge control programs). The federal regulations implementing this legislation are found at 40 C.F.R. §122 (2005).
16. The total maximum daily load (TMDL) program established under the CWA requires states to identify and list waters not meeting federally established water quality standards. 33 U.S.C. §1313(d).
17. Emergency Planning and Community Right-To-Know Act (EPCRA), 42 U.S.C. §§11001-11050, ELR STAT. EPCRA §§301-330. Also known as Title III of the Superfund Amendments and Reauthorization Act (SARA), 42 U.S.C. §§960 et seq., EPCRA was enacted by Congress as the national legislation on community safety, designed to assist local governments in protecting the public and the environment from chemical hazards.
18. Cindy Skrzycki, *States Rush in Where the Feds Fear to Tread*, WASH. POST, Sept. 13, 2005, at D1.

planning: a function assumed largely by the federal and state governments. Most state legislatures have delegated local governments (counties, cities, towns, and villages) the principal legal authority to determine what type of development may be built within their jurisdictions, including disaster-prone areas. This authority is found in state constitutions, planning enabling acts, zoning enabling acts, home-rule authority, and additional state laws that permit localities to protect health and safety, to preserve the local physical environment, and to mitigate disaster damage.

Using this authority, local governments can create disaster-resilient communities that have increased capacity to adapt to the effects of natural disasters, resulting in less property damage, environmental impact, and loss of life.¹⁹ The United Nations (U.N.) International Strategy for Disaster Reduction defines “resilience” as:

The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.²⁰

It should be immediately apparent that local governments can use this same legal authority to develop the adaptive capacity to conduct land use planning that builds centers and neighborhoods, increases their tax base, provides for needed transportation and other infrastructure, establishes affordable housing and jobs, prevents stormwater runoff, protects coastal environments, preserves wetlands and habitats, and accomplishes a host of other land use objectives that promote state and federal interests.

Hurricanes Katrina and Rita demonstrate the critical importance of having a response and recovery plan that fully engages the municipal role and coordinates federal, state, and local responsibilities and resources. Developing disaster-resilient communities and rebuilding after a disaster strikes requires both local competency and intergovern-

mental coordination regarding community and land use planning. There is evidence of a shift in governmental policy toward the vertical integration of federal, state, and local governmental action in order to most effectively and comprehensively address land development in disaster-prone areas as well as a host of other economic development and environmental problems.

III. A Sea Change in Federal Policy: The Disaster Mitigation Act of 2000

In the rancorous debate that followed Hurricane Katrina, there may be hope—a breath of fresh air blown in following the gale force winds. In focusing attention on disaster mitigation, the nation’s numerous recent disasters call for a review of federal policy on the matter. As it happens, the U.S. Congress recently took stock of the nation’s disaster response, recovery, and mitigation efforts and created a more coordinated approach to planning at all levels of government, one which assigns roles to each. Under the Disaster Mitigation Act (DMA),²¹ a framework of federal, state, and local cooperation is evident that could be a blueprint for an integrated Federalist approach to a host of land use and environmental problems.

The DMA articulates national legislative objectives that provide an opportunity to enhance local mitigation planning and implementation and to coordinate land use planning and regulation to promote disaster mitigation. The Act provides that in order to qualify for federal hazard mitigation grants, state and local governments must “develop and submit for approval to the President a mitigation plan that outlines processes for identifying the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the government.”²² Under the Interim Final Rule issued by FEMA,²³ the responsibilities of local governments are defined as follows:

(1) Prepare and adopt a jurisdiction wide natural hazard mitigation plan as a condition of receiving project grant funds under the Hazard Mitigation Grant Program [(HMGP)], in accordance with §201.6; and (2) At a minimum, review and, if necessary, update the local mitigation plan every five years from date of plan approval to continue program eligibility.²⁴

The introduction to the Interim Final Rule further states:

Our goal is for State and local governments to develop comprehensive and integrated plans that are coordinated through appropriate State, local, and regional agencies, as well as non-governmental interest groups. . . . State level plans should identify overall goals and priorities, incorporating the more specific local risk assessments, when available, and including projects identified through the local planning process. Under section 322(d) of the Interim Regulations, up to 7 percent of the available HMGP funds may now be used for planning, and we encourage States to use these funds for local plan development.²⁵

19. The use of the word “resilience” in the context of ecosystems studies has been traced to C.S. Holling, *Resilience and Stability of Ecological Systems*, 4 ANN. REV. ECOLOGICAL SYS. 1 (1973). See Richard J.T. Klein et al., *The Resilience of Coastal Megacities to Weather-Related Hazards*, in BUILDING SAFER CITIES: THE FUTURE OF DISASTER RISK, WORLD BANK DISASTER RISK MANAGEMENT SERIES No. 3, at 101, 111 (Alcira Kriemer et al. eds., 2003), available at http://www.preventionconsortium.org/themes/default/pdfs/Safer_Cities.pdf. See also DAN HENSTRA ET AL., INSTITUTE FOR CATASTROPHIC LOSS REDUCTION, BACKGROUND PAPER ON DISASTER-RESILIENT CITIES §3.0 (2004), available at <http://www.dnrg.org/resources/Henstra.et.al.background%20paper%20on%20disaster%20resilient%20cities.pdf>; PATRICIA JONES KERSHAW, CREATING A DISASTER-RESILIENT AMERICA: GRAND CHALLENGES IN SCIENCE AND TECHNOLOGY: SUMMARY OF A WORKSHOP OF THE DISASTERS ROUNDTABLE (NAS 2005); DENNIS S. MILETI, DISASTERS BY DESIGN: A REASSESSMENT OF NATURAL HAZARDS IN THE UNITED STATES (1999), available at <http://www.nap.edu/catalog/5782.html>; COOPERATING WITH NATURE: CONFRONTING NATURAL HAZARDS WITH LAND USE PLANNING FOR SUSTAINABLE COMMUNITIES (Raymond J. Burby ed., 1998), available at <http://books.nap.edu/catalog/5785.html>; Raymond J. Burby et al., *Creating Hazard-Resilient Communities Through Land Use Planning*, 1 NAT. HAZARDS REV. 99 (2000); David R. Godschalk, *Urban Hazard Mitigation: Creating Resilient Cities*, 4 NAT. HAZARDS REV. 136 (2003).

20. U.N. International Strategy for Disaster Reduction, *Terminology: Basic Terms of Disaster Risk Reduction*, <http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm>.

21. Pub. L. No. 106-390 (Oct. 30, 2000).

22. *Id.* §322 (codified as amended at 42 U.S.C. §5165(a)).

23. Interim Final Rule, 67 Fed. Reg. 8844 (Feb. 26, 2002) (codified as amended at 44 C.F.R. §201 (2002)).

24. *Id.* §201.3(d).

25. 67 Fed. Reg. at 8845.

The proper role of state governments under the Interim Final Rule includes coordinating “all State and local activities relating to hazard evaluation and mitigation”²⁶ and providing “technical assistance and training to local governments to assist them in applying for HMGP planning grants, and in developing local mitigation plans.”²⁷ Under DMA regulations, state governments are to submit to FEMA either “standard”²⁸ or “enhanced”²⁹ plans. FEMA has now approved Multi-Hazard Mitigation Plans for all 50 states. Of these, three—from Missouri, Oklahoma, and Washington—are enhanced plans.³⁰

Standard plans require a mitigation strategy that includes “a general description and analysis of the effectiveness of local mitigation policies, programs, and capabilities.”³¹ They also require:

An identification, evaluation, and prioritization of cost-effective, environmentally sound, and technically feasible mitigation actions and activities the State is considering and an explanation of how each activity contributes to the overall mitigation strategy. This section should be linked to local plans, where specific local actions and projects are identified.³²

Enhanced plans must meet all the requirements of standard plans as well as various additional provisions forming a “comprehensive mitigation program.”³³ This approach includes demonstrated integration with other state and/or regional plans,³⁴ documented implementation capability,³⁵ and a system of review and assessment of completed mitigation actions, including an economic measure of the effectiveness of each.³⁶ An enhanced plan must demonstrate that the state is committed to a comprehensive state mitigation program; this may include “a commitment to support local mitigation planning” through workshops, grants, and training of local officials.³⁷

Local mitigation plans are intended to, among other things, “serve as the basis for the State to provide technical assistance and to prioritize funding.”³⁸ The Interim Final Rule insists that “[a]n open public involvement process is essential to the development of an effective plan.”³⁹ Local plans must be submitted to the state hazard mitigation officer for “initial

review and coordination.”⁴⁰ The state then forwards the plan to FEMA for “formal review and approval.”⁴¹ FEMA has now approved more than 1,100 local plans.⁴²

These regulations describe an intelligently interwoven system of mitigation planning and implementation. According to anecdotal information from those who prepared the first round of state and local disaster mitigation plans submitted to FEMA, however, there is little emphasis in them on the use of effective local land use strategies to create disaster-resilient, or adaptive, communities. The reasons for this are, at best, speculative, but include the fact that disaster mitigation planning encompasses a large number of critical issues including education, response, recovery, and the lack of a clear understanding of the considerable authority that local governments have in order to use land use authority to properly shape and strengthen community development in the interest of disaster resiliency.

That the DMA can be used to integrate federal, state, and local planning, including the full engagement of the local land use control system, is evident in Colorado, where the state adopted a FEMA-approved “standard” plan that emphasizes the development of regional mitigation plans addressing specific local needs.⁴³ The Denver Regional Council of Governments includes 9 counties and 58 local governments.⁴⁴ The Denver Regional Natural Hazard Mitigation Plan recognizes that “[a]ll of the community growth and development is guided by local comprehensive plans in the region. These plans should reflect the natural hazard vulnerabilities and risk and include objectives to direct and guide growth away from these areas where they cannot be adequately mitigated.”⁴⁵

At the local level, the Boulder Valley Comprehensive Plan (BVCP),⁴⁶ a joint plan between the city of Boulder and Boulder County, regulates land use and development in disaster-prone areas. The plan was first adopted in 1978 and has had major updates at five-year intervals. Its planning “time frame” is a period of 15 years; and each update ex-

26. 44 C.F.R. §201.3(c).

27. *Id.* §201.3(c)(5).

28. *Id.* §201.4.

29. *Id.* §201.5.

30. A list of approved state and local plans is available on the FEMA website: *FEMA-Approved Multi-Hazard Mitigation Plans*, http://www.fema.gov/fima/approved_plans.shtm (last visited Feb. 6, 2007).

31. 44 C.F.R. §201.4(c)(3)(ii).

32. *Id.* §201.4(c)(3)(iii).

33. *Id.* §201.5(a).

34. *Id.* §201.5(b)(1).

35. *Id.* §201.5(b)(2).

36. *Id.* §201.5(b)(2)(iv).

37. *Id.* §201.5(b)(4)(i).

38. *Id.* §201.6.

39. *Id.* §201.6(b). Under this section, the planning process “shall” include: (1) public comment on the draft plan; (2) the involvement of “neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have authority to regulate development, as well as businesses, academia and other private and non-profit interests”; and (3) the “review and incorporation” of existing plans, reports, and other technical information.

40. *Id.* §201.6(d)(1).

41. *Id.*

42. See *FEMA-Approved Multi-Hazard Mitigation Plans*, *supra* note 30.

43. Colorado Division of Emergency Management, *State of Colorado Natural Hazard Mitigation Plan 2004*, <http://www.dola.state.co.us/oem/Mitigation/MIT1.HTM> (last visited Feb. 6, 2007). See also Colorado Division of Emergency Management, *Local Programs*, <http://www.dola.state.co.us/oem/Plans/plans.htm> (last visited Feb. 6, 2007).

44. DENVER REGIONAL COUNCIL OF GOVERNMENTS, DENVER REGIONAL NATURAL HAZARD MITIGATION PLAN 7 (2003), available at http://www.Drcog.org/documents/Denver_Regional_Natural_Hazard_Mitigation_Plan_10-17-03.pdf.

45. *Id.* at 9. See also *id.* at 2:

The Federal Disaster Mitigation Act of 2000 (DMA 2000) provides new and revitalized approaches and support for comprehensive hazard mitigation planning. It continues the requirement for a State Mitigation Plan as a condition of federal disaster assistance and establishes a new requirement and funding for local government mitigation planning. The DMA also provides for the preparation and adoption of multi-jurisdictional plans by local governments to meet these requirements. The Denver Regional Natural Hazard Mitigation Plan was prepared to support the requirement of a mitigation plan for the participating local governments in the Denver region.

46. *Boulder Valley Comprehensive Plan*, <http://www.ci.boulder.co.us/planning/bvcp/> (last visited Feb. 6, 2007).

tends the planning period by another 5 years.⁴⁷ The plan divides the city of Boulder and adjacent lands into three areas.⁴⁸ Area I is the city itself. Area II is land that may be annexed during the planning period. Area III is made up of a Planning Reserve Area, where development may eventually be permitted, and a Rural Preservation Area, where no new urban development is allowed during the planning period, and which includes “sensitive environmental areas and hazard areas that are unsuitable for urban development.”⁴⁹

The BVCP mandates the delineation of “[h]azardous areas which present danger to life and property from flood, forest fire, steep slopes, erosion, unstable soil, subsidence or similar geological development constraints”⁵⁰ and the careful control or prohibition of development in these areas. The BVCP addresses particular natural disasters. To minimize losses from wildfires, the plan requires both the city and the county to require measures “to guard against the danger of fire in developments adjacent to forests or grasslands” and “to integrate ecosystem management principles with wild-fire hazard mitigation planning and urban design.”⁵¹ In order to mitigate damages caused by flooding, the city is required to prevent redevelopment of significantly flood-damaged properties and to prepare a plan for property acquisition of flood-damaged and undeveloped land in high-hazard flood areas.⁵² Undeveloped high-hazard flood areas are to be retained in their natural state whenever possible, while encouraging compatible uses of riparian corridors, such as wildlife habitat, wetlands, or trails.

As part of the BVCP, the city of Boulder also created the Comprehensive Drainage Utility Master Plan (CDUMP) to improve water quality and reduce property damage and hazards to life and safety.⁵³ The CDUMP regulates land use and construction within areas that could be inundated by a 100-year flood. This floodplain, for purposes of regulation as well as for determining capital project priority, is divided into a flood storage area, a flood conveyance zone, and a high-hazard area.

IV. A Federal Framework Law of the Coasts and Other Vulnerable Places

The need to coordinate among levels of government is evident in other congressional programs that exhibit signs of cooperative federalism. The Clean Water Act (CWA) provides states with federal funds to encourage land use planning to prevent nonpoint source pollution.⁵⁴ State and local governments are encouraged under the federal Coastal Zone Management Act (CZMA) of 1972 to adopt plans to preserve coastal areas.⁵⁵ Federal financial aid is denied for de-

velopments in sensitive coastal areas under the Coastal Barrier Resources Act.⁵⁶ The modification of habitats that may harm endangered species is prohibited under the Endangered Species Act (ESA)⁵⁷ unless the modification is allowed by a permit issued pursuant to an approved habitat conservation plan (HCP). Federal highway legislation has provided regional transportation planning agencies with the authority to fund projects that reduce traffic congestion and to acquire scenic easements and create bicycle trails.⁵⁸

An intentional policy of cooperative federalism could achieve some remarkable results in integrating local land use decisionmaking into programs that achieve state and federal objectives. This is particularly true in coastal areas, adjacent to the nation’s oceans, great rivers, and lakes—areas particularly prone to flooding, storm surges, erosion, and inundation. The 2002 report of the Pew Oceans Commission observes that

America’s oceans and estuaries are international resources, yet their fates lie in the hands of thousands of individual towns, cities, and counties throughout the coastal zone. The plight of these natural systems epitomizes the plight of major ecosystems worldwide, where the structures of authority are dwarfed by the enormous implications of the decisions made.⁵⁹

The U.S. Commission on Ocean Policy report, issued in 2005, discussed the “complex mosaic of legal authorities” influencing coastal management in the United States:

Management of ocean and coastal resources and activities must address a multitude of different issues, and involves aspects of a variety of laws—at local, state, federal, and international levels—including those related to property ownership, land and natural resource use, environmental and species protection, and shipping and other marine operations—all applied in the context of the multi-dimensional nature of the marine environment. Several of those aspects of law may come into play simultaneously when addressing conflicts over public and private rights, boundaries, jurisdictions, and management priorities concerning ocean and coastal resources. In addition, some laws result in geographic and

trol—federal land control. The passage of the CZMA was possible because the Act required state programs to implement federal policy rather than federal regulations.”).

56. 16 U.S.C. §§3501-3510 (1994).

57. 16 U.S.C. §§1531-1544, ELR STAT. ESA §§2-18. The ESA demonstrates how a federal environmental law can affect the prerogatives of local governments to control land use. Under the ESA, land developers may prepare HCPs that describe proposed development activities and demonstrate how their adverse impacts on critical habitat will be mitigated to protect endangered or threatened species. *Id.* §1539(a)(2)(A). The plan must be approved before any permit is issued for a proposed project that will result in an incidental taking of a protected species. *Id.* §1539(a). This requirement is based on the federal government’s authority to prevent the taking of endangered species by any person subject to the jurisdiction of the United States. *Id.* §1538(a)(1). “Persons” subject to the Act include private citizens and entities such as local governments and officials. *Id.* §1532(13). The process of preparing and reviewing an HCP should be coordinated with local requirements contained in any zoning or site plan or subdivision regulations that require developers to prepare detailed development plans and submit them to local administrative agencies for review and approval.

58. 23 U.S.C. §134.

59. DANA BEACH, PEW OCEANS COMMISSION, COASTAL SPRAWL: THE EFFECTS OF URBAN DESIGN ON AQUATIC ECOSYSTEMS IN THE UNITED STATES 29 (2002), available at http://www.pewtrusts.org/pdf/env_pew_oceans_sprawl.pdf.

47. *Id.* §1.07.

48. *Id.* §1.20.

49. *Id.* §2.09.

50. *Id.* §4.16.

51. *Id.* §4.18.

52. *Id.* §4.29.

53. *Id.* at 84.

54. 33 U.S.C. §1329.

55. 16 U.S.C. §§1451-1465, ELR STAT. CZMA §§302-319. See Linda A. Malone, *The Coastal Zone Management Act and the Takings Clause in the 1990s: Making the Case for Federal Land Use to Preserve Coastal Areas*, 62 U. COLO. L. REV. 711, 727 (1991) (stating that “[i]f the requirements for state programs were more specific, the CZMA could come close to the most controversial form of land con-

regulatory fragmentation and species-by-species or resource-by-resource regulation.⁶⁰

A. The CZMA of 1972

The CZMA⁶¹ pays close attention to integrating federal, state, and local interests in coastal areas. This law, now over 30 years old, like the more recent DMA, uses national concerns and federal resources to encourage idiosyncratic planning and implementation among affected states and their local governments. The CZMA also directly recognizes the fact that coastal management is a land use issue. Finally, it joins in one national program the interrelated concerns of economic development, which it favors and promotes, and environmental protection, which it adopts as a context for development. Saliently, the CZMA exhibits clear sensitivity to its potential to mitigate the impacts of natural disasters, suggesting a federal strategy of linked frameworks.⁶²

Congress was moved to adopt the CZMA because of critical threats to the stability of the nation's coastal areas and the thorough report on coastal areas prepared by the Commission on Marine Science, Engineering, and Resources (the Stratton Commission).⁶³ The commission found that "coastal pollution is a national problem arising from the piecemeal development of coastal ecosystems without an overall strategy for comprehensive coastal management."⁶⁴

The breadth of congressional concern is reflected in its findings for the CZMA that coastal zones are "rich in a variety of natural, commercial, recreational, ecological, industrial, and esthetic resources of immediate and potential value" and that "state and local institutional arrangements for planning and regulating land and water uses in coastal areas are inadequate."⁶⁵

The CZMA affects 35 states and territories, including Puerto Rico, the Commonwealth of Northern Mariana, the Virgin Islands, Guam, the Trust Territories of the Pacific Islands, and American Samoa.⁶⁶ Affected states include those with coastlines on the Arctic, Atlantic, and Pacific Oceans, the Great Lakes, the Gulf of Mexico, and Long Island Sound. The CZMA defines a "coastal zone" as coastal waters and adjacent shorelands, including islands, transitional and intertidal areas, salt marshes, wetlands, and beaches.⁶⁷ The Act encourages responsible economic, cultural, and recreational growth in coastal zones,⁶⁸ consistent with the Stratton Commission's notion that coastal management should foster "the widest possible variety of beneficial uses so as to maximize net social return."⁶⁹

The commission also understood the proper role of state and local governments by recommending that coastal management implementation take place at the local rather than the national level.⁷⁰ Congress agreed and thus the Act established a process for the development of individual state coastal zone management programs.⁷¹ Eschewing penalties and embracing incentives, the Act urges but does not require state implementation. It encourages states to use their legal authority to regulate coastal areas, without federal agency interference if they adopt policies consistent with the standards of the CZMA; it provides for grants to states to help them prepare coastal plans and to establish administrative agencies and mechanisms to implement them.⁷²

The U.S. Office of Ocean and Coastal Resource Management (OCRM)⁷³ coordinates federal agency compliance with this "reverse preemption" feature, which allows significant state control of the actions of all relevant federal agen-

60. U.S. COMMISSION ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY: FINAL REPORT app. 6, at 2 (2005), available at http://www.oceancommission.gov/documents/full_color_rpt/welcome.html.

61. See 16 U.S.C. §§1451-1465, ELR STAT. CZMA §§302-319.

62. See *id.* §1452 (declaration of policy for the CZMA):

(2) [T]o encourage and assist the 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, giving full consideration to ecological, cultural, historic, and esthetic values as well as the needs for compatible economic development, which programs should at least provide for . . . (B) the management of coastal development to minimize the loss of life and property caused by improper development in flood-prone, storm surge, geological hazard, and erosion-prone areas and in areas likely to be affected by or vulnerable to sea level rise, land subsidence, and saltwater intrusion, and by the destruction of natural protective features such as beaches, dunes, wetlands, and barrier islands. . . .

63. STRATTON COMMISSION, OUR NATION AND THE SEA: A PLAN FOR NATIONAL ACTION (1969), available at <http://www.lib.noaa.gov/edocs/stratton/contents.html> [hereinafter STRATTON REPORT].

64. Michael J. Straub, *The West Coast of New England: A Case for the Inclusion of Lake Champlain in the Federal Coastal Zone Management Program*, 16 VT. L. REV. 749 (1992) (citing STRATTON REPORT, *supra* note 63, at 49).

65. 16 U.S.C. §1451(b), (h). Several prior federal statutes focused on improving coastal zone quality: the National Seashores/National Lake Shores program (National Park Service), the Estuary Protection Act (U.S. Department of the Interior (DOI)), and the Wild and Scenic Rivers Act.

66. *Id.* §1453(4).

67. *Id.* §1453(1).

68. See generally *id.* §1451.

69. STRATTON REPORT, *supra* note 63, at 57.

70. See 16 U.S.C. §1452. Prior to the enactment of the CZMA, the Stratton Report noted:

The States are subject to intense pressures from the county and municipal levels, because coastal management directly affects local responsibilities and interests. Local knowledge frequently is necessary to reach rational management decisions at the State level, and it is necessary to reflect the interests of local governments in accommodating competitive needs. . . . [T]he States must be the focus for responsibility and action in the coastal zone. The State is the central link joining the many participants, but in most cases, the States now lack adequate machinery for [the] task. An agency of the State is needed with sufficient planning and regulatory authority to manage coastal areas effectively and to resolve problems of competing uses. Such agencies should be strong enough to deal with the host of overlapping and often competing jurisdictions of the various Federal agencies. Finally, strong State organization is essential to surmount special local interests, to assist local agencies in solving common problems, and to effect strong interstate cooperation.

STRATTON REPORT, *supra* note 63, at 56-57.

71. See 16 U.S.C. §§1452(2), 1455.

72. *Id.* §1455. See Coastal Zone Protection Act of 1996, Pub. L. No. 104-150, 110 Stat. 1380. In 2004, the National Oceanic and Atmospheric Administration (NOAA) distributed a total of \$173 million for coastal and estuary programs. See *A Coastal Zone Management Act Funding Summary 2004*, <http://www.ocrm.nos.noaa.gov/pdf/sumrept04.pdf>.

73. The OCRM is an office in NOAA, which is part of the U.S. Department of Commerce (DOC), and is responsible for implementing the CZMA. See <http://coastalmanagement.noaa.gov/>.

cies with jurisdiction over coastal matters.⁷⁴ The CZMA allows each state to be the lead administrator of its Coastal Management Plan. According to the OCRM: “[F]ederal consistency is the CZMA requirement that federal actions that are reasonably likely to affect any land or water use or natural resource of the coastal zone . . . must be consistent to the maximum extent practicable with the enforceable policies of a coastal State’s federally approved Coastal Management Program.”⁷⁵ These requirements ensure that federal projects and federal grants comply with state coastal management programs.⁷⁶ The Act allows designated state coastal management agencies to coordinate local, state, and federal actions affecting their state. Importantly, the OCRM is charged with providing technical assistance and mediating consistency disputes between state and federal agencies.⁷⁷

The CZMA not only addresses protection of vital coastal natural resources; it also encourages preparation and protection of disaster-prone areas located along the nation’s coastal waters. As a national framework law, the CZMA provides structural guidance and means similar to that of the DMA. The federal government sets broad planning criteria, offers federal funding and technical assistance to those states and localities that abide by the national principles, and agrees to coordinate federal agency actions with approved state and local plans. The state governments administer the federal program, molding it to fit specific state and regional concerns, as well as coordinating the efforts of local govern-

ments. Municipalities further tailor the management plans to local concerns.

B. North Carolina Case Study

Within two years of the adoption of the CZMA, the North Carolina Legislature passed the Coastal Area Management Act.⁷⁸ This state law provides for state and local coastal planning and implementation, declaring that

it establishes a cooperative program of coastal area management between local and State governments. Local government shall have the initiative for planning. State government shall establish areas of environmental concern. With regard to planning, State government shall act primarily in a supportive standard-setting and review capacity, except where local governments do not elect to exercise their initiative.⁷⁹

Taking the initiative offered to it under this law, the town of Nags Head adopted a building moratorium that is triggered by disaster events.⁸⁰ Nags Head is located on the Outer Banks of North Carolina, well known as a hurricane-prone area. Following a disaster, the law imposes an initial building moratorium of at least 48 hours.⁸¹ A moratorium on the replacement of destroyed buildings is imposed for 30 days following the expiration of the initial moratorium⁸²; the ordinance also suspends the right to construct under building permits issued prior to the storm event.⁸³ During that period, local planners and the legislative body, the Board of Commissioners, may adjust zoning standards to correspond to any new inlets or eroded areas created by the storm and to adopt new disaster mitigation standards.⁸⁴ Subsequent construction must then comply with these new area designations and regulatory standards. This innovative mechanism provides local officials the ability to redesign their standards to the circumstances existing after the disaster.⁸⁵

C. New York Case Study

The New York State Coastal Erosion Hazard Areas Act⁸⁶ complements the coastal zone planning program by focus-

74. “Relevant federal agencies” are identified as those federal agencies with programs, activities, projects, regulatory, financing, or other assistance responsibilities in fields which could impact or affect a state’s coastal zone including: energy production or transmission; recreations of a more than local nature; transportation; production of food and fiber; preservation of life and property; national defense; historic, cultural, aesthetic, and conservation values; and pollution abatement and control. The following are defined as relevant federal agencies: the U.S. Department of Agriculture; the DOC; the U.S. Department of Defense; the U.S. Department of Education; the U.S. Department of Energy; the U.S. Department of Health and Human Services; the U.S. Department of Housing and Urban Development; the DOI; the U.S. Environmental Protection Agency; the U.S. Department of Transportation; the Federal Energy Regulatory Commission; the General Services Administration; and the Nuclear Regulatory Commission. 44 Fed. Reg. 18595 (1979).

75. Office of Coastal Resource Management, *Federal Consistency*, http://coastalmanagement.noaa.gov/czm/federal_consistency.html. See 16 U.S.C. §1456.

76. Congress declared that it is national policy

to encourage the preparation of special area management plans which provide for increased specificity in protecting significant natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas, including those areas likely to be affected by land subsidence, sea level rise, or fluctuating water levels of the Great Lakes, and improved predictability in governmental decisionmaking.

16 U.S.C. §1452(3).

77. The provision of technical assistance to states is consistent with the declaration of congressional policy found in the CZMA

to encourage coordination and cooperation with and among the appropriate federal, state, and local agencies, and international organizations where appropriate, in collection, analysis, synthesis, and dissemination of coastal management information, research results, and technical assistance, to support State and Federal regulation of land use practices affecting the coastal and ocean resources of the United States.

Id. §1452(5).

78. The Coastal Area Management Act of 1974, N.C. GEN. STAT. §113A-100 et seq., available at <http://dcm2.enr.state.nc.us/Rules/cama.htm>.

79. *Id.* §113A-101.

80. Town of Nags Head Hurricane and Storm Mitigation and Reconstruction Plan (adopted Oct. 10, 1988), available at <http://www.Townofnagshead.net/vertical/Sites/{B2CB0823-BC26-47E7-B6B6-37D19957B4E1}/uploads/{F446D8C0-F9DA-4162-BB5F-E1559D6AEA5B}.pdf>.

81. *Id.* §2-3(b), 2-3(c)(1).

82. *Id.* §2-3(c)(2).

83. *Id.* §2-3(c)(6).

84. *Id.* §2-3(c)(5). See TOWN OF NAGS HEAD, N.C., ZONING CODE art. XX, §§48-741 to 48-744 (1990), HURRICANE AND STORM RECONSTRUCTION AND REDEVELOPMENT; GENERAL USE STANDARDS FOR OCEAN HAZARD AREAS (1996), available at <http://www.Townofnagshead.net/vertical/Sites/{B2CB0823-BC26-47E7-B6B6-37D19957B4E1}/uploads/{A3342C06-552D-4A8F-B5EB-A9B8468B85CE}.PDF>.

85. See also DAVID J. BROWER ET AL., PLAN TO MAKE NAGS HEAD, NORTH CAROLINA, LESS VULNERABLE TO THE IMPACTS OF NATURAL DISASTERS (1990).

86. N.Y. ENVTL. CONSERV. LAW art. 34, §§34-0101 et seq. (2005). The text of the statute is available at: <http://www.assembly.state.ny.us/>

ing on coastal erosion which adversely affects the marine environment of the state's coastal waters. This Act respects the role of local governments in land use control in several important ways. It calls for

- (1) the adoption of local laws that control erosion from permitted local developments and land uses,⁸⁷
- (2) the certification of such ordinances by the relevant state agency,⁸⁸
- (3) an integrated system involving the identification and mapping of coastal erosion hazard areas,⁸⁹ and
- (4) state agency permitting of certain land-based development activities within identified coastal areas.⁹⁰

Permits for land development projects are not issued unless they comply with established state standards for development in coastal hazard areas.⁹¹

The Coastal Erosion Hazard Areas Ordinance adopted by the town of Babylon illustrates the policy coordination achieved by the state's Coastal Erosion Area Hazards Act.⁹² Babylon is located on Long Island, New York, between Long Island Sound and the Atlantic Ocean—two critical marine environments. The ordinance adds protective standards to the underlying zoning and development standards to protect against coastal erosion within the state-identified coastal erosion zone.⁹³ Through this law, one sees a local government, with local knowledge of its particular environment, adjusting a state law to its unique circumstances. The Babylon ordinance, for example, goes beyond the requirements of the state law by adding definitions and standards regarding the protection of bird nesting and breeding areas,⁹⁴ and other special wildlife habitat considerations.⁹⁵ It exceeds state requirements as well by prohibiting all development in near-shore and beach areas.⁹⁶

V. Building on a Firm Foundation: Local Land Use Law and Disaster Preparation and Mitigation

Local land use authority is the foundation of the planning that determines how communities and natural resources are

(last visited Feb. 6, 2007). The New York State Department of Environmental Conservation regulations for Coastal Erosion Management—6 NYCRR Part 505—are available at: <http://www.dec.state.ny.us/website/regs/part505.html> (last visited Feb. 6, 2007).

87. N.Y. ENVTL. CONSERV. LAW §34-0105.

88. *Id.* §34-0105(2).

89. *Id.* §34-0104.

90. *Id.* §34-0109.

91. *Id.* §34-0109(3).

92. TOWN OF BABYLON, N.Y., CODE, ch. 99, §§99-1 to 99-14 (2005).

93. *Id.* §99-7.

94. *See id.* §§99-11(B)(3), 99-12(B)(1)(d).

95. *See, e.g., id.* §99-12(A):

High, vegetated dunes provide a greater degree of protection than low, unvegetated ones. Dunes are of the greatest protective value during conditions of storm-induced high water. Because dunes often protect some of the most biologically productive areas as well as developed coastal areas, their protective value is especially great. The key to maintaining a stable dune system is the establishment and maintenance of beach grass or other vegetation on the dunes and assurance of a supply of nourishment sand to the dunes.

96. *Id.* §§99-10(B)(3), 99-11(B)(4).

developed and preserved, and how disaster-resilient communities are created. With respect to floodplain and watershed management, natural resource preservation, suburban smart growth, and urban revitalization, federal and state planners must engage the local land use decisionmaking process to be effective in achieving critical objectives. This can happen in the field of disaster mitigation planning. In the state of Washington, for example, its comprehensive land use planning program serves as a critical predicate for the state's disaster mitigation plan under the DMA and as the method for integrating local land use and disaster planning with that of the state.⁹⁷

In most states, it is understood that municipalities have no inherent powers, but can exercise only that authority expressly granted or necessarily implied from, or incident to, the powers expressly granted.⁹⁸ In all 50 states, of course, localities have been authorized to control the private use of land under state zoning enabling acts and statutes that empower them to review and approve land subdivision and site development. These traditional local land use laws can be used to create disaster-resilient communities as a key objective of a community's land use regime. The arguments in support of this proposition are several. First, the zoning enabling act adopted in most states makes it clear that one of its purposes is to encourage "the most appropriate use of land throughout the municipality."⁹⁹ Laws that lessen the prospect of damage from natural disasters certainly encourage the most appropriate use of land. Further, the statutes delegating power to localities to adopt subdivision and site plan regulations make it clear that standards may be included in such regulations that prevent and control the impacts of storms and other calamities.¹⁰⁰

Beyond these familiar powers, however, there is a wide array of powers that states delegate to their municipal corporations. In New York, as in many other states, there is additional legal authority related to achieving disaster resiliency in community planning and development. The New York

97. Growth Management Act, WASH. REV. CODE §36.70A (2005), available at <http://www.leg.wa.gov/RCW/index.cfm?fuseaction=chapterdigest&chapter=36.70A>.

98. *See* JOHN FORREST DILLON, 1 COMMENTARIES ON THE LAW OF MUNICIPAL CORPORATIONS §237(89) (5th ed. 1911):

It is a general and undisputed proposition of law that a municipal corporation possesses and can exercise the following powers, and no others: First, those granted in express words; second, those necessarily or fairly implied in or incident to the powers expressly granted; third, those essential to the accomplishment of the declared objects and purposes of the corporation—not simply convenient, but indispensable. Any fair, reasonable, substantial doubt concerning the existence of power is resolved by the courts against the corporation, and the power is denied. . . . All acts beyond the scope of the powers granted are void.

99. *See* U.S. DOC, A STANDARD STATE ZONING ENABLING ACT §3 (photo. reprint 1926) (1924). The phrase "encouraging the most appropriate use of land" was incorporated into most state laws that authorize local governments to adopt zoning laws. It explains the essential purpose to be achieved through the adoption of local land use laws. The text of the Standard Act can be found at 5 RATHKOPF'S THE LAW OF ZONING AND PLANNING app. A (Edward H. Ziegler Jr. ed., 2005). A portable document format (PDF) version of the 1926 DOC publication is available on the American Planning Association website at: <http://www.planning.org/growingsmart/enablingacts.htm> (last visited Feb. 6, 2007).

100. *See, e.g.,* N.Y. TOWN LAW §§276 to 278, §274-a (2005); N.Y. VILLAGE LAW §7-725-a(2) (2005); N.Y. GEN. CITY LAW §27-a(2) (2005).

Legislature adopted the Municipal Home Rule Law (MHRL), the provisions of which are to be “liberally construed.”¹⁰¹ Under the MHRL, localities are given the authority to adopt laws relating to “the protection and enhancement of their physical environment,”¹⁰² and to the matters delegated to them under the Statute of Local Governments, which allows them to “perform comprehensive or other planning work relating to its jurisdiction.”¹⁰³ The grant of authority encompassed in the MHRL provides a safety net—a second tier of legal authority—for communities desiring to enact disaster mitigation laws. This, combined with the power of local governments to include disaster mitigation standards in their zoning and land use regulations, provides ample authority for the state’s villages, towns, and cities to create an integrated set of land use laws aimed at disaster mitigation.

In Georgia, the delegation of comprehensive planning authority to local governments is tied to the state’s interest in protecting and preserving the natural resources, the environment, and the vital areas of the state.¹⁰⁴ Under the rules of the Department of Community Affairs, Office of Planning, and Quality Growth, local land use planning is to strike a balance between the protection and preservation of vulnerable natural and historic resources and respect for individual property rights.¹⁰⁵ Under separate state legislation, local governments in Georgia are required to identify existing river corridors and to adopt river corridor protection plans as part of their planning process.¹⁰⁶ They have the further authority to regulate shoreland developments.¹⁰⁷ Georgia municipalities may regulate land-disturbing authority in order to control soil erosion and sedimentation.¹⁰⁸

Connecticut statutes give local zoning commissions flexibility to design individual programs in order to meet their municipal development and conservation needs and to take into account unique conditions.¹⁰⁹ The Connecticut Legislature has provided towns and cities with the authority to protect the environment¹¹⁰; to acquire open space lands from private owners¹¹¹; and to establish conservation commissions.¹¹² Localities can also purchase development rights on agricultural land.¹¹³ State statutes establish a detailed system for the creation of an inland wetlands and watercourse protection regime that allows local wetland agencies to have significant control over development affecting wetlands and

watercourses.¹¹⁴ Development applications must contain a soil erosion and sediment control plan, and local zoning and subdivision regulations must make proper provisions for soil erosion and sediment control.¹¹⁵

In North Carolina, the state legislature adopted a legislative rule of broad construction of powers delegated to local governments.¹¹⁶ Prior to that time, the courts applied Dillon’s rule, strictly construing specific grants of authority to local governments.¹¹⁷ A city of Raleigh requirement that a developer create open space in a subdivision and convey title to it to a private homeowners’ association was upheld using this legislative rule of construction. The reach of this rule is evident in *Homebuilders Ass’n of Charlotte v. City of Charlotte*,¹¹⁸ where the power to impose user fees on applicants for rezoning, special use permits, plat approvals, and building inspections was upheld in the absence of expressly delegated authority. Legal experts in North Carolina explain that the state’s zoning enabling statute, which allows localities to regulate the percentage of lots that may be occupied, the size of yards, courts, and other open space, “provides authority to require buffers along waterways, to protect important natural areas, and to set requirements that authorize or even mandate clustered development schemes.”¹¹⁹ All of these techniques can be used to create communities that are more disaster-resilient.

State legislatures in a number of states, like New York, have granted local governments home-rule authority, providing localities broad initiative in municipal affairs. Grants of home-rule power provide varying authority to municipalities to operate broadly regarding local affairs, instead of having to rely on various express grants of authority for particular purposes. The South Dakota Constitution, for example, provides that “[a] chartered governmental unit may exercise any legislative power or perform any function not denied by its charter, the Constitution or the general laws of the state. . . . Powers and functions of home rule units shall be construed liberally.”¹²⁰

State legislatures can provide broad police power authority to their municipalities. In Utah, for example, the legislature conferred upon cities the authority to enact all ordinances and regulations “necessary and proper to provide for the safety and preserve the health, and promote the prosperity, improve the morals, peace and good order, comfort and convenience of the city and the inhabitants thereof, and for the protection of property therein.”¹²¹ In interpreting this statute, the Utah courts have discarded the strict interpretation approach of Dillon’s rule, stating: “If there were once valid policy reasons supporting the rule, we think they have

101. N.Y. MUNICIPAL HOME RULE LAW §51 (2005).

102. *Id.* §10(1)(ii)(a)(11).

103. N.Y. STATUTE OF LOCAL GOVERNMENTS §§10(6) to 10(7) (2005).

104. GA. CODE ANN. §36-70-1, §50-8-3 (2005).

105. GA. COMP. R. & REGS. r. 110-12-1.01(2005), available at http://rules.sos.State.ga.us/cgi-bin/page.cgi?g=GEORGIA_DEPARTMENT_OF_COMMUNITY_AFFAIRS%2Findex.html&d=1.

106. GA. CODE ANN. §12-2-8.

107. *Id.* §12-5-241.

108. *Id.* §12-7-4.

109. MICHAEL A. ZIZKA, CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION, WHAT’S LEGALLY REQUIRED? A GUIDE TO THE LEGAL RULES FOR MAKING LOCAL LAND USE DECISIONS IN THE STATE OF CONNECTICUT 55 (6th ed. 1997).

110. CONN. GEN. STAT. §7-148(c)(8) (2005). The Connecticut statutes are available online at: http://search.cga.state.ct.us/dtsearch_pub_statutes.html (last visited Feb. 6, 2007).

111. CONN. GEN. STAT. §7-131(b).

112. *Id.* §7-131(a).

113. *Id.* §7-131(q).

114. *Id.* §22A-36 et seq.

115. CONN. GEN. STAT. §§22A-325 to 22A-329.

116. N.C. GEN. STAT. §160A-4 (2005), available at http://www.ncga.State.nc.us/EnactedLegislation/Statutes/HTML/BySection/Chapter_160A/GS_160A-4.html.

117. See *supra* note 98.

118. 336 N.C. 37, 442 S.E.2d 45 (1994).

119. David W. Owens, *Local Government Authority to Implement Smart Growth Programs: Dillon’s Rule, Legislative Reform, and the Current State of Affairs in North Carolina*, 35 WAKE FOREST L. REV. 671, 701 (2000).

120. S.D. CONST. art. IX, §2 (2005), available at <http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=0N-9-2>.

121. UTAH CODE ANN. §10-8-84 (2005), available at http://www.le.state.ut.us/~code/TITLE10/htm/10_07083.htm.

largely lost their force and that effective local self-government, as an important constituent part of our system of government, must have sufficient power to deal effectively with the problems with which it must deal.”¹²²

In New Hampshire, state law requires that if local governments adopt zoning regulations they must adopt master plans, which may contain various elements including natural resource and natural hazard protection.¹²³ Under these provisions, municipalities are authorized to develop coastal protection ordinances to carry out master plan policies regarding the protection of natural resources and natural hazard areas. New Hampshire municipalities are empowered to use a variety of innovative land use mechanisms to phase in growth in an orderly way and to conserve open space and natural resources by clustering permitted development on discrete portions of land parcels.¹²⁴

A specific law in New Hampshire, from the city of Dover, illustrates how state laws, linked to federal statutes, can result in compatible changes in local law and a fully integrated system of law. Dover responded to the state Comprehensive Shorelands Protection Act¹²⁵ by adopting an Overriding Districts Ordinance.¹²⁶ Its authority to act is found in the state land use enabling act.¹²⁷ The state of New Hampshire adopted the Shorelands Protection Act to conform to the policies of the federal CZMA, linking state and federal initiatives. The Dover ordinance provides a further linkage by protecting local wetlands, watercourses, and steep slopes in the state-designated shoreland areas within its jurisdiction. With the maintenance of high water quality as its objective,¹²⁸ this local ordinance aims directly at the objectives of an international compact: the U.N. Convention on the Law of the Sea, which states that land-based activities should not contribute to the pollution of adjacent coastal waters.¹²⁹

VI. Conclusion: Societies Choosing to Succeed

The case studies in this Article exhibit the fruits of a national system of linked framework laws. The influences of these laws reached the following areas: Dover, New Hampshire¹³⁰; Nags Head, North Carolina¹³¹; Babylon, New York¹³²; and Boulder, Colorado.¹³³ In addition, local leaders were motivated there to adopt local laws fitted to their circumstances—laws that are linked to state and federal statutes operating within the same policy framework.

National legislatures are encouraged by the U.N. Environment Program (UNEP) to adopt framework laws for

land, resource, and environmental protection.¹³⁴ A framework law establishes basic legal principles but does not contain regulatory standards. Framework laws begin with a statement of land use and environmental goals and policies and create logical institutional arrangements among levels and agencies of government as well as the procedures to be used for land use decisionmaking. Existing land use and environmental laws are left in place for the moment, with the intention that they will be amended as the more integrated governmental system matures.¹³⁵

This Article explores how federal and state framework laws themselves can be linked, vertically and horizontally. The CZMA includes among its policies the mitigation of disaster damage.¹³⁶ The DMA is a federal law that encourages state and local governments to conduct disaster mitigation planning by awarding them financial incentives if they do so.¹³⁷ These laws have horizontal consistency, promoting through institutional arrangements both economic development and environmental protection. They operate vertically as well, relying on state and local authority to adopt disaster and coastal plans and implement them with federal encouragement, funding, and assistance. Using their police power authority, the states have created comprehensive regimes for land use control relying mostly on local land use planning and regulation, completing the vertical dimension.¹³⁸ This local authority is guided, in turn, by state policies and plans enacted in response to federal coastal zone management and disaster mitigation statutes.

The problem with our national land use and environmental “legal system” is that its disconnections are many and its linkages few. The vertical and horizontal intersections described above are relatively random within the overall system, not the result of an overt, intentional, and consistent federal policy. This Article began with an embarrassing dialogue revealing the nation’s confusion about the roles of each level of government in disaster response and recovery. This confusion is the norm. It is possible to demonstrate, as we have above, what can happen when federal, state, and local laws are linked, but, unfortunately, we had to dig deep to

134. UNEP has collected examples of framework laws in a *COMPENDIUM OF ENVIRONMENTAL LAWS OF AFRICAN COUNTRIES*, VOL. 1, *FRAMEWORK LAWS AND EIA REGULATIONS* (1996 & Supps.), available at <http://www.unep.org/padeli/publications/laws.html>, and in its *COMPENDIUM OF INDEXED TEXTS OF NATIONAL FRAMEWORK LEGISLATION FOR ENVIRONMENTAL MANAGEMENT IN DEVELOPING COUNTRIES AND COUNTRIES WITH ECONOMIES IN TRANSITION* (2000), available at http://www.unep.org/DPDL/Law/Publications_multimedia/index.asp.

135. The UNEP website says:

Development of Framework Environmental Laws: In assisting developing countries to develop environmental legal and institutional arrangements, UNEP has been recommending the drafting of new framework environmental laws, so as to develop the existing use and resources-oriented laws into system-oriented legislation. Where framework environmental laws had already been enacted, UNEP has been assisting governments to draft sectoral legislation or enabling regulations to integrate the environmental framework legislation.

UNEP, *Technical Assistance*, http://www.unep.org/dpdl/Law/Programme_work/Technical_assistance/index_more.asp (last visited Feb. 6, 2007).

136. See *supra* note 62.

137. See *supra* Part III.

138. States were instructed and motivated to adopt this approach to land use control, initially, in response to a model zoning enabling statute promulgated by a federal commission. See *supra* note 99.

122. *State v. Hutchinson*, 624 P.2d 1116, 1126 (1980).

123. N.H. REV. STAT. ANN. §§674:2, 674:16, 674:18 (2005). Chapter 674 of the New Hampshire statutes is available at: <http://www.gencourt.state.nh.us/rsa/html/indexes/674.html>.

124. N.H. REV. STAT. ANN. §674:21.

125. *Id.* §483-B:8.

126. CITY OF DOVER, N.H., ZONING CODE, art. VII, OVERRIDING DISTRICTS ORDINANCE (2005).

127. N.H. REV. STAT. ANN. §674.16.

128. CITY OF DOVER, N.H. ZONING CODE §170-27(A).

129. U.N. CONVENTION ON THE LAW OF THE SEA, arts. 197 & 207, 21 I.L.M. 1262, Dec. 10, 1982 (entered into force Nov. 16, 1994), available at <http://www.un.org/Depts/los/index.htm>.

130. See *supra* notes 126-28 and accompanying text.

131. See *supra* notes 80-85 and accompanying text.

132. See *supra* notes 92-96 and accompanying text.

133. See *supra* notes 46-53 and accompanying text.

find these case studies and to describe their happy if incomplete results.

The disintegrated, uncoordinated nature of our country's land use system—its vehicle for making choices regarding what happens to its land and resources—is not an incidental matter. Societies that have ignored the warnings of natural disasters and the degradation of their natural resources in the past have not fared well. The book *Collapse: How Societies Choose to Fail or Succeed* reflects on the costs to society caused by failing to heed the early warnings of long-term problems, such as those caused by major natural disasters and other recent damage to the physical environment.¹³⁹ Societies that choose to succeed engage in the type of long-term planning that “characterizes some governments and some political leaders, some of the time.”¹⁴⁰ The integration of policy and implementation evident in both the DMA and the CZMA as well as the evidence of their influence in inducing coastal protection at the local level in Dover, Nags Head, and Babylon illustrate how our country can succeed by combining the energies and resources of various levels of government in a coordinated planning and development program aimed at preventing coastal degradation.

Is it possible to see the process of adopting linked framework laws that value and promote economic development and environmental conservation as the vehicle for confronting a host of challenging development and environmental issues? In this age of citizen participation, public hearings, open meetings, negotiated rulemaking, mediated settle-

ment, and rapid exchange of information through technology, is it possible to see the process of adopting framework laws as a means of engaging stakeholders in deciding how the land and its resources should be used, by whom, and when?

Land use law evolves. It is a flexible and expansive vessel into which new content is poured and from which the old is drained. Consider a local comprehensive plan. Today it may contain the vision of yesterday's leaders of their community's future and the measures by which they chose to achieve their vision. As things change, the plan can be amended by local citizens, as can the land use laws selected to respond to new challenges and opportunities.

State legislatures are constantly responding to evidence of change and adopting and amending laws to manage coasts, mitigate disasters, and encourage local governments to do the same. In response to 50 years of experience of assuming greater responsibility for disaster response and recovery, the federal government adopted a new approach in the DMA. In response to the difficulty of rebuilding without planning at the relevant scale done prior to Hurricanes Katrina, Rita, and Wilma, the CZMA can be amended to marshal the resources, legal authority, and energies of the private market, and the agencies of government to enable us to do better next time.

In developing a set of linked framework laws, can the private sector, individual citizens, and their elected representatives at all levels of government be engaged in a conversation about the hard choices our society must make? Can the process of negotiating the details of vertically and horizontally connected land use laws provide the means through which our society can chose to survive?

139. JARED DIAMOND, *COLLAPSE: HOW SOCIETIES CHOOSE TO FAIL OR SUCCEED* (2005).

140. *Id.* at 523.