SCENIC HUDSON

Hudson River Coast at Risk on the Eve of the 400th

Audit and Action Agenda for New York State Coastal Management Program

FINAL REPORT • MARCH 2008

Josh Clague

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Prepared by Scenic Hudson, Inc., with funds provided by the Robert Sterling Clark Foundation.

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Scenic Hudson would like to thank the many state and local officials, business leaders and stakeholders invested in the health of the Hudson River coastal area who were interviewed for this study

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EXECUTIVE SUMMARY

New York State has more than 3,900 miles of coastline subject to the federal Coastal Zone Management Act, including Atlantic Ocean waterfront, the Great Lakes, the St. Lawrence Seaway and the Hudson River. This makes it the second largest coastal state in the nation. Eighty-seven percent of New York's population resides within coastal regions and designated inland waterways; 8% of all Americans live within an hour's drive of the Hudson River. These coastal regions have received multiple federal and state designations signifying their environmental, cultural and economic importance to the state and the nation.

The Department of State's Coastal Management Program (CMP) has a 25-year tradition as a leader in implementing the standards of management for the natural and economic assets of New York's coastal areas, including the Hudson River estuary, and exporting knowledge and resources to local municipalities and the nation.

Yet the effectiveness of this program is hampered by the lack of a centralized, easily accessible repository for information on coastal conditions and the need for greater authority, coordination and cooperation among state agencies charged with making decisions that are consistent with New York's 44 coastal polices. The scope of the program's mission in the Hudson Valley is severely undermined by a piecemeal approach to state decision-making processes and insufficient resources and authority to respond to threats to critical natural resources and changing conditions and trends facing coastal regions. In addition, an arbitrary coastal-region boundary does not reflect rapidly changing environmental and economic conditions.

In 2009, international attention will focus on the Hudson River Valley as we celebrate the 400th anniversary of Henry Hudson's exploration of the river that bears his name. The commemoration also could serve as the beginning of an era of discovery and possibility during which great strides are made to protect environmental conditions in the region and clearly identify where economic development should be focused to support a healthy, prosperous region. Reforms to the Coastal Management Program in the Hudson River Valley are essential to achieving these goals and make the region a model for coastal areas throughout the state.

Introduction and Key Findings

Vickie Muller

The Hudson River Valley is world renowned for its scenic, natural and cultural assets, which have contributed significantly to the nation's economy and identity since the founding of our country. Between the Atlantic Ocean and the Capital District, the river's 153-mile-long estuarine ecosystem has been designated a coastal zone by the federal government and New York State. As a wellspring of environmental, economic and social innovation since Henry Hudson's sail up the waterway in 1609, the region offers an outstanding quality of life for residents and supports a $4.5-billion dollar annual tourism industry.

Now in its 25th year, the Department of State's (DOS) Division of Coastal Resources has set the standard for how the Hudson River estuary and other coastal regions can be managed through regulation and voluntary, incentive-based partnerships that address changing economic conditions and land-use patterns. Through its Coastal Management Program, the division promotes a wide variety of programs and initiatives that help revitalize and protect our coastal areas while considering communities' needs. But the program has flaws and deficiencies that must be addressed to avert permanent damage to this vital resource.

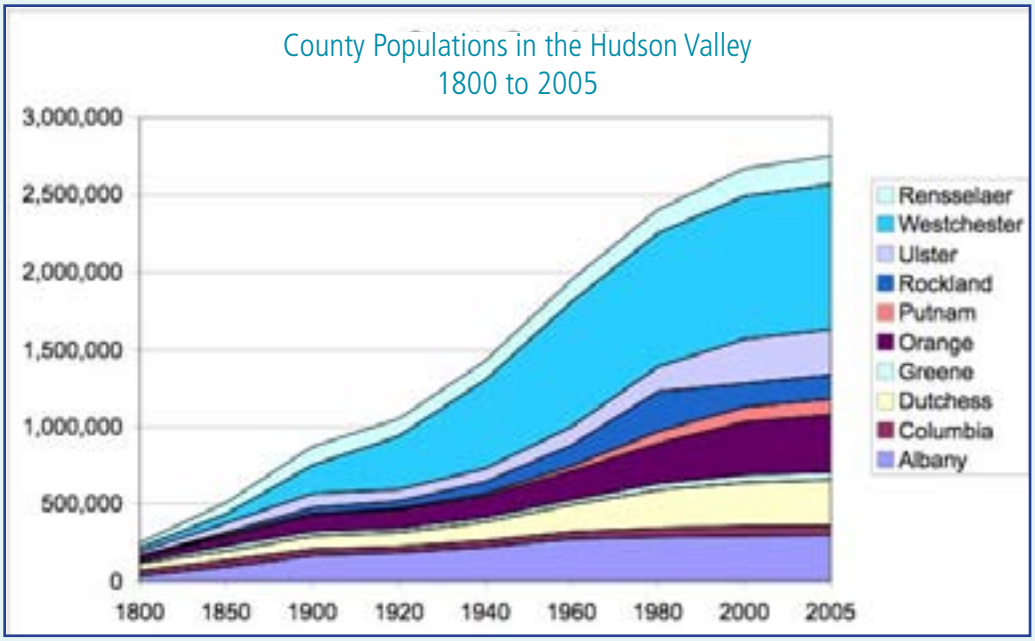
Landmark Ruling Precedent for Future Decisions

The DOS's 2005 ruling regarding the proposed St. Lawrence Cement facility in Greenport, Columbia County, set an important precedent for the future of the Hudson Valley and the direction of the CMP. Taking into account the region's changing character, this landmark decision applied coastal policies in a visionary way, acknowledging the momentum of community support for regional environmental protection and the potential for mixed-use waterfronts to serve as catalysts for economic development throughout the valley.

Changing Conditions Call for Hard Look at Regulatory Environment

While the CMP has been an effective force in guiding development that unites economic progress with environmental protection, the Hudson Valley is at a "tipping point" between long-term development trends and the safeguarding of lands that are integral to the region's long-term vitality, economic sustainability and environmental health. Population in most of the region's counties has been on the rise; an additional 1.4 million people are expected to move here over the next decade, putting additional pressures on water quality, wildlife habitat and recreational sites.

Vickie Muller



The nature of development here also has changed since the CMP was created. Once at risk of industrial sites dominating the landscape, today the Hudson Valley faces an exponential rise in inappropriate resedential developments, many of which do not trigger coastal consistency review because federal permits are not required. Nearly 15,000 residential units are currently proposed or have been recommended along the Hudson's waterfront. As evidenced by Scenic Hudson's annual aerial photographic survey of the coastal corridor, this latest trend threatens the loss of natural spaces, scenic vistas and heritage and recreational sites.

On the eve of the 2009 quadricentennial celebration of Henry Hudson's voyage up the Hudson, we have cause to reflect upon the past, take stock of existing conditions and consider our options to ensure economic prosperity and a healthy environment for future generations. Now is the time to take a hard look at the activities of New York State to strengthen protection of drinking water, working farms, scenic vistas, wildlife habitat and recreational sites.

About this Study

This study examines the scope and effectiveness of the CMP in the context of changing economic conditions and land-use patterns. It also makes specific recommendations for how to advance the program's mission. Empirical data was collected to describe and understand trends in the region, the application of the CMP's resources and the effectiveness of the program's activities. A broad range of stakeholders representing local, county, state and federal government, as well as private business and non-profit and community groups, were contacted to better understand the concerns, perspectives and emerging issues in the Hudson Valley.

both: Jeff Anzevino

KEY FINDINGS

Create a centralized repository of data relating to the health and quality of New York State's coastlines. The repository should be available to government officials and citizens to enable them to make or participate in well-informed permitting decisions and proceedings.

Finding: Federal data indicates that coastal conditions in the Northeast are among the worst in the nation due to population density and economic activity. Yet there is no repository of information that would enable this information to be verified or qualified for the Hudson Valley. While information about coastal conditions exists in a dispersed fashion in numerous state agencies, it is not available to the public, or to state or municipal officials who must make decisions and enforce the coastal program. Consequently, many permitting and public-policy decisions are being made with inadequate scientific information.

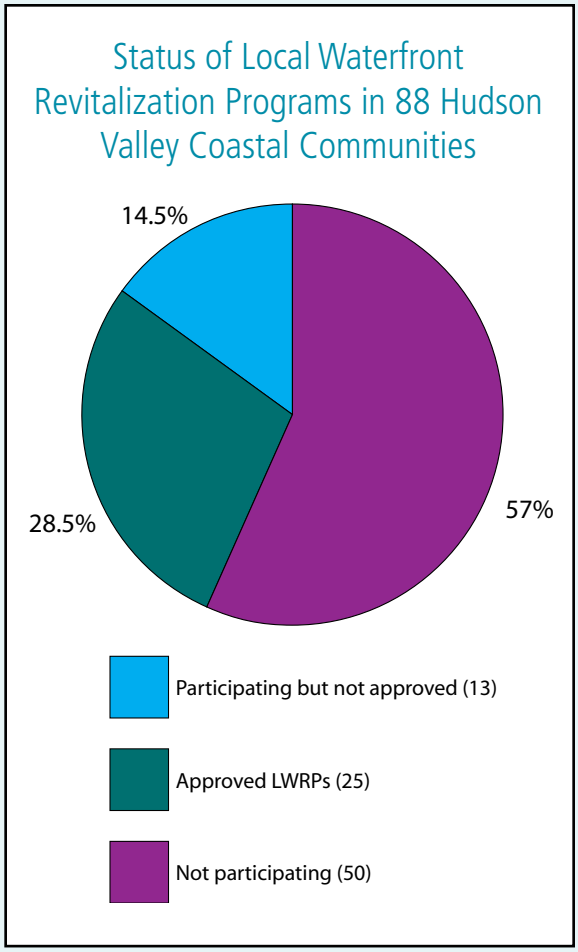
Recommendation: The governor should direct the Department of State to bring together all relevant agencies to create an online repository of environmental and economic data on the health of our coast and coastal communities, and to issue an annual State of the Coast report. The report should be informed through vigorous monitoring and documentation of coastal conditions—both on a real-time basis and in terms of trends—to document changing conditions in the Hudson Valley and New York State. Given the massive population influx and rapidly changing economic conditions along the coast, the report would provide much-needed factual data for officials working to implement coastal-management decisions that help create clean, safe and attractive public spaces; improve water quality; protect scenic and natural landscapes; and promote a vibrant economy.

Foster collaboration between state and local agencies to strengthen coastal consistency review for all decisions affecting the coastal zone.

Finding: The CMP has an extensive body of law and 44 specific policies, all of which must be applied equally in the coastal zone to achieve consistency with state and federal laws. Yet no formal structure exists to provide clarity to state and local governments and citizens about where consistency determinations take place, or to provide training regarding the 44 policies. Furthermore, the CMP is responsible for determining coastal consistency in only four percent of permit decisions made in the Hudson Valley, despite its strong regional and national reputation as the guardian of New York's coast. Enforcement of the balance of the program is fragmented across multiple state agencies and revenue-strapped coastal municipalities, leading to an uncoordinated approach. This creates an inevitable patchwork of procedures for reviewing actions, major and minor, which affect the region's environment and economy.

Recommendation: Consolidate all responsibility for consistency decisions by state agencies into a single agency where the strongest level of expertise currently exists. Additionally, direct the DOS to provide the resources and mandate to train any other state agency staff and local officials to ensure continuity and quality in coastal decision-making. A training manual should be finalized and an annual certification program established to ensure that state, county and local agencies are knowledgeable about the laws they must enforce. An audit should be conducted regularly to ensure that agencies adequately consider the coastal policies for all projects in the coastal zone.

Bolster CMP staff to deliver technical expertise and support to Hudson River waterfront municipalities in order to expand participation in the Local Waterfront Revitalization Program, identify local resources in need of protection and focus opportunities for economic development.



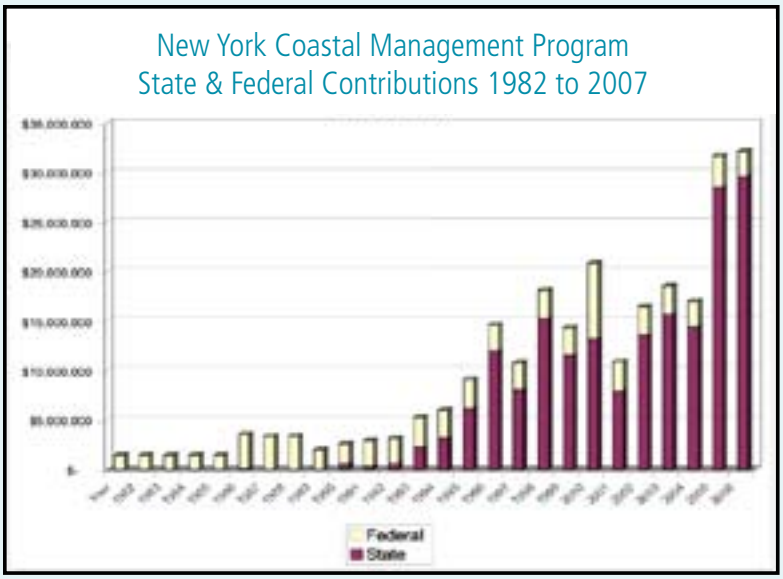
Finding: The Local Waterfront Redevelopment Program (LWRP) is an important and appreciated mechanism for educating and enabling localities to play a role in achieving coastal consistency. It also is widely regarded as effective in spurring "smart" waterfront development by clarifying a community's vision of where and what type of development should occur in coastal areas. Yet partially due to a reduction in CMP staff, less than half of the region's waterfront communities have participated in the LWRP. Of these, only 29% have had their LWRPs approved by the state. All approved LWRPs are more than five years old. Staff focused on LWRPs in the Hudson Valley during this period has been cut from four people to one and a half; many other key functions have been undercut statewide, although there has been increasing complexity in projects requiring coastal consistency review, training, outreach and monitoring.

Recommendation: To meet current demand, 12 additional employees should be hired to support vital functions of the program statewide; five of these should be focused on outreach to local municipalities in the Hudson Valley. Coupled with the establishment of a Small Communities Program to encourage smart planning on waterfronts of villages and towns with the most limited capacity, these recommended staffing increases will ensure the fair and efficient deployment of state resources to communities regardless of size or financial ability. Additional grants should be made available to assist communities in engaging the necessary expertise to achieve 100-percent participation and adoption of LWRPs.

Increase state and federal funding of the CMP at a corresponding level to the scope of the agency's mission and the urgency of threats to the coastal area.

Finding: Population in Hudson River Valley coastal communities grew 50 percent faster than the state as a whole between 1980 and 2006. An influx of 360,000 new residents has been documented by the U.S. Census Bureau, with a total population in the 10-county area expected to reach three million in the near future. Economic conditions, dispersed settlement patterns and commuting trends increase the threat to the coast's health. State funding for CMP staff in key positions has not kept pace with these threats.

The Hudson River Valley has received virtually every federal designation available for areas of national significance, including recognition as an American Heritage River, National Heritage Area and National Historic District. The river itself is hailed as one of the most productive ecosystems in eastern North America while retaining its status as the backyard of one of the country's most populous cities. Yet federal support for New York's CMP has declined from 95 percent of its budget between 1982 and 1992 to 23 percent between 1997 and 2007. Coastal pressures of national concern along the Hudson River are increasing due to rising population and the threat of global climate change.



Recommendation: Waterfront Revitalization Grants, allocated through the state's Environmental Protection Fund, should be increased to enable municipalities to achieve coastal consistency. Staffing in the CMP should be increased to meet demands on the program, including documentation and tracking of coastal conditions and the need for technical expertise and services by diverse municipalities in the region.

New York's Congressional delegation should renew its commitment to its coastlines and pursue full funding for the Coastal Zone Management Act as well as other programs that support the goals of the CMP, including the Coastline and Estuarine Conservation Land Program and the State Revolving Funds. Additional attention should be given to a federal response to global climate change and the need for coastal communities to mitigate their carbon emissions and adapt to rising waters, flooding, storm surges and other impacts likely to affect land-use patterns and economic opportunity.

Consider new thresholds for triggering state coastal consistency review.

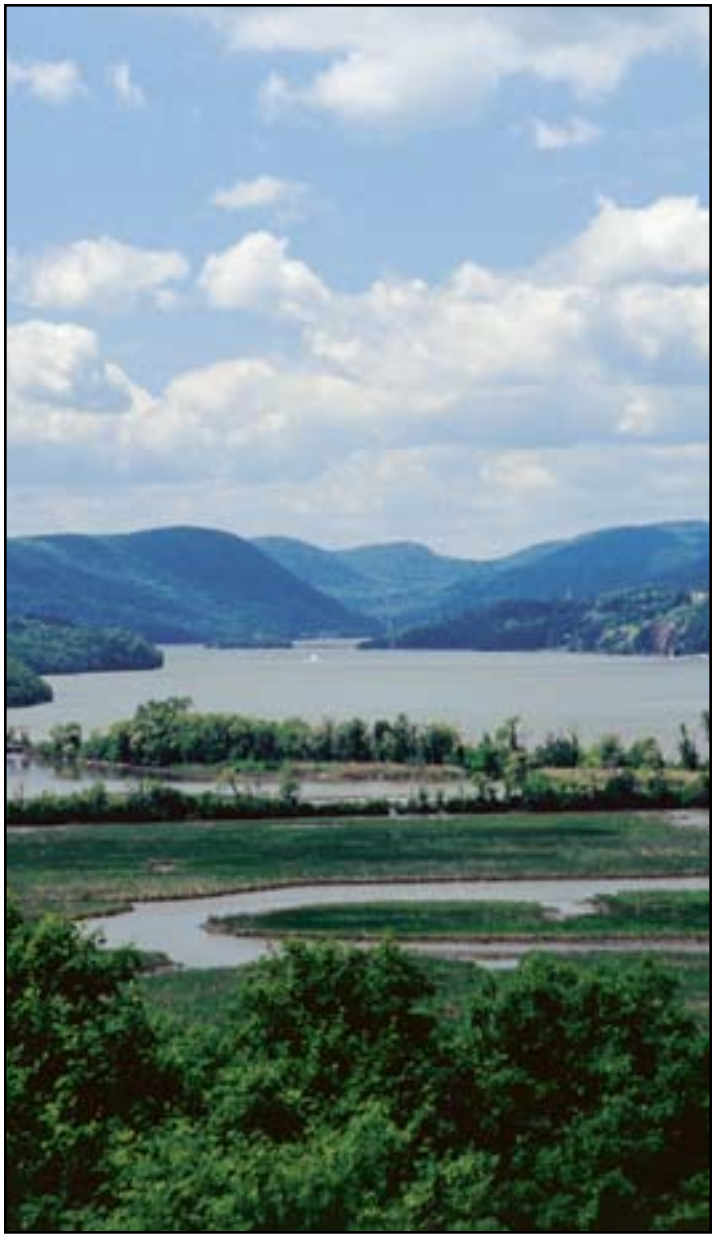
Finding: The CMP only has the authority to issue or decline coastal consistency rulings in projects requiring a federal permit or in communities that have adopted LWRPs. In fact, the program is responsible for just 4% of consistency permits within the coastal zone, despite its reputation for expertise in interpreting the 44 coastal policies. Many developments that do not require federal permits have significant visual and other impacts on the coastal zone and New York State Scenic Areas of Statewide Significance. They also contribute to non-point source pollution. Communities that do not have LWRPs are arguably more likely to approve projects at odds with state and federal coastal rules than those with adopted LWRPs.

Recommendation: Triggers should be established for CMP review—and subsequent approval or denial of coastal consistency—apart from the presence of a federal rule or LWRP. A joint review by the executive and legislative branches should identify the thresholds for such review and consider legislative or other mechanisms for ensuring protection of the coast under these circumstances.

Implement a new coastal boundary to reflect changes in population, economic activity and threats to environmental resources.

Finding: New York's coastal policies apply to all public decisions having an impact on coastal regions. However, most of the attention is given to decisions solely within the narrow and arbitrary coastal boundary. The existing boundary does not contain major tributaries and scenic vistas, nor has it been updated to reflect a 25-year population surge and the emergence of a dispersed economy and development patterns. Criteria that define the existing boundary vary significantly throughout the Hudson Valley, making New York's coastal area more narrowly defined than most states'.

Recommendation: The existing coastal boundary should be expanded to address changing environmental and economic conditions in the Hudson Valley. This would provide much-needed technical expertise and support to municipalities that are working to protect natural areas related to the coast and define areas appropriate for economic development. A conversation should take place between the executive branch (including relevant agency heads), the legislature, and municipal and community stakeholders to define and implement criteria to establish an expanded boundary.



Joe Deutsch

1. Changes and Trends in the Hudson River Valley

Conditions in the Hudson Valley have altered markedly since the Coastal Management Program was created. Long-term population increases, a growing and changing economic base, a more dispersed pattern of economic and residential activity, and new environmental challenges demand attention.

Over the last 25 years, the coastal area has increased in population and economic activity. Population distribution and the composition of our economies have changed. Point source pollution concerns have largely given way to concerns over non-point source pollution. Our settlement pattern has become more dispersed, impacting service demands on local governments. A narrowly defined coastal area no longer reflects the nature of our communities and economies as it may have in 1982.

In the Hudson Valley, New York State and the Northeastern United States, we face huge challenges to improve the environmental condition of our coastal areas. Currently, coastal conditions are rated "poor" for the Northeast and Great Lakes regions. Clearly, greater efforts are called for going forward.

The past 30 years have shown that a concerted effort by federal, state and local governments can have a profoundly positive effect on environmental quality. In many important respects, the Hudson River and its coastal areas are greatly improved when compared to the levels of pollution and environmental damage seen up to the 1970s. Focused management of point source pollution has greatly reduced the release of pollutants from large sources into the river, proving that state and local leaders can address such issues when they have the will. However, lingering issues concerning wastewater and contaminated sediments remain. Fortunately, scientific studies continue to provide a better understanding of the conditions and future prospects for the Hudson.

Changes anticipated by environmental managers and those clearly implied by recent trends in settlement and the regional economy will require a new approach to coastal management. Those formulating this approach can draw on the experience of nearby regions that have undergone rapid, loosely managed growth. Long Island and parts of New Jersey continue to struggle with water quality and supply, reduced air quality and local service provision. Future growth in the Hudson River Valley can deliver prosperity and a healthy coastal area or undermine the region's unique resources. Toward this

"Population in the Hudson River Valley grew 50% faster than the state as a whole from 1980 to 2006."

end, state and local decision makers should consider what constitutes the "coastal area" today, as well as what activities present "a direct and significant affect" on the coastal area, in order to make wise management choices.

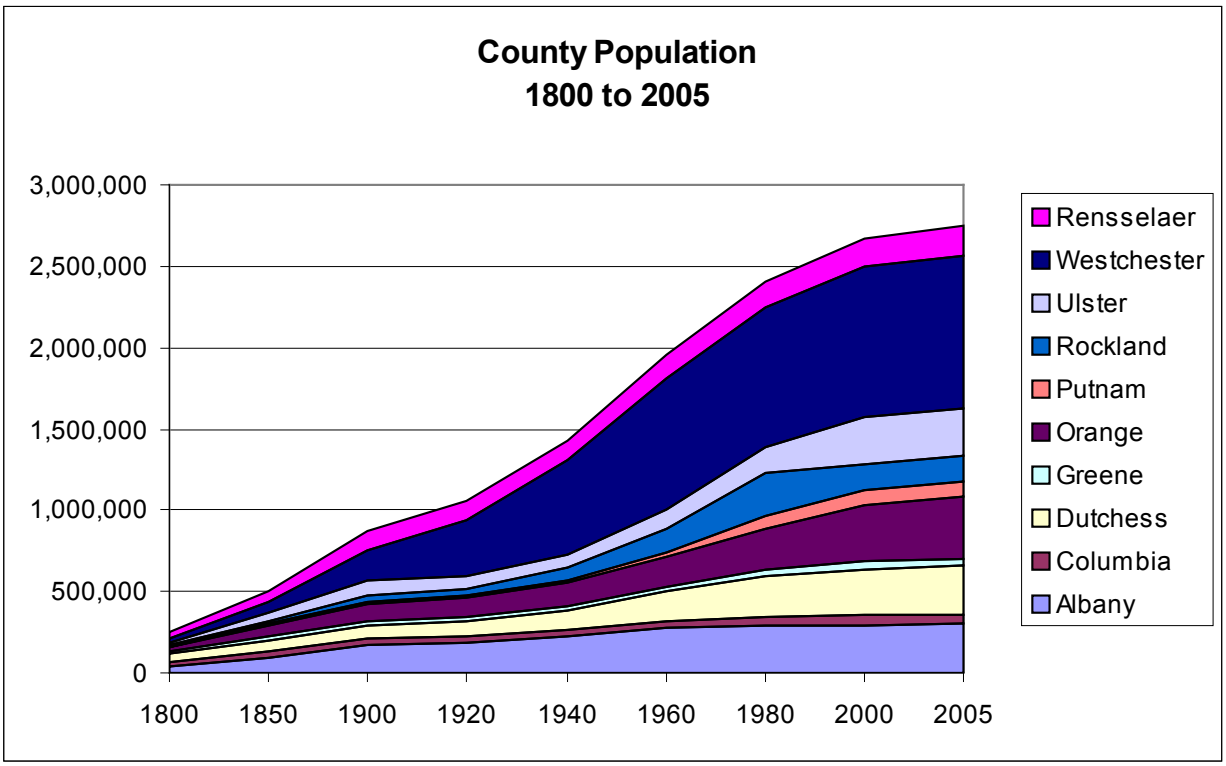
Some changes to the coastal area – including trends in population, commuting, water quality and economic activity – are readily measured. Others, such as loss of scenic views, are not. Management decisions concerning the coastal area must hinge on both measurable and intangible values. Municipalities throughout the Hudson River Valley take diverse approaches to coastal management, with some enacting policies to preserve open space and others struggling to reduce their tax burdens while providing services. Very few see themselves as part of a region connected by a common resource.

The following provides an overview of some of the larger trends in the Hudson River Valley since the New York Coastal Management Act was passed into law. Its purpose is to provide a common basis in fact for the chapters that follow. Regardless of one's perspective on how to best manage the coastal area, it is clear the Hudson Valley has grown and changed in the last 25 years – and every indication points to continued growth in our communities and economy. How we manage the coastal area, ensuring our region retains its unique character without undercutting this growth, is the central concern of this study.

POPULATION TRENDS

The Hudson River Valley grew 50% faster than the state as a whole from 1980 to 2006. During this period, New York increased in population by slightly less than 10%, while the Hudson Valley's 10 coastal counties increased by nearly 15%, adding an estimated 360,000 new residents.

Population Trends for Coastal Counties & Municipalities



All of the coastal counties show population increases since 1980, although short-term population trends fluctuate because of changes in the economy and settlement patterns. Orange County led all coastal counties with a 44% increase. It also had the largest nominal increase, adding 117,000 people. Six of the 10 coastal counties grew more than 15%, outpacing state growth. Rensselaer and Albany counties experienced modest increases of 2% and 4%, respectively.

Data suggests our approach to coastal management will be most effective when it takes into account the changes and trends in particular areas. Population growth in the Hudson River Valley is uneven. The northernmost counties (Rensselaer, Columbia, Albany) grew at a slower pace than middle and southern counties. Estimates for Columbia County show a slight decline between 2000 and 2006; however, its long-term population trend remains positive.

Population increases often are associated with increased pressure on natural resources (e.g., air, water, habitat) and municipal systems (e.g., sewers, schools, transportation). Population trends help us anticipate the pressures and challenges faced in the coastal area. The following map shows the population change in communities in the 10 coastal counties in relation to tributaries. It makes clear the connection between population increases and the corresponding pressures exerted on natural systems.

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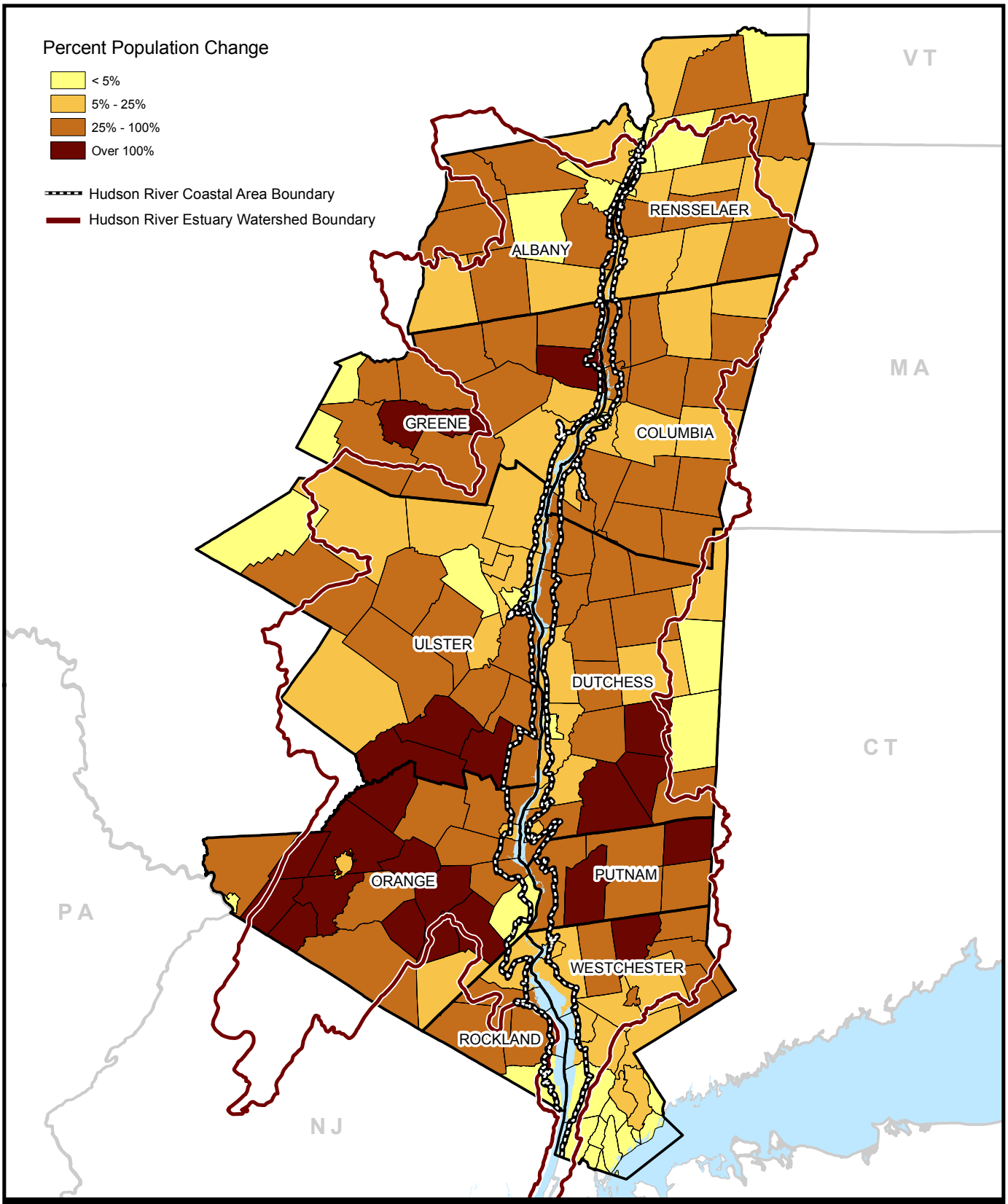

Percent Change in Population, 1970 - 2005

November 2007

Hudson Valley, New York

Miles
0 5 10 20

Sources:
Population data from U.S. Census Bureau
Coastal boundary from N.Y.S. Department of State
Hudson River Estuary Watershed boundary from U.S. Geological Survey
Streams from NYS DEC

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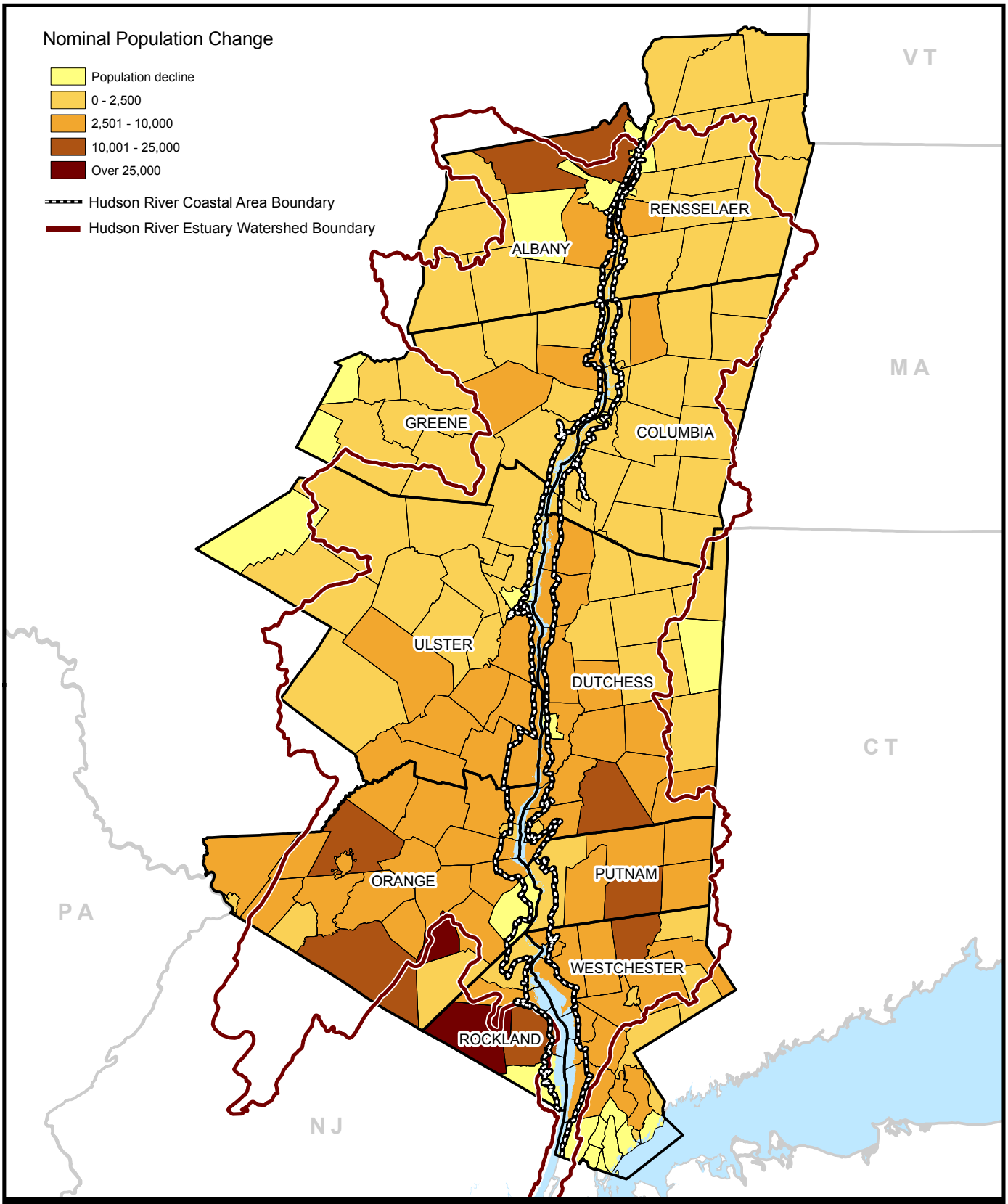

Nominal Change in Population, 1970 - 2005

November 2007

Hudson Valley, New York

Miles
0 5 10 20

Sources:
Population data from U.S. Census Bureau
Coastal boundary from N.Y.S. Department of State
Hudson River Estuary Watershed boundary from U.S. Geological Survey
Streams from NYS DEC

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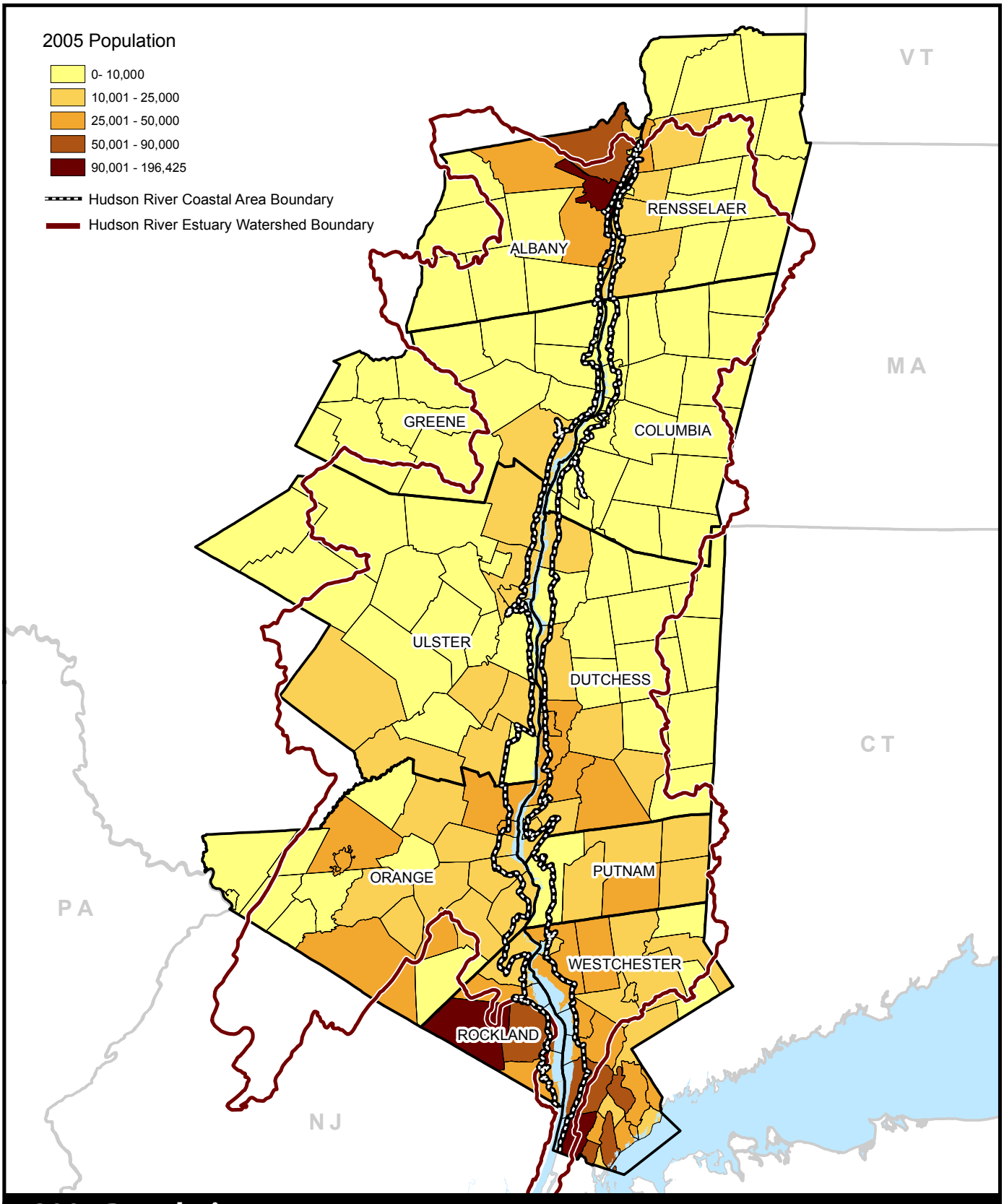

2005 Population

November 2007

Hudson Valley, New York

Miles
0 5 10 20

Sources:
Population data from U.S. Census Bureau
Coastal boundary from N.Y.S. Department of State
Hudson River Estuary Watershed boundary from U.S. Geological Survey
Streams from NYS DEC

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Population projections anticipate continued growth in the Hudson River Valley. Increased population brings increased pressure on the coastal area. Increased population and economic activity mean greater demand for and pressure on water, infrastructure, habitat, recreation and scenic resources. It also is important to note that non-point source pollution is in large part associated with larger population and greater economic activity spread over a large area. In general, non-point source pollution concerns come with the homes, automobiles, lawns and parking lots that increased population engenders.

However, the increase in population is not evenly distributed; while some communities are faced with burgeoning growth that affects infrastructure and natural resources, others are trying to attract population. Commuter patterns indicate new regional economic centers that once were residential areas. This leads to a greater geographic spread in which people live and work. Given these trends, it is prudent to anticipate an increasingly mobile, dispersed population.

- **Commuters in the 10 coastal counties have increased by 34%, growing from 582,225 in 1970 to 782,565 in 2000.** While most continue to live and work in the same county, larger numbers are traveling outside their home county to work.

- **There are three distinct "commuter sheds" in the 10 coastal counties as defined by commuter patterns. These regions face different challenges in coastal management.** The 10 coastal counties of the Hudson River Valley may be divided into at least three major Journey to Work or commuter sheds: (1) Lower Hudson River (Orange, Putnam, Rockland and Westchester); (2) Mid-Hudson (Ulster, Greene, Dutchess); and (3) Capital (Albany, Columbia, Rensselaer).

- **While a high proportion of commuters to New York City characterized the Lower Hudson counties, there is a trend toward inter-county, or ex-urban to suburb commuting**. This indicates the growth of a job base outside of New York City, with the potential to create further residential and commercial development to serve these job centers. This is a common settlement pattern: some areas that begin as residential destinations become regional economic centers. This in turn spurs residential development within a larger, commutable distance.

"Commuter patterns imply a more dispersed workforce and settlement pattern, which could impact air quality, residential development and demand for services in coastal counties. These changes speak to virtually every one of New York's coastal policies."

- **Commuter patterns imply a more dispersed workforce and settlement pattern, which could impact air quality, residential development and demand for services in coastal counties.** These changes speak to virtually every one of New York's coastal policies. When combined with changes in our economy, the need for an updated approach to coastal management becomes clearer.

ECONOMIC BASE TRENDS

In the past 25 years, the U.S. economy has changed dramatically. Smokestack industries and factory jobs have given way to a service economy and a global system of production and transactions. To a large degree, the Hudson Valley's economy reflects these changes, which coincide with improvements in the region's environmental quality. Yet the new pattern of economic development brings new challenges for our communities and the natural systems that sustain them. The new economy is more dispersed and supports a larger population. And its impacts on coastal quality are more difficult to measure compared to, for example, a smokestack or end-of-pipe industry. The following section provides a general overview of the changes in the regional economy in the past three decades.

The economy of the Hudson Valley has expanded. Between 1970 and 2005, total personal income in the 10 coastal counties doubled in constant dollars.

In 1970, heavy industry played a much larger role in the economies of the 10 coastal counties. Historically, many of the smokestack industries were located on or near the coast. These industries are associated with point source pollution. As these industries declined, point source pollution likewise declined. Today's economy poses challenges associated with a more diverse, dispersed economic base.

The economic base of the Hudson River Valley has undergone dramatic changes since the 1970s. Today, while many important industrial and municipal facilities remain, the coastal area is a destination for tourism, recreation and residential development. When the Coastal Zone Management Act was passed, policy reflected the economic and environmental concerns of the day. The economic base of an area has important implications for the local and regional environment as well as job opportunities for wage earners. Future efforts to improve coastal management must take into account recent changes and trends in the coastal economy.

From 1970 to 2000, the 10 coastal counties saw important shifts in their economic bases, with a move away from Manufacturing to Services. The Service sector grew by more than 200% while Manufacturing and Mining contracted by 12% and 43%, respectively. Marked real growth was seen in Wholesale Trade and FIRE, which grew by 337% and 104%, respectively.

Economic Base Trends

	1970 - $	2000 - $	% Change
Services	1,374,131	18,480,246	209
Government and government enterprises	1,772,053	12,454,165	62
Manufacturing	2,079,503	7,977,057	-12
FIRE: Finance, insurance, real estate	373,466	7,088,642	337
Retail trade	855,515	4,879,503	31
Wholesale trade	422,116	3,744,913	104
Construction	631,999	3,477,954	27
Agricultural services, forestry, fishing & other 7/	43,670	274,188	44
Mining	27,750	68,220	-43

Percent change in wages earned adjusted for inflation

Change in Major Sectors, 1970 to 2000

Sector	1970 - $	2000 - $	% Change
FIRE: Finance, insurance, real estate	373,466	7,088,642	337
Services	1,374,131	18,480,246	209
Wholesale trade	422,116	3,744,913	104
Transportation and public utilities	553,516	3,909,881	62
Government and government enterprises	1,772,053	12,454,165	62
Agricultural services, forestry, fishing & other 7/	43,670	274,188	44
Retail trade	855,515	4,879,503	31
Construction	631,999	3,477,954	27
Manufacturing	2,079,503	7,977,057	-12
Mining	27,750	68,220	-43

Numbers presented in nominal dollars with percent change adjusted for inflation

ENVIRONMENTAL TRENDS

Environmental and natural-resource quality are central goals of New York's coastal policies. Unlike the Clean Air and Clean Water Acts, which include routine testing and reporting on air and water quality, the Coastal Zone Management Act has only recently been matched with an effort to measure the coastal conditions of the United States. Thus far, federal efforts to measure coastal conditions have focused on environmental and biological data rather than a comprehensive strategy of determining community and economic conditions.

Coastal conditions in the United States are "poor" according to the 2005 *National Coastal Conditions Report*, with conditions in the Northeast among the country's worst. These findings indicate an urgent need to address coastal management, if not an outright crisis in coastal quality for the nation as a whole. The indicators used in the report show the areas in most dire need are coastal habitat condition, sediment quality and benthic condition. Indicators that generally show the best condition are the individual components of water quality – dissolved oxygen and dissolved inorganic nitrogen.

"Coastal conditions in the United States are 'poor' according to the 2005 National Coastal Conditions Report, with conditions in the Northeast among the country's worst."

The Northeast lags behind the U.S. as a whole in all categories except water quality and wetland loss. The *National Coastal Conditions Report* notes the Northeast is historically the most densely populated region and has the most intensive economic activity. This serves to explain the pressures on coastal condition. It also indicates that no other part of the country has so many people and businesses that rely on a "poor"-quality coastal area.

The *National Coastal Conditions Report* does not contain information on the Hudson River Valley*, so no inferences about conditions and trends in our area are possible. Rather than discourage efforts to understand and measure coastal conditions, the lack of information underscores the need to measure and track conditions in and around the coastal area in the Hudson River Valley. One source of information is the state Department of Environmental Conservation's (DEC) *30 Year Trends in Water Quality of Rivers and Streams in New York State, 1972-2002*, which contains data from periodic sampling of the Hudson River by the DEC's Division of Water. The study measures the number and variety of macro-invertebrates (aquatic insects, worms, clams, snails and crustaceans), the most widely used approach for measuring water quality.

Monitoring efforts to date are sufficient to assess some trends in water quality, but they may be too infrequent and incomplete to provide guidance for decision makers. Between 1993 and 2002, the DEC Stream Bio-monitoring Unit sampled 1,532 sites on 917 streams throughout New York. Most of these sites were not sampled prior to 1993; thus there is no longitudinal data with which to assess trends. Of the sites monitored, only 278 allow for trend analysis over time. The fact that we have trend data for less than 20% of the river and stream sites in the state limits our ability to assess the impact of coastal-management practices and water quality.

The overall findings of the report are as follows:

- **86% of New York's assessed waters (1,532 sites monitored) are considered to support aquatic life.** These waters are designated "not impacted" or "slightly impacted"** and are considered to meet designated uses.

*Extensive efforts were made to obtain data for the Hudson River Region. The program head and director of the data archives said the Hudson River data was lost due to a 9/11-related event. No data sufficient to draw inferences for this report are currently available. This will impede trend analysis in the next National Coastal Conditions Report with regard to the Hudson River Valley.

**This finding represents a simple tabulation of findings in *30 Year Trends in Water Quality of Rivers and Streams in New York State, 1972-2002*. It does not imply percentage of total waters or any other qualification as to the importance of these waters. The reported finding should be used as a basis for further inquiry, additional monitoring and scientific review.

Status	Percentage
Non Impacted	45
Slightly Impacted	41
Moderately Impacted	13
Severely Impacted	1

Non-point sources dominate water quality concerns with lingering issues in municipal and industrial wastes. These changes point to water quality that is affected more by settlement patterns, economic activity and infrastructure than by point source issues. *30 Year Trends in Water Quality of Rivers and Streams in New York State, 1972-2002* **states:**

> *The most probable causes of the sites that were measured as having some impact are dominated by non-point source nutrient enrichment, affecting 52% of these sites. Other causes are: 15% complex (municipal/industrial inputs), 11% organic wastes (sewage and animal wastes), 6% toxicity, 6% impoundment, 5% siltation, and 5% undetermined.*

The trends show a pattern of improved water quality during the 1980s and 1990s through reductions of municipal and industrial wastes. These gains are now being undercut by non-point sources and increased demands placed on wastewater infrastructure or problems with the facilities.

The summary continues:

> *With regard to water quality trends, 20% of the temporal trends sites improved since 1992, 19% declined, and 61% showed no change. Most of the improvements (64%) were attributable to improved treatment or elimination of municipal and/or industrial inputs. Most of the declines in water quality (63%) are found to be previously non-impacted sites that have declined due to non-point source nutrient enrichment. These account for 76% of the declines. A secondary cause of declined water quality is in the combined category of organic wastes, and municipal/industrial inputs account for 24% of the declines overall. Many of these are considered to be caused by aging infrastructure, specifically wastewater treatment plants that were built or upgraded in the 1970s or 1980s, and are now functioning beyond capacity or at reduced levels of efficiency.*

There has been little improvement and some decline in water-quality measures for the Hudson River. Report findings for the Hudson River are mixed. There are indications of slightly improved water quality near Troy. However, the remaining test sites show no changes or improvements. Most of the sites sampled are slightly or moderately impacted. The presence of an invasive species, Zebra mussels, has reduced the biomass of other benthic animals (bottom-dwelling creatures) by 57%.

The DEC report provides detailed information on each of the regions studied, but it does not provide regional trend statistics or specific explanations for change in water quality. Therefore, data were summarized below for the Lower Hudson River Drainage Basin:

Lower Hudson River Drainage Basin

	Hudson Region	State
Sites (All)	305	1,532
Sites (Trend)	34	278
Non Impacted	36%	45%
Slightly Impacted	47%	41%
Moderately Impacted	15%	13%
Severely Impacted	2%	1%
Improved	18%	20%
Declined	26%	19%
No Change	56%	61%

The Lower Hudson River Basin lags behind the state as a whole on every category of change in water quality. Granted, the number of test sites with trend information is small, with only 11% of all sites showing data. However, as this is the best available information, the concern should be clear. The disparity in trends between the entire state and the Lower Hudson Basin also should sound a call for more monitoring and region-specific reporting. New York has trend data on 278 out of 1,532 sites, or 18%. In comparison, the Lower Hudson has trend data on only 34 out of 305 sites, or 11%.*

AIR QUALITY TRENDS

NOAA Regional Trends in Coastal Air Quality

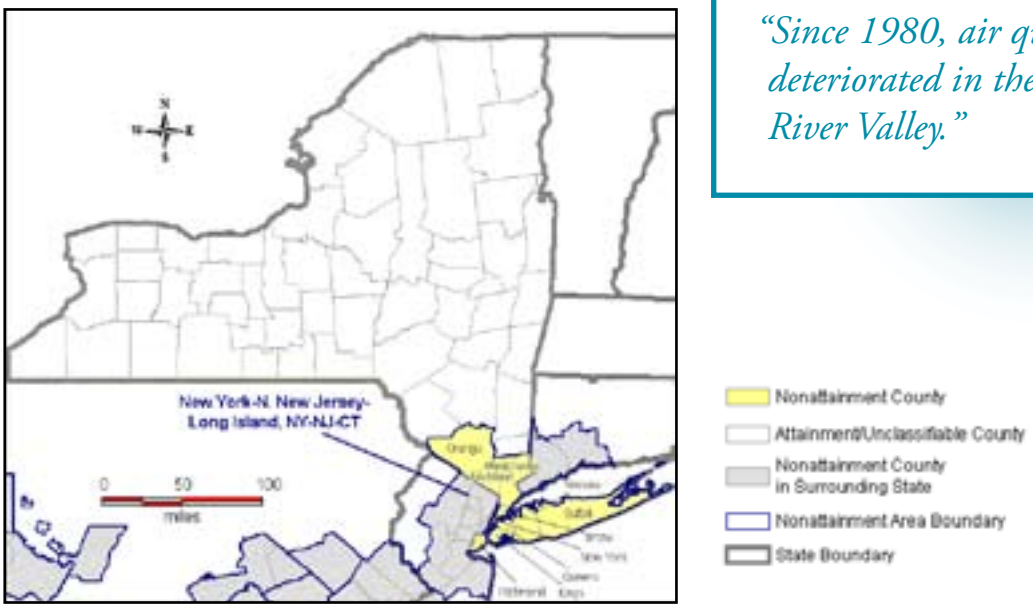
This study associates population increases and economic activity with changes in air quality in the United States. The regional analysis of the Northeast includes the following statement:

> *Air Quality: Ground-level ozone, created primarily from motor vehicles, industrial emissions and chemical solvents, has the potential to cause respiratory health problems and is particularly dangerous to children with asthma. Of the 474 counties that do not meet the 8-hour ozone standard (or that cause a county downwind to fail) 231 are coastal (USEPA 2004).* ***The majority (197) of these coastal counties are found in the Northeast and Great Lakes regions****. (USEPA 2004)* (Emphasis added)**

Since 1980, air quality has deteriorated in the Hudson River Valley. In the late 1980s, EPA monitoring resulted in the designation of Orange County as a Nonattainment County (not attaining federal air-quality standards), joining neighboring Westchester, Rockland and Putnam counties. (At the time, some Orange County officials strenuously objected to the classification.) Increases in population and commuting are associated with this designation. As the valley's population continues to increase, larger numbers of commuters will travel the roads, putting additional pressure on air quality.

*These data were not compiled by the DEC but by the consultant. It is beyond the technical scope of this report to assess the adequacy of these data as indications of overall trends in the region. Given the importance of the Lower Hudson Basin to real estate, habitats, tourism, water supply and water-dependent uses, it is urgent that these data be clarified with additional monitoring and research.

**The U.S. EPA and state DEC do not provide regional air-quality summaries or trend reports for the Hudson River Valley. Instead, both agencies provide online data sets and tools to examine short-term trends (six months or less) in certain air-quality measures. However, there is no summary report of trends in air quality by DEC region that would be of assistance to anyone but an air-quality scientist.



"Since 1980, air quality has deteriorated in the Hudson River Valley."

Action Agenda – DEC Hudson River Estuary Program
The Action Agenda offers a recent compilation of issues and goals facing the Hudson River Estuarine District and its associated shore lands. While it does not include quantitative research findings per se, it provides a summary of stakeholder concerns and expert opinion relevant to estuarine management. As a program of the DEC, the Estuary Program underscores the connection between human activity and estuarine health, as well as the importance of estuaries to New York's environmental quality. The report includes a number of valuable insights into the connection between our management choices and environmental quality. For example, the report calls attention to:

- *River and shoreline habitat.* Important habitats are threatened by human activity, including filling, shoreline alteration and changing land-use patterns.

- *Diversity of plants, animals and habitats.* Significant habitats are being disrupted by changing land-use patterns. The diversity of species is threatened by the introduction of invasive species.

- *Protection and restoration of streams and tributaries of the Hudson River*. The Hudson River is directly affected by what flows into it from streams and tributaries. Proper protection of the watershed is essential to the health of the estuarine areas. Hudson Valley streams are impacted by increases in impervious surfaces, agricultural and lawn runoff, inadequate or failing on-site wastewater treatment systems, inadequate or under-maintained sewers and municipal wastewater treatment plants, fish barriers, water withdrawal and atmospheric deposition of pollutants.

- *Conservation of key river scenery.* **Vistas are community resources often unrecognized by municipalities**. They also are vital to economic-development efforts in the region.

Major environmental issues identified by stakeholders:

Stakeholders were interviewed to better understand their experiences with the CMP and to gather their concerns about the coastal area of the Hudson River Valley. These concerns included:

- **Non-point source pollution** – wastewater, stormwater, air emissions, household wastes and pollutants entering the groundwater.
- **Stormwater, wastewater and municipal waste-treatment infrastructure.**
- **Water quality and water supply** – of particular concern in Rockland and Westchester counties.
- **Individual septic systems and local groundwater contamination**. Dutchess County has initiated a program of residential well-testing and monitoring.
- **Climate change and sea-level rise.**
- **Loss of scenic resources and visual impacts from development on the coast.** Cell towers and new construction along ridgelines are common concerns.
- **Loss of open space and agricultural lands.**
- **Reduced public access** because of increasing privatization of coastal areas.
- **Threats to traditional activities such as hunting, fishing and agriculture.**
- **Congestion and public transport.**
- **Lack of affordable housing.**
- **Increase in tourism and demands for recreation.**
- **Habitat loss** in coastal areas and the region as a whole.

CLIMATE CHANGE AND SEA-LEVEL RISE

Until recently, the concept of global climate change was controversial in the United States. Now most states are moving rapidly to include climate-change policies in their environmental agendas. At issue now is what, where and how much to do to combat climate change at the local, state and national levels. In terms of the relationship between Hudson River Valley coastal-management policy and climate change, three things should be considered:

1. Threats from climate change – such as drought, flooding and invasive species – should add to the urgency for wise coastal management.
2. This urgency can assume practical form by adding climate change to our assessments of risk as we manage the natural systems we depend upon. For example, flood- and erosion-control policies might include a climate-change scenario of what constitutes adequate protection. Likewise, planners might consider the impact of drought on water supply or habitat protection. The inclusion of climate change in planning strategies may lead to excess capacity in certain systems. In the long run, this might provide us with a competitive advantage as the region continues to grow.
3. The presence and threat of climate change requires greater monitoring to ensure that environmental systems upon which local communities rely are managed proactively and intelligently.

Regardless of one's opinion of the underlying science of climate change, many proposed solutions can have positive results for the coastal area. For example, as we face a rising population and its effects on land, water, air, habitat, etc., we should consider the option of developing standards that anticipate high levels of demand on our human and natural systems. Climate-change strategies such as preserving wetlands and reducing automobile trip times also will benefit communities as they attempt to manage a growing population.

Jeffrey Anzevino

Newburgh waterfront

2. Monitoring in the Coastal Area

Goal: Provide coastal communities with information about conditions and trends in the coastal area as a basis for decision-making about projects affecting the coast.

Because of the lack of information on conditions and trends in our coastal communities, discussion of coastal management in the Hudson River Valley relies on anecdote and belief. More and better data will not end the debate about how to best manage the coastal area, but it will require that state and local efforts be held accountable to a common standard and focus future dialogue on issues grounded in fact.

Many resist attempts to quantify local conditions because they believe common measures may misrepresent the unique qualities of individual places. Many of these concerns are valid: One measure rarely captures the complexity of a place. Just as businesses use multiple measures to analyze their balance sheets, a variety of indicators are needed to understand conditions and trends in the coastal area.

Coastal policies should provide excellent guidance in devising these measures. They address coastal management across many dimensions – from waterfront development and access to natural-resource protection. To ensure compliance with state law and provide a holistic view of the coastal area, new measures must reflect *all* coastal policies.

Many will argue this task is too large or that it will take years to develop adequate measures. These objections ignore two facts. First, no system of measurement is perfect. What is most important is that the measures provide information that stimulates discussion and informed public debate. Based on their value in public decision-making, measures will evolve over time.

Second, measuring changes in our coastal area may not have the same appeal as grants or innovative programs, yet lack of information is among the greatest obstacles to ensuring wise coastal management in the Hudson River Valley. While monitoring and analysis may seem dull, it is one of the most important things New York can accomplish to manage its coastal areas wisely.

CREATE BASELINE AND TREND INFORMATION FOR DECISION MAKERS

The lack of consistent and reliable information on programs, conditions and trends related to coastal

quality complicates any effort to evaluate the effectiveness of state and local coastal management efforts. The Clean Air and Clean Water Acts use measurements to provide clear feedback to communities and decision makers on the efficiency of state and local policies. After nearly 25 years, the Coastal Zone Management Act has only recently begun to establish a system to measure conditions of coastal areas nationwide. It still is in development and will not be ready for state implementation for some years.

Baseline data and information is an invaluable tool for raising awareness, stimulating productive debate and promoting accountability in state and local spending. Creating a baseline of coastal quality, as well as requiring regular reporting on changes, will help state and local governments prioritize their efforts and increase the effectiveness of public efforts in the coastal area.

New York State relies on local governments to manage coastal areas wisely. Without information, local officials are limited in their ability to carry out this vital function. Publicly available data and information will advance wise coastal management by informing the public of current conditions and alerting them to trends in their communities. It also will promote an information exchange on strategies and solutions among state and local governments.

New York should undertake an aggressive program of monitoring coastal quality. The current Coastal Conditions Measures in the 2005 *National Coastal Conditions Report* are a good start in measuring coastal quality. However, the federal measures primarily address environmental conditions. They lack the community, economic and cultural dimensions required by New York's coastal-management policies. New York should implement both the measurements advanced by the federal government and develop a set of measures reflecting the goals of its coastal policies.

New York State agencies currently hold much of the data needed to establish baseline measures for coastal quality or have the ability to collect, analyze and publish this data if the governor and legislature make this task a priority. In many instances, data is available but is not in a form accessible either to the public or decision makers. Gaps in available data also must be addressed.

Information and reporting are insufficient for many reasons. In some cases (e.g., air quality), the lack of information is simply a matter of analysis and presentation. In others (macroinvertebrate water monitoring), reporting is incomplete or infrequent. Some measures (such as for the Hudson River Estuary Program) are being developed but are not yet finalized. In areas such as income distribution or habitat conditions, routine data collection or reporting is not required. And some data simply is out of date.

Federal and state agencies should provide information that supports decision-making at the state, regional and local levels. Reporting must inform decisions at the local level to effect change. The current *National Coastal Conditions Report* provides information at the regional level. New York is part of the Northeast Region, which includes coastal states north of the Virginia border. While the report contains valuable information on regional trends, little or no data is available to assess trends in the Hudson Valley, much less conditions associated with local coastal municipalities.

It is important to begin using available, even incomplete, data rather than wait for "perfect" measures. The following sample measures are meant to stimulate discussion rather than provide a final measurement protocol.

- **Development** policies might be measured with data such as increased tax revenue from revitalized waterfront properties, per capita income, average wages, percentage of population served by public sewer and water, housing composition and tax base per capita. All are available through the U.S. Census or from local governments.

- **Fish and wildlife** policies can be paired with GIS and monitoring activities of the DEC, National Oceanic and Atmospheric Administration (NOAA), U.S. Geological Survey (USGS) and the U.S.

Environmental Protection Agency (EPA) to develop a baseline of existing data.

- **Flooding and erosion** can be tracked with data from the Federal Emergency Management Agency (FEMA). Participation in DEC flood and erosion planning programs also can provide an indication of how many communities have addressed these risks.

- **Public access and recreation** policies can be measured in part with per capita access to boat landings, usage statistics, watercraft registrations, marina enrollments, coastal public parks, access to trails and public access to waterfront areas.

- **Historic and scenic resources** can be measured using total registered historic places and/or areas, public funds provided for historic preservation and total area covered by SASS or scenic-protection ordinances.

- **Agricultural** lands can be measured with total acres listed in municipal and county tax maps, and total primary agricultural production by wages per county.

- **Air and water** trends can be addressed using data collected by New York State and the EPA, and as required by the Clean Air and Clean Water Acts. This data will provide some indication of air and water quality. Air monitoring might be supplemented with baseline and trend data in total vehicle miles estimated or commuter trip-time data through the U.S. Census and the U.S. and NYS Departments of Transportation. In addition, state and local governments can collaborate to provide information on combined sewer overflows, percent of municipal wastes treated, individual sanitary waste treatment systems as percentage of new residential construction and percent of total wells failing individual well-testing for bacteria.

- **Wetlands** can be measured using total area, habitat assessments and Hudson River Estuary Program measures. Some local communities already have undertaken habitat inventories that include wetlands.

MONITOR AND REPORT ON NETWORKED COASTAL CONSISTENCY REVIEWS

New York's system of networked coastal consistency reviews relies on the Coastal Assessment Form (CAF) to identify decisions or activities of state agencies in the coastal area.

- **CMP Coastal Assessment Form.** As required under State Environmental Quality Review Act (SEQRA), state agencies complete and submit a CAF as part of their duty to determine if an activity will affect the coastal area to a significant degree. An agency intending to grant a permit, fund an activity or undertake an activity in the coastal area or likely to affect the coastal area is required to review and certify that the activity does not conflict with any of the CMP's 44 coastal policies.

  If an agency submits a CAF with a negative finding (no significant impacts) and there is no federal permit required, the agency proceeds with the activity. The activity receives attention when the CAF is filed with the DOS or if a community group or local government brings attention to it. Barring outside attention, an individual state agency makes its own determination of consistency.

> *"Currently, there are no requirements for state agencies to share, review or audit Coastal Assessment Forms, a key tool to identiy activities in the coastal area."*

- **There are no requirements for state agencies to share, review or audit CAFs.** While the CAF is an important means of implementing coastal consistency, it relies on staff judgments distributed

across many agencies. There is no formal review process. (For example, between 2000 and 2006, the DEC processed 7,566 applications for permits in the Hudson River Valley's 10 coastal counties; of these, only 387 were listed as being in the coastal area.)

- **There is no requirement or means for all state agencies to include their CAFs in a common database of state decisions or to contribute data to a shared database to be maintained by the CMP.** The CMP will monitor CAFs, conduct periodic reviews, provide advice of findings to peer agencies and provide an annual report on implementation of coastal consistency. Agency staff collaborates with CMP coastal consistency review staff on an ad-hoc basis. A common data platform will encourage this process through monitoring, increased information exchange and greater awareness of the coastal policies.

- **There is no review or reporting on the effectiveness of the CAF or agency use of the forms.** There is no requirement for audit, review or even consolidation of CAFs by the CMP or any other agency – even though the CAF was drafted by the CMP as a primary means of communicating coastal policies and assessing potential impacts in its peer agencies. Executive Law Article 42 suggests that reporting on coastal consistency may be a function of the CMP, but it has never been required to produce regular reports on consistency review.

IMPROVE LWRP AND COASTAL AREA MONITORING

While all communities are different, they follow common standards in water quality, traffic safety, building codes and many other areas. Just as the Local Waterfront Revitalization Program (LWRP) process leads to adoption of a modified set of coastal policies that reflect the needs and priorities of individual communities, measures should recognize local conditions within a common, statewide framework of performance standards.

The federal government's 2005 evaluation of the New York Coastal Management Program required the development of performance measures for LWRP communities. The CMP has taken the first steps to create such as system.

RECOMMENDATIONS

Improve information for decision makers. There is a notable lack of public data and information on New York's economy, demographics and environment. In some cases, state and federal agencies provide raw data or brief summaries on specific topics. Often, public documents are not listed on agency Web sites or are available only by request. These practices represent a failure of federal and state governments to provide local officials, businesses and the general public with the information they need to make informed choices.

New York State relies on its citizens and local governments to bear much of the burden for wise coastal management. If information is not available, how will communities set their priorities?

The governor should direct agency heads to prepare regular reports, preferably annually, on conditions and trends pertaining to coastal policies. These should include summaries with trend information on state, regional, county and community levels. They should be developed with the needs of local citizens and governments in mind.

The governor should direct the DOS to convene key state agencies to develop a Statewide Coastal Conditions Report. The report should include an inventory of public data to assess trends in the statewide, regional, county and municipal coastal areas. This may be done in conjunction with other initiatives, such as Ecosystems Based Management or DEC's collaboration with the National Coastal Conditions Report project. However, the sole purpose of this recommendation is to ensure that the state produces an annual report reflecting measurable changes and trends for each of its coastal policies. The report should reflect, but not be limited to, the information needs of coastal communities. It should provide a composite measure, or measures, of coastal conditions sufficient to guide funding and priorities of local government services.

The governor should require annual reporting on state and local coastal consistency. Though New York relies on a network of state agencies and local governments to implement its coastal policies, it does not create a public report on the adequacy or activity of the network. Regular reporting will inform decision makers and citizens as well as motivate state agencies and local governments to share information and best practices on coastal consistency reviews. The report should include information at the state, regional and local levels on such topics as:

- State and local decisions leading to activity in the coastal area, as well as areas affecting the coastal area.
- State and local policies and procedures to implement coastal policies.
- Training completed at the state and local levels to ensure a clear, even understanding of coastal policies.
- Coastal Assessment Forms completed by agencies.
- Number and disposition of SEQR Type 1 Actions completed or in process. (See page 37 for discussion of Type 1 Actions.)
- Environmental Assessment Forms completed by state agencies.
- Total permits, funding and direct action undertaken by state agencies in the coastal area.
- Number of LWRP and special management plans in process or completed.
- Number of variances granted by LWRP communities.
- Comments and recommendations by DOS to improve coastal-consistency review in state agencies and by local governments.

The governor should direct the CMP to accelerate its LWRP performance-measurement efforts and develop coastal conditions reports to complement performance measures for LWRP communities. LWRP performance measures should track implementation of the LWRP, particularly monitoring and reporting on local consistency policies and procedures, and the number and intent of variances granted within the coastal area.

The goal of local coastal monitoring is to help communities identify issues, promote awareness of coastal quality and track successes. Conditions reports also may be a valuable tool for outreach in communities not participating in the LWRP program.

3. Coastal Consistency Review

Goal: Strengthen the state consistency review process to ensure that coastal policies affect public decisions at every level of government.

Statute: The NYS Coastal Management Act designates the Department of State as the lead agency for federal consistency reviews. Executive Law Article 42 directs all state agencies to implement the state's coastal policies.
15 CFR Part 930.63

CURRENT CONDITIONS

Coastal consistency is both a standard and a process to ensure that public decisions meet the goals of the state's Coastal Management Act. Through a formal process, the CMP reviews federal permits to ensure they meet all 44 coastal policies. Unlike other environmental-review processes that emphasize fact-finding or balancing compliance goals, consistency review requires that a public decision (e.g., to grant a permit, fund an activity or undertake some other action) meets all coastal policies without trading off one outcome for another. This sets a high standard, which other state agencies and participating local governments also are required to apply.

Coastal consistency has explicit policy goals that must be met by federal, state and participating local governments. Minimizing harm or balancing public benefit against environmental cost is not its intent. Its sole aims are to preserve, improve or restore the coastal area.

New York employs a system of "networked" coastal consistency review. For decisions not involving federal action, all New York State agencies are legally charged with implementing coastal policies, as are local governments with an LWRP.

The Department of State also reviews some local decisions. The CMP administers programs such as LWRP and Harbor Management Plans (HMP). However unlike some states, the DOS has no permitting authority itself. Permits, funding and other actions are determined to be consistent or not by individual agencies.

New York's 44 coastal policies were drawn from existing legislation as a way of integrating community, economic and environmental priorities into the coastal management system.

Coastal consistency is information-intensive and better suited to large projects where resources are more likely to be available. Coastal policies provide a great deal of guidance but they do not always include clear criteria as to when an activity would meet or fail the test of coastal consistency.

State agencies and local governments do not receive regular training on implementing coastal policies. The CMP has prepared a training manual on coastal consistency but it has not been published or distributed to state agencies due to staff shortages. DOS does not have a regular program of training for

peer agencies, also because of staff shortages. Yet other agencies rely on CMP's expertise to understand and implement the policies.

> *"The CMP has prepared a training manual on coastal consistency but it has not been published or distributed to state agencies due to staff shortages."*

Coastal policies are complex and in some instances seem contradictory. State and local officials often comment that while they are not allowed to trade off one policy goal for another, it often is difficult to carry this out. For example, Policy 1 encourages waterfront development, while Policies 19 and 20 encourage public access. It would seem that any private development would limit public access. (In broad terms, coastal consistency requires public access and waterfront development to be joint goals rather than a tradeoff.)

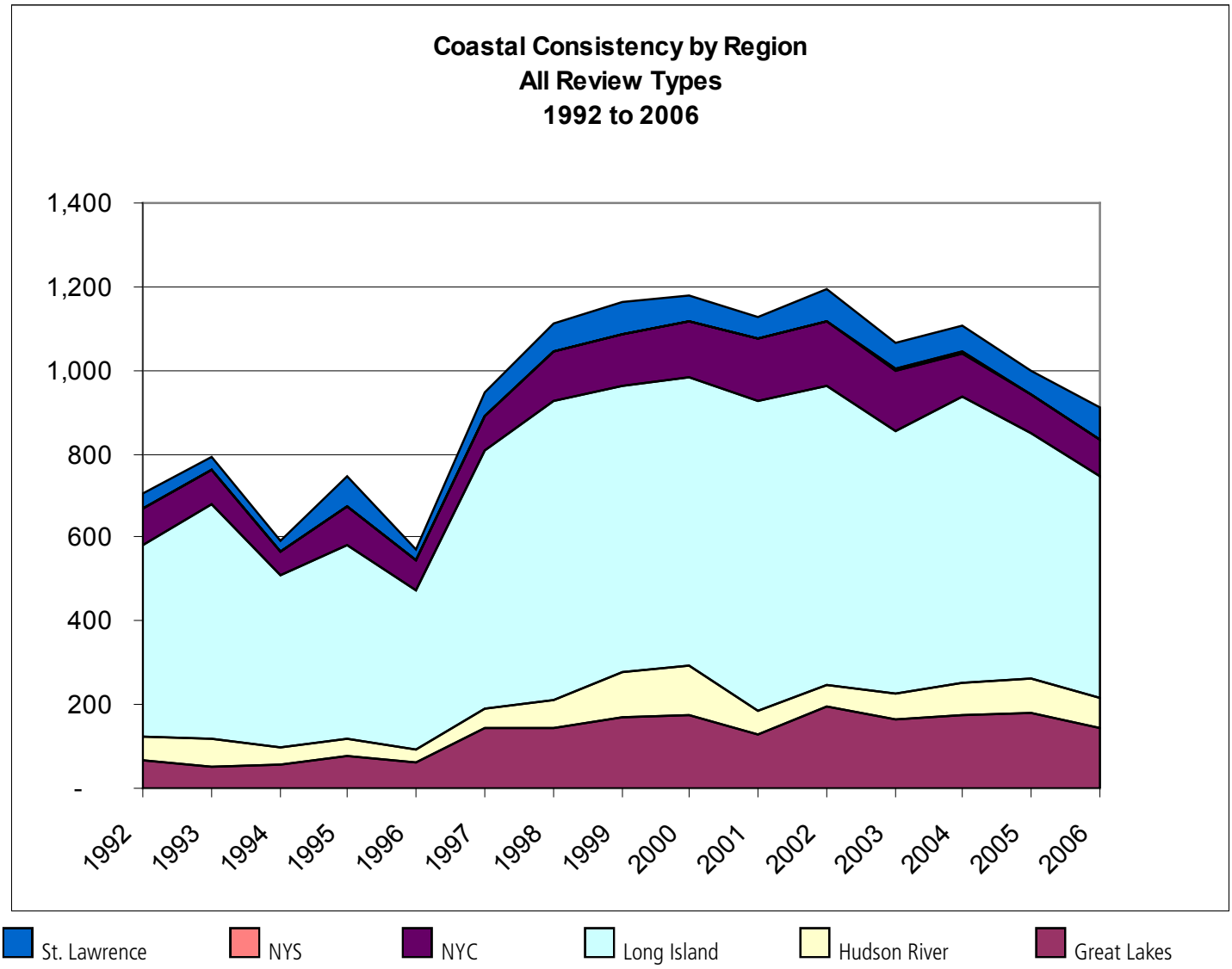
COASTAL CONSISTENCY REVIEWS

Consistency reviews are required for all federal and state as well as some local government decisions occurring within the coastal boundary or those that will have a direct and significant effect on the coastal area. While the state's networked review process increases the scope of coastal consistency review, it also requires that many public entities understand and apply coastal policies if they are to succeed.

Coastal consistency review captures a fraction of public decisions. The CMP is required to review only those decisions involving a federal permit. It has no oversight over decisions made by other state agencies, nor any authority to overturn them. Communities with an LWRP are required to implement coastal policies outlined in the plan. Again, there is no formal monitoring of these decisions. Local communities without LWRPs are not required to meet coastal policy goals. Decisions outside the narrowly defined coastal boundary also are not subject to coastal policies (except for some federal permits identified by the CMP). As a result, projects that would be deemed inconsistent by the CMP often go forward.

> *"Coastal consistency review captures a fraction of public decisions. The CMP is required to review only those decisions involving a federal permit."*

Consistency review volumes by region are stable over time. In the last 10 years, the total volume of reviews has remained at roughly 1,000 per year statewide, with an average 950 permits per year. This chart provides a summary of all permits reviewed by region since the CMP began keeping electronic records.



STATE CONSISTENCY

While state agencies other than the DOS are responsible for the majority of coastal-area decisions, these activities are not tracked statewide. There is no central database or coordinated accounting of permit activities across agencies. The DEC is by far the most active state agency in terms of rendering public decisions concerning the coastal area. It issued more than 7,500 permits in coastal counties between 2000 and 2006. During the same period, the DOS completed 963 consistency reviews while local governments in the 10 coastal counties issued over 14,000 residential building permits.

State agencies follow a variety of processes for coastal consistency reviews. Some agencies apply coastal policies as part of other permitting or decision processes. Some have established procedures for applying coastal consistency. However, the majority of agencies contacted for this study have no such procedures, and none of the agencies reviewed have staff whose primary task is consistency reviews. It bears repeating that the CMP has *no authority* to review or contradict the consistency decisions of other state agencies.

COASTAL CONSISTENCY CASE STUDIES

CMP review of federal decisions is effective because the DOS has clear authority and expertise in applying a complex set of policies. Its ability to conduct complex consistency reviews relies on staff resources and a thorough understanding of coastal policies, both state and local.

> *"CMP review of federal decisions is effective because the DOS has clear authority and expertise in applying a complex set of policies."*

Coastal consistency review is the core mission of the CMP. Other state agencies are required to apply coastal policies in addition to their core mission. Likewise, local governments with an approved LWRP hold coastal consistency as one of many policy goals. They may lack the time, expertise and resources to undertake complex consistency reviews without the CMP's support.

These projects and decisions reveal a number of important features common in all DOS consistency reviews. Because it advances a body of policy goals, coastal consistency results in a comprehensive review of a project, resulting in a higher standard of information and review.

Following are examples of consistency reviews that resulted in modifications and objections.

CASE #1: Dredging and blasting – Modification
An applicant sought an Army Corps of Engineers (COE) permit for blasting and dredging an area to improve a channel for docking. The CMP review found the actions would have a negative impact on fish habitat, which is prohibited under the St. Lawrence Fish and Wildlife Habitat Act. The application was modified to eliminate impacts on the habitat area. As revised, the project was found consistent with state coastal consistency and moved forward.

CASE #2: Erosion control – Objection
An applicant proposing to build a new residential structure within an erosion- and flood-control area wanted to place the building closer to the water than was allowed. The applicant applied to the COE and DEC for permits to reinforce 250 feet of coastline with a riprap revetment (broken stone placed along the shoreline to reduce erosion). The COE and DEC did not object to the project. The CMP found it to be in violation of policies 12, 14 and 17, which address flooding and erosion control.

The application was found inconsistent with coastal policy because (1) it did not attempt to use non-structural means to address erosion concerns; (2) there was no compelling public benefit to locating the structure in an erosion/flood-hazard area; and (3) erosion is a natural process necessary for recharging beaches and habitat, and the state does not prevent it unless there is a compelling reason to do so. The structure was moved back a safe distance from the erosion and flood-hazard area.

CASE #3: Dredging and Fill – Objection
The CMP issued an objection to a project to dredge, excavate and place stone fill in an area, converting a dry marsh into a spawning ground for fish. The applicant requested a nationwide permit from the COE as well as an Excavation and Fill (Article 15) and a Water Quality Certification (401 Cert) from the DEC. Both the COE and DEC granted the permits but were prevented from issuing them by the CMP, which found the applications were in violation of coastal policy 7 (Protection of Significant Coastal Fish and Wildlife Habitats). (Ironically, this policy is drawn from the same policies the DEC is charged with enforcing.) The existing dry marsh was an active habitat for other species and thus protected. There was no way to modify the project, so it did not go forward.

CASE #4: Millennium Pipeline – Inconsistent
In 2001 the Millennium Pipeline Company sought permission from the Federal Energy Regulatory Commission (FERC) and permits from the COE and DEC to construct a 442-mile-long natural gas

pipeline. The project was expected to provide substantial public benefit in terms of economic development and improved fossil-fuel supplies. The majority of the 24-inch pipeline's length would have followed existing easements and utility corridors. However, its planned route also would have crossed dozens of counties and municipalities, traversed the Hudson River, interrupted coastal wildlife habitat areas, involved dredging and blasting the Hudson River bed, passed in close proximity to the aqueduct supplying water to New York City and violated local ordinances of an approved LWRP community.

> *"While state agencies other than the DOS are responsible for the majority of coastal-area decisions, these activities are not tracked statewide."*

FERC prepared an Environmental Impact Statement (EIS) as required under the National Environmental Protection Act. The EIS indicated that the project would cross no less than 507 water bodies, including Haverstraw Bay, designated a Significant Coastal Fish and Wildlife Habitat. Given these and other aspects of the project, the DOS was required to review the project to ensure its consistency with New York's coastal policies. It also had to review the document in light of the approved LWRP of Croton-on-Hudson, through which the pipeline would pass. When a community has an approved LWRP, these plans become part of the standard by which projects are judged to be consistent. This is an excellent example of how participation in the LWRP increases, rather than reduces, local control over decisions.

Millennium prepared and submitted a coastal consistency determination. After nearly a year of fact-finding, public comment and meetings between private, federal, state and local stakeholders, the Millennium project was found to be inconsistent. It failed to meet coastal policies 7 (Habitat Protection), 18 (General Safeguards) and 38 (Protection of Surface and Groundwater Supplies), as well as LWRP policy 7G (Protection of Water Quality and Significant Fish and Wildlife Habitats). The DOS's final decision presented options to Millennium that could have enabled the project to go forward, albeit at higher cost.

ENVIRONMENTAL CONSERVATION LAW AND SEQR

The State Environmental Quality Review (SEQR) regulations (article 8 of the Environmental Conservation Law, section 617) do not coincide with or fully implement coastal policies as stated in the Coastal Management Act and Executive Law Article 42. Specifically, the regulations do not apply the coastal policies in its "Significance" language for reviews. Further, its Environmental Assessment Form (EAF) identifies the "coastal area" as requiring additional review but does not include "decisions that have a reasonable potential to affect the coastal area."

Statutory Authority: Environmental Conservation Law Sections 3-0301(1)(B), 3-0301(2)(M) and 8-0113 (Applicable to All State and Local Agencies Within New York State Including All Political Subdivisions, Districts, Departments, Authorities, Boards, Commissions and Public Benefit Corporations

Broadly stated, SEQR defines the policies public entities must follow to ensure state environmental goals are met. The first step in the SEQR process is to gauge the significance of the proposed activity, which is determined based on the applicant's completed Environmental Assesment Form (EAF) short form. If the activity will occur in the coastal area, the applicant is directed to complete a Coastal Assessment Form (CAF).

If the applicant proposes an activity identified as a Type 1 Action, a full SEQR environmental review begins. A lead agency – usually the municipality in which the activity will take place – oversees the review process to ensure that SEQR requirements are met. EAFs are filed by all public decision makers associated with the activity. The CMP's involvement at this point depends on whether the proposed

activity will take place in the coastal area. If not, the lead state agency responsible for overseeing the Type 1 Action review must determine if the project is likely to have an impact on the coastal area. If it does, by law the agency must apply coastal policies or collaborate with the CMP on the review process. This is not reflected in the EAF, which only references projects within the coastal area.

Individual lead agencies address coastal consistency independent of CMP review. Type 1 Actions are subject to coastal consistency review because all state agencies are required to apply coastal policies. However, the lead state agency is not required to consult with or agree with the CMP as to whether or not the project is consistent unless the CMP is involved either as lead agency or because a federal decision is involved.

Type 2 Actions are not reported, tracked or reviewed. For Type 2 Actions, there are no filing or review requirements. The CMP and state agencies generally have no role in reviewing these activities in terms of coastal consistency. Examples of Type 2 Actions listed under 617.5 include:

> *(9) construction or expansion of a single-family, a two-family or a three-family residence on an approved lot including provision of necessary utility connections as provided in paragraph (11) and the installation, maintenance and/or upgrade of a drinking water well and a septic system;*
>
> *(19) official acts of a ministerial nature involving no exercise of discretion, including building permits and historic preservation permits where issuance is predicated solely on the applicant's compliance or noncompliance with the relevant local building or preservation code(s);*

Type 2 Actions may not individually pose a threat, but taken collectively they represent substantial activity in the coastal area as demonstrated by our summary of building-permit activity. There is no SEQR review of local comprehensive plans though these plans certainly meet the test of a significant public decision. This is a topic for further legal study within the scope of home rule policies.

COASTAL ASSESSMENT FORM

Does not identify significant and direct impacts on the coastal area.

The networked consistency system relies on the CAF to ensure that all state agencies review decisions in light of coastal policies. State agencies and some permit applicants are required to complete a CAF if their projects fall within the coastal area. Individual agencies employ CAFs as part of their review process. There is no monitoring process or auditing of the forms, nor any documentation of the accuracy of representations made on them.

The CAF gives no guidance as to what constitutes a "significant effect" on any of the impacts referenced. The CAF gives peer agencies substantial latitude in reviewing actions such as permits or grants because there are no requirements for proof that an action in fact meets or fails each of the requirements. This reduces the cost, in both time and money, to complete the CAF. However, it causes the CAF process to rely more on judgment than facts. State agency staff often consult with CMP staff but are not required to do so.

CONSISTENCY AT THE LOCAL LEVEL

New York recognizes that local governments make most of the decisions that determine land use and local development in coastal areas. Local governments create comprehensive plans, issue permits,

provide tax incentives and undertake projects themselves. Insofar as these activities are routine, or "ministerial," they do not fall under any coastal consistency review. Local governments participating in LWRP or related programs do have consistency obligations. However, the majority of municipalities in the 10 coastal counties have no such requirement.

Local governments in and near the coastal area engage in more project-review activity than state and federal governments combined. Though seen as routine functions, these activities include issuing building permits and on-site sanitary waste-disposal permits (septic systems) that directly affect the coastal area.

Permits Issued in the Hudson River Valley Region

Unit of Government	Source	2000- 2006	%
Federal	CMP in the Hudson River Valley Region (10 counties)	963	4
State	DEC permits in coastal municipalities	7,566	32
State Consistency	(DEC CAF permits in coastal municipalities)	(387)	(5.1)
Municipal	Building Permits in coastal municipalities	14,998	64

The Local Waterfront Revitalization Program was created to implement coastal policies at the local level. Participation is entirely voluntary. Less than half of the coastal municipalities in the Hudson River Valley participate in it. Of these, many have not completed the process. The DOS has created additional programs such as Harbor Management Plans, SASS, etc., to encourage participation. However, there remains no requirement for participation, nor any program to implement coastal policies more widely at the local level.

Local governments make the largest number of decisions in coastal municipalities. Between 2000 and 2006, local governments issued over 14,000 residential building permits in the 10 coastal counties. This number underestimates the total number of permits because some municipalities do not report complete data. For each of these, additional permits would have been issued for such things as septic systems, driveways and parking lots. Clearly, taken as a group local governments play a large role in shaping the coastal area.

"Local governments make the largest number of decisions in coastal municipalities."

RECOMMENDATIONS

- **The CMP should implement a regular training program for state agencies and local governments engaged in consistency reviews.** The CMP should move swiftly to publish its Coastal Consistency Training Manual and place an electronic copy on its Web site for easy reference.

- **The governor should direct the CMP to compile an annual report on federal, state and local government consistency reviews.** State and local governments should be required to share CAFs, EAFs and local-government documentation on variances and other decisions affecting the coastal area through real-time data sharing or a central permit and decision database.

- **The legislature should revise SEQR regulations to ensure they apply coastal policies as required by law.** Executive Law Article 42 requires state agencies to implement coastal policies. SEQR regulations on significance include many *but not all* of the same coastal policy goals. The legislature should consider amending SEQR – specifically 617.7 – to include the coastal policies as the standard for significance.

- **The DEC should revise the EAF to reflect coastal policies more fully and ensure that all activities that may reasonably affect the coastal area are properly identified.** An EAF is required under SEQR for all Type 1 and Unlisted actions. The EAF (both short and long forms) includes guidance to applicants on completing the CAF if the proposed activity occurs within the coastal area. However, it does not instruct applicants to identify if the proposed activity will affect the coastal area. In this respect, SEQR does not comply with the goals of coastal consistency. The DEC currently is updating these forms. It is not clear if the revised forms will include expanded language to identify projects that either are in or may affect the coastal area.

Further Research: Scenic Hudson and other community organizations may wish to determine whether the apparent inconsistency between SEQR regulations and the Coastal Management Act can be pursued through direct legal action on individual projects/issues rather than through legislation. If the courts find SEQR regulations do not fully implement the Coastal Management Act and Executive Law Article 42, this may provide a basis for negotiation. This is a topic for extensive further research.

4. Local Waterfront Revitalization Program Participation and Performance

Goal: Universal implementation of coastal policies; ensure they are working; create new vehicles to invite participation; track performance; require updates.

Authorizing Legislation: Executive Law Article 42 and New York Coastal Management Act.

The Local Waterfront Revitalization Program (LWRP) is the primary means by which the CMP motivates local governments to adopt wise coastal-management policies and practices. The LWRP planning process leads communities to an economic, environmental and community plan to guide management decisions in individual coastal areas. The LWRP is a distributed approach to coastal-area planning and management.

Statewide, over 200 communities participate in the LWRP. The first communities began the process of creating local plans in the 1980s. The following section examines the participation of 88 communities in the Hudson Valley's 10 coastal counties.

LWRP PARTICIPATION SUMMARY FOR THE HUDSON RIVER VALLEY

Generally speaking, the steps a community takes to create an LWRP include: (1) initiating an LWRP stakeholder process; (2) drafting an LWRP for feedback and editing; (3) adoption of the LWRP by the local governing entity; (4) submission of the LWRP to the CMP for review; and (5) approval of the program by the CMP.

The Hudson River Valley has the lowest participation rate in the LWRP of any region in New York. There are 88 municipalities in the coastal region of the Hudson River Valley. Thirty-eight (43%) have initiated LWRPs since the program's inception more than 20 years ago. Thirteen of these (14.5%) have yet to complete the program.* Only 25 communities (28.5%) have a final, approved LWRP.

Only communities with an approved LWRP have officially completed the program.

* Of these, four communities (4.5%) have initiated the program but not taken additional steps. Six (6.5%) have drafted an LWRP, but it has not been locally adopted. Three communities (3.5%) have locally adopted LWRPs that have not been approved by the CMP.

LWRP Participation in 88 Eligible Hudson Coastal Communities

	Number	Percent of Total Communities
Not Participating	50	57
Participating	38	43
Draft LWRP	34	38.5
Local Adoption of LWRP	28	32
Completed LWRP	**25**	**28.5**
Update to an LWRP underway	1	

The majority (24 municipalities, 63%) of LWRP communities began to participate in the program in the late 1980s and completed it during the 1990s. This corresponds to periods in which federal dollars were available to state coastal programs and the CMP had higher staff levels for its LWRP program.

The amount of time a community takes to complete the LWRP process varies enormously. The quickest LWRPs include Rhinebeck, Tivoli and Watervliet, all of which completed the process in approximately two years. Other communities have had incomplete LWRPs outstanding for many years. Local governments and LWRP staff were contacted to identify obstacles to completing the LWRP process. (These are reported in detail below.)

Very few LWRP communities have updated their plans. Only one community currently is updating its plan. Of the programs in the Hudson Valley, 20 are older than five years; 19 are 10 years old or more. (LWRP communities are not required to update plans.)

ENVIRONMENTAL PROTECTION FUND GRANTS

All coastal communities are eligible for Environmental Protection Fund (EPF) planning grants once they complete or show adequate progress in the LWRP process. Participation covers most LWRP communities in the Hudson River Valley.

EPF grants are one of the main financial incentives used by the CMP to support and motivate participation in its programs. They play a critical role by providing financial resources for coastal planning, LWRP development and specific projects in the coastal area.

24% of all EPF, Quality Communities (QC) and Brownfield Opportunity Areas (BOA) grants, totaling $40 million, were awarded to Hudson Valley counties between 2003 and 2006. EPF grants are used for planning and projects in LWRP communities. QC grants provide local planning assistance grants. BOA grants are used to help communities return contaminated sites to productive use through cleanup and redevelopment. The table below shows totals by year for the Hudson Valley's 10 coastal counties.

"Environmental Protection Fund grants are one of the main financial incentives used by the CMP to support and motivate participation in its programs."

Summary of Environmental Protection Fund, Quality Community and Brownfield Opportunity Area Grants, 2003-2006

County	2003	2004	2005	2006	Grand Total
Albany	$200,000	$108,630			$308,630
Columbia			$25,000		$25,000
Dutchess	$403,000	$835,000	$825,000	$1,644,227	$3,707,227
Greene	$200,000				$200,000
Orange		$422,500			$422,500
Putnam				$50,000	$50,000
Rennsselaer	$60,000	$536,750	$228,368		$825,118
Rockland	$25,000		$150,000		$175,000
Ulster	$330,000	$362,000	$350,000	$350,000	$1,392,000
Westchester	$187,000	$1,335,000	$810,000	$211,312	$2,543,312
Grand Total	$1,405,000	$3,599,880	$2,388,368	$2,255,539	$9,648,787

Over 40 communities and local organizations in the Hudson River Valley received $9.6 million in funding between 2003 and 2006. Grant funds were spread over a wide range of levels and recipients. Funds were used for everything from capital projects to planning activities.

Most EPF funds go to a relatively small number of coastal communities – 88% of all EPF, QC and BOA funds awarded between 2003 and 2007 went to 10 coastal municipalities – Albany, Beacon, Kingston, Newburgh, Nyack, Peekskill, Poughkeepsie, Rennsselaer, Troy and Yonkers. Total awards ranged from $246,370 to $3,169,227.

EPF grants require local matching funds. Communities "front" most of the project funds because the majority of an EPF grant is paid at the end of the process. Smaller communities may find this an obstacle – they have limited resources and may fear the risk of not having their final grant payment approved. Delays in distributing EPF funds also were noted by some stakeholders as an obstacle to local-government participation.

The LWRP is one of many state programs trying to motivate local governments to act. Stakeholders often commented that local governments, especially those with few staff, lack the resources to take on more than one project at a time. Some of the planning initiatives requiring local attention include: reduction of non-point source pollution, infrastructure planning (particularly combined sewer overflows), economic development projects, transportation planning, historic preservation, Greenway projects, floodplain management projects, erosion control, open-space conservation plans, habitat protection and local comprehensive plans.

STAKEHOLDERS' VIEWS OF THE LWRP

A wide range of stakeholders were interviewed to determine how the LWRP and CMP are perceived. The comments that follow are not survey results, but comments listed in rough order of frequency.

There is broad support and demand for LWRP professional staff. The majority of comments on staff support for the LWRP were heavily positive. CMP staff is regarded as professional, knowledgeable, accessible and sympathetic to local concerns. Many local stakeholders find that the LWRP process

facilitates, rather than impedes, development at the local level. The process and final plan provide a framework for development that ensures clear public goals and provides advance guidance for developers about the nature and location of desired development. As one leader put it, the LWRP process "sets the table" for appropriate development in the coastal area. As a voluntary program, the LWRP process and implementation depends on local support to undertake and complete the program.

Reasons for local governments to participate in the LWRP include **development pressure** (local governments facing such pressure look for tools and strategies to manage new development), **dynamic leadership** (either an individual or a local organization) and **financial incentives** (participation opens the door to state and federal funds for planning and capital projects).

Indirect factors for participation included **prior experience with a planning process** (such as Greenway, historic preservation and urban revitalization), **word of mouth from peer local governments**, **identification with the waterfront** (municipalities with historic waterfronts and businesses are more likely to see them as economic and community assets) and **"evolving community priorities" or "demographic change"** (two common euphemisms for gentrification of coastal communities). As new residents move to the Hudson Valley, they often bring with them a heightened concern for the qualities that drew them to the region – scenic resources, access to the river, coastal recreational opportunities and a sense of place.

OBSTACLES TO STARTING THE LWRP PROCESS

Local stakeholders identified a number of factors that hinder LWRP participation. These include a **suspicion and/or reluctance toward planning** (ranging from a general suspicion of state government to a virulent "anti-planning" culture among some groups; the underlying concern is loss of local control); **competing local priorities** (such as property taxes, school bonds, etc.); **change of local leadership or priorities** (local leaders supportive of coastal planning may not be in office long enough to see action taken); and **loss of momentum in a process that takes years.** A community engaged in developing an LWRP may see several changes of leadership, the emergence of new priorities and the challenge of maintaining participation throughout such a long process.

STAKEHOLDER CONCERNS FOR THE LWRP PROCESS

- Stakeholders noted that the **number and complexity of coastal policies** required in the LWRP make for a long process. Some felt this ensured the planning process was not driven by "pet issues" or political priorities; others felt the number of policies was unrealistic. Many stakeholders pointed out that the LWRP is one of many planning priorities; there is a danger of what one stakeholder called "planning fatigue." Also, the LWRP process requires a **large commitment of resources. Some communities may lack these resources (financial, staff, information) as well as the experience or expertise to undertake the process.**

OBSTACLES TO LWRP IMPLEMENTATION

Some communities complete the LWRP only to encounter difficulties when it comes time to implement it. Many stakeholders identified **loss of momentum** after the LWRP is approved (community leaders turn to other issues and priorities); **lack of consistent training for newly elected/appointed leaders** (insufficient communication of the policies, roles and responsibilities outlined in the LWRP) and **an unwillingness to implement planning and zoning and a disconnect between the local LWRP committee or group and the local decision-making body** (in some instances, the group charged with overseeing the LWRP is not consulted or its recommendations are not followed). Some stakeholders also cited as obstacles that **local governments may grant variances to local planning and zoning rules that are inconsistent with LWRP policies** (there is no state or local oversight or monitoring mechanism) and there are **few consequences for not implementing the LWRP as approved** (absent monitoring, stakeholders are unaware of any formal mechanism for restricting funds or withdrawing approval if LWRPs are not implement as adopted).

ISSUES FOR THE FUTURE

These major concerns for the CMP and coastal communities are not presented in order of frequency or priority. However, all were commonly raised by stakeholders.

- **Growth and sprawl** are perhaps the most common concerns. Stakeholders raised issues ranging from affordable housing and job growth to increases in development pressures, school taxes and pollution. The broad expectation is that the region's population will continue to rise; the challenge is how to manage the associated fiscal, environmental and community impacts such growth engenders.
- **Privatization of access to the coastal area.** Stakeholders expressed concern that public or otherwise accessible parts of the coast are being lost as waterfronts become privatized through development. There is a desire among some stakeholders to preserve and increase public access to the river.
- **Growing concern for visual impacts.** Cell towers are cited as the biggest visual threat to the coastal area. In particular, stakeholders brought up the issue of **cross-river or "trans-river" visual impacts on vistas.** How does a municipality on one side of the Hudson deal with the degradation of its vista – as well as potential accompanying reductions in property values and its tax base – caused by planning decisions made by a community across the river? Stakeholders raised this question in a variety of forms. This mirrors the concerns of a downstream community to impacts from an upstream polluter.
- **Water quality and quantity, stormwater, wastewater and watershed management** are pressing issues for all communities in the coastal counties. The lower counties face problems with water quality and supply; other communities continue to struggle with combined sewer overflows and increasing non-point sources of pollution. Still more have lingering infrastructure concerns yet to be fully addressed.
- **Climate change and sea-level rise** were cited as potential threats to every aspect of the coastal area, including habitats, an increase in invasive species, flood risks, loss of coastal property and impacts on water quality and supply.
- **Air quality**. Many stakeholders asked: "How do we prevent a spread of non-attainment areas as the region's population and economy grow?"
- **Preservation of open space** is a concern for recreational uses, habitat and safeguarding the landscapes that contribute to our quality of life.
- Increases in **invasive species**, particularly in the Hudson River.
- **Preserving a sense of place** for historical and cultural continuity, as well as to safeguard the tourism industry. Many stakeholders see the Hudson River Valley as a unique place that should be preserved both for its own sake and as an important element of the regional economy.

RECOMMENDATIONS

Leverage the successes of the LWRP to motivate all coastal communities to implement wise coastal-management policies and practices. Valuable state expertise and resources support local planning, yet the majority of Hudson Valley coastal communities do not have an approved LWRP. Programs scaled to several levels of participation have been created to encourage more local governments to engage in the LWRP process. These programs should be extended to all communities in an expanded coastal area.

Create supporting coastal programs that extend the LWRP model to all coastal counties and/or the Hudson River Valley watershed. Specifically:

- Continue the current LWRP.
- Develop a LWRP for small communities, providing technical assistance and financial incentives appropriate to their special needs.
- Develop **Coastal Area Management Plans** open to all communities in the expanded coastal area. Use LWRP planning elements appropriate for implementing coastal policies in a wider area. For example, waterfront-development policies might be broadened to include goals appropriate for coastal areas. Seek additional EPF planning-grant dollars to provide incentives to county governments.
- Develop a **Coastal County Master Plan (County LWRP)** program for implementing county-wide coastal policies and building planning capacity to serve local governments and coordinate LWRP activities. Seek additional EPF planning-grant dollars to provide incentives to county governments.

Develop a memorandum of understanding with the Department of Environmental Conservation (DEC), Office of Parks, Recreation and Historic Preservation (OPRHP), Department of Transportation (DOT), Office of General Services (OGS) and other state agencies to coordinate planning grants and programs in the coastal area. The LWRP process requires many of the same resources (information, expert advice, planning) as other infrastructure and community-planning efforts. Wherever possible, the CMP should work with other state agencies to integrate these efforts, creating further incentives for local governments to participate in them.

Increase training and outreach to LWRP communities; ensure adequate information and training for elected and appointed leaders. Continuous training and outreach to LWRP communities is critical to ensure that state and local coastal policies are implemented. This report recommends additional funding for the CMP to increase outreach and support services for local communities.

Review all LWRPs more than five years old; recommend updates where necessary. With the rapid changes occurring in the Hudson Valley, communities should regularly revisit their coastal policies to ensure they remain current and appropriate. The CMP should use regular updates as an opportunity for integrated planning with other state programs. It also should give preferential EPF funding to communities with complete and recently updated LWRPs.

The CMP should initiate routine monitoring of local consistency decisions and apply performance measurements on participating LWRP communities. The state provides considerable support for coastal communities through EPF grants. Through regular monitoring (particularly of variances granted in the coastal area), the CMP should ensure that approved LWRPs are properly implemented.

The CMP should develop quantitative performance measures to apply to all coastal communities. It should coordinate with peer agencies to produce baseline measures of coastal quality, then apply these measures to communities and counties to aid in planning and monitoring performance, and for help in identifying persistent and emerging issues. (A more detailed discussion of measuring coastal conditions is presented in Chapter 2.)

Jeffrey Anzevino

Yonkers waterfront

5. The Coastal Boundary

Goal: Strengthen coastal management in the Hudson River Valley by augmenting the existing inland coastal boundary with a coastal management area. This will widen the scope of coastal consistency review, better reflecting economic and population changes in the region. An expanded coastal area also will encourage communities to integrate coastal management into their planning activities.

Statute: New York State's Coastal Area Boundary as defined by Section 1455(d) (2) (A) of the Coastal Zone Management Act of 1972 establishes the current coastal boundary in law. Habitats are identified as required by NYS Executive Law Article 42 Waterfront Revitalization of Coastal Areas and Inland Waterways Section 920. Implementing regulations can be found at 19 NYCRR Part 602. The governor may direct the CMP and peer agencies to implement the coastal policies in the coastal municipalities or coastal counties of the Hudson River Valley by executive order.

CURRENT POLICY

The landward coastal boundary is the primary area in which New York's coastal management policies apply. The boundary largely defines the area where: (1) the Coastal Management Program reviews projects with federal permits; (2) state agencies are required to apply the coastal policies to their decisions; and (3) communities with Local Waterfront Revitalization Programs create local coastal-management policies. New York's coastal policies apply both to public decisions within the coastal boundary and those that may have significant and direct impact on the coastal area. (In practice, most attention is given to decisions that occur within the coastal boundary.) Given population and economic trends in coastal counties, it is critically important that the coastal boundary match current and emerging management concerns.

The inland coastal boundary is not defined by any natural feature or system supporting the Hudson Valley's coastal area. It reflects the priorities of local governments as approved by state and federal consistency – the primary means of coastal-management oversight. The current coastal boundary relies on voluntarism, cultural landmarks and ease of administration. It was defined through collaboration between the state and individual municipal governments at the time the program was adopted 25 years ago. This accounts for the boundary's lack of regularity across the 10 Hudson Valley counties. Over time, it has been expanded to include special management areas and the municipal boundaries of the LWRP communities.

Final boundary decisions were driven by local government priorities. The Final Environmental Impact Statement (FEIS) summarizes the final boundary as follows:

> *Preliminary boundary proposals made by local agencies provided a basis for final boundary determination, although some modifications were made to incorporate one or more of the preceding criteria.* (II-3-4)

Further:

> *Generally, the boundary proposals made by local government agencies were the basis for the delineation of New York's landward coastal boundary. Understandably, modifications were necessary where local recommendations did not satisfy the criteria established for the statewide approach. Where a local agency could not agree on a boundary proposal, the Department of State developed the boundary line in accord with the indicated criteria.*

The FEIS concludes:

> *As a result of the above process, the landward boundary of New York State's Coastal Area varies from region to region.* (II-3-6)

CURRENT CONDITIONS

A narrowly defined coastal boundary does not adequately address current conditions and trends facing the coastal area. Population and economic development have increased while industries historically associated with point source pollution have declined or largely been brought into compliance. However, growing challenges have arisen from non-point pollution sources related to more dispersed patterns of land use and economic activity. New York must address the coastal boundary to ensure that lingering issues are resolved and new challenges are addressed.

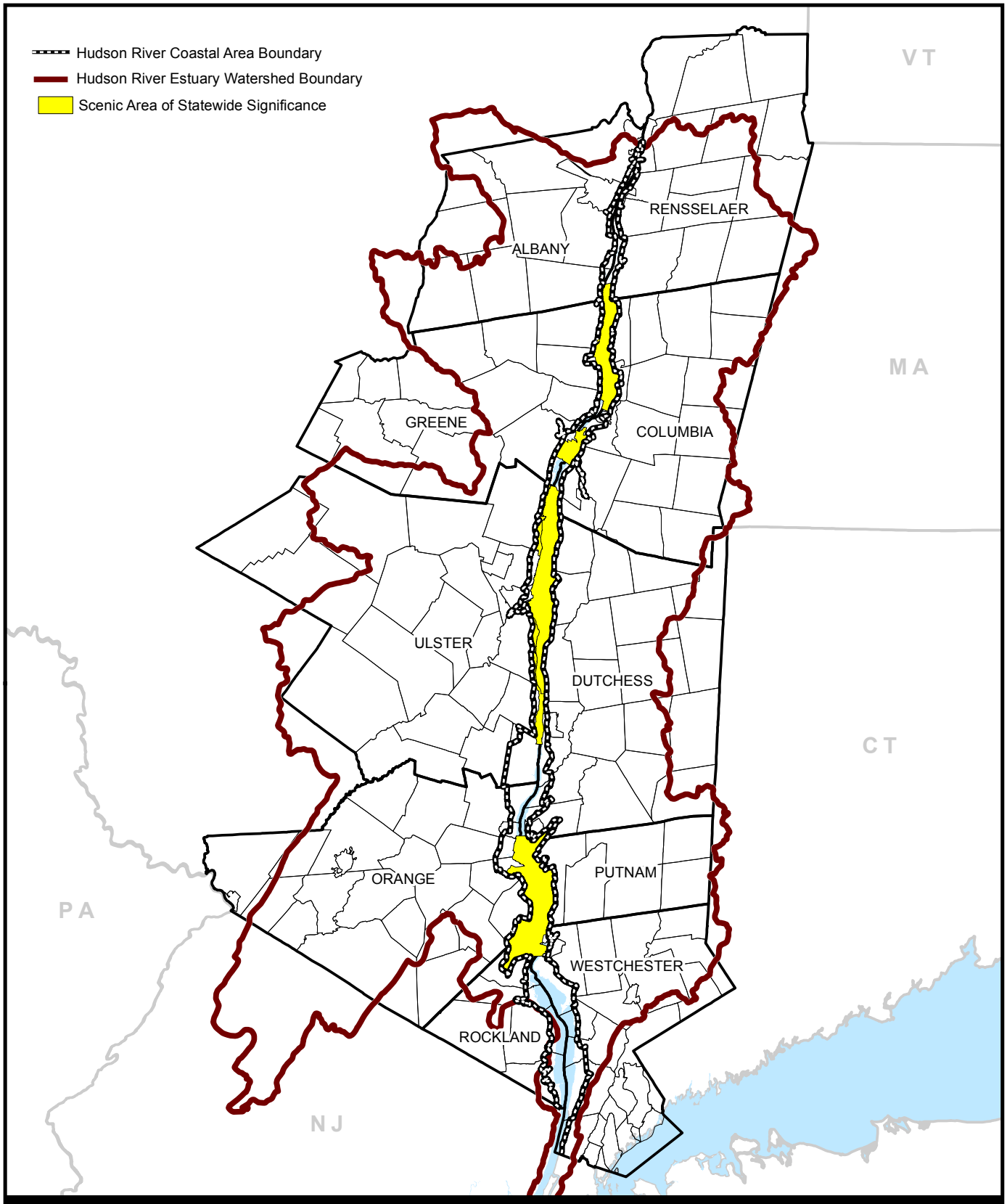
New York defines its coastal area more narrowly than most states. The majority of states (28 out of 38) define their coastal areas using entire jurisdictions, a natural feature (such as watersheds or tributaries) or a combination of the two. New York also is one of the few states that allow distributed permitting authority and voluntary local-government participation.

The Coastal Management Act recognized the coastal area is affected by activities inland of the coastal boundary. The CMP already has the authority to intercede outside the coastal boundary. Current coastal policies empower the CMP to address activities that have a reasonable expectation of affecting the coastal area. However, the CMP has used this power to address only a limited number of projects.

New York recognized that tributaries are a critical element of wise coastal management in the FEIS for the Coastal Management Program. Yet the coastal boundary does not include these critical water bodies, as many other states do in their programs.

Text continues on page 50.

"New York defines its coastal area more narrowly than most states. The majority of states (28 out of 38) define their coastal areas using entire jurisdictions, a natual feature (such as watersheds or tributaries) or a combination of the two."



Hudson River Estuary Watershed

November 2007

Hudson Valley, New York

Miles
0 5 10 20

Sources:
Population data from U.S. Census Bureau
Coastal boundary from N.Y.S. Department of State
Hudson River Estuary Watershed boundary from U.S. Geological Survey
Streams from NYS DEC

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Coastal boundaries reflect local planning priorities for waterfront revitalization, not coastal management broadly conceived. Local governments participating in the LWRP can change the inland coastal boundary as part of their planning process. The current coastal boundary and the means by which it can be changed serve the goals of waterfront revitalization. It makes sense for local governments to define revitalization goals for their waterfronts. In this regard, the coastal boundary makes sense and should continue to reflect local priorities. However, proper coastal management encompasses much more than waterfront revitalization. The emphasis on revitalization narrows the focus and perhaps the participation rates of coastal communities. Most coastal communities with large, historic waterfronts participate in the LWRP; still, less than half (47%) of all coastal communities take part in it. An expanded coastal boundary will encourage greater participation.

The coastal boundary does not reflect natural systems or broader planning jurisdictions. The coastal boundary area does not encourage connections with other local planning activities that address regional issues such as infrastructure (wastewater), natural systems (watersheds, habitat) or local/county comprehensive plans. It is precisely these planning activities that are needed to address coastal-management issues. Increased population and economic activity in the coastal area means greater pressures on the natural systems and infrastructure that affect the coastal area.

The current coastal boundary does not incorporate scenic resources or vistas directly or uniformly. Scenic views are treated in the coastal policies and as special management areas, specifically Scenic Areas of Statewide Significance (SASS). Degradation of vistas is a common concern among community stakeholders. Scenic resources define the coastal area of the Hudson River Valley. The current inland coastal boundary includes scenic areas when these have been included in a SASS. However, the boundary does not include a scenic boundary, such as a ridgeline, to protect scenic resources throughout the Hudson River Valley. An expanded coastal area will ensure greater consideration of this regional resource.

RECOMMENDATIONS

New York State relies on local governments to manage their communities and resources wisely. The current inland coastal boundary reflects the priorities of local governments for local waterfront revitalization.

- The legislature should retain the existing coastal boundary and its connection to coastal programs such as LWRP, SASS and HMPs. This will ensure continuity in plans and policies created over the past 25 years and continued local control of development and redevelopment areas.

New York should add a second tier, called the Coastal Management Area, behind the existing inland coastal boundary. The NYS Coastal Management Act gives the CMP authority to review actions that may affect the coastal area. The FEIS calls attention to how conditions of Hudson River tributaries impact the coastal area. Demographic and economic trends require a wider management scope for coastal policies.

- The legislature should amend the Coastal Management Act, adding a Coastal Management Area behind the current inland coastal boundary. It should include one or all of the following: (1) relevant watersheds draining to the Hudson River; (2) the 10 coastal counties of the Hudson River Valley; or (3) all coastal municipalities.

- The governor should direct the DOS and all state agencies to apply coastal policies within both the Coastal Management Area and the current inland coastal boundary, and supply the necessary resources to fufill this directive.

- The governor should direct the DOS to monitor and review coastal-consistency decisions by peer state agencies within the expanded coastal area.

Many coastal communities along the Hudson River lack adequate resources for coastal-management planning. The DOS should develop a local assistance program, planning guide and grant program to help communities within the expanded coastal area develop coastal-management plans. Coastal communities lacking an LWRP should be given priority.

- The legislature should allocate funds to provide EPF grants to support the development of Coastal Area Managements Plans (CAMPs) in the expanded coastal area. Grants should be available to all coastal communities that undertake a coastal-management plan or an expansion of their LWRP that addresses both tiers of the coastal area. These grants should be used to integrate coastal management planning with other planning needs such as infrastructure (wastewater, combined sewer overflows), non-point source pollution and comprehensive planning.

6. Budget History and Funding

Goal: Fund the Coastal Management Program to ensure it has the resources to accomplish its mission, and to meet current and future challenges in coastal management.

Statute: Annual budget submitted by the governor and passed by the legislature.

CURRENT CONDITIONS

Since the CMP does not have authority to require implementation of coastal policies except in cases involving federal consistency reviews and in the approval of a LWRP, it must rely on incentives to promote its goals. It uses information, collaboration and assistance (both technical and monetary) to motivate implementation of coastal policies by state and local governments.

FEDERAL AND STATE FUNDING TRENDS

The CMP relies on a mix of state and federal funds. The CMP has disbursed $253,937,800 since its creation in 1982. Initially, the federal government provided most of the funds – over 95% ($23,983,838) from 1982 to 1992. However, between 1995 and 2005 New York State covered 77% of the program's costs. Over the last two years, state funding of the CMP has risen to 91%.

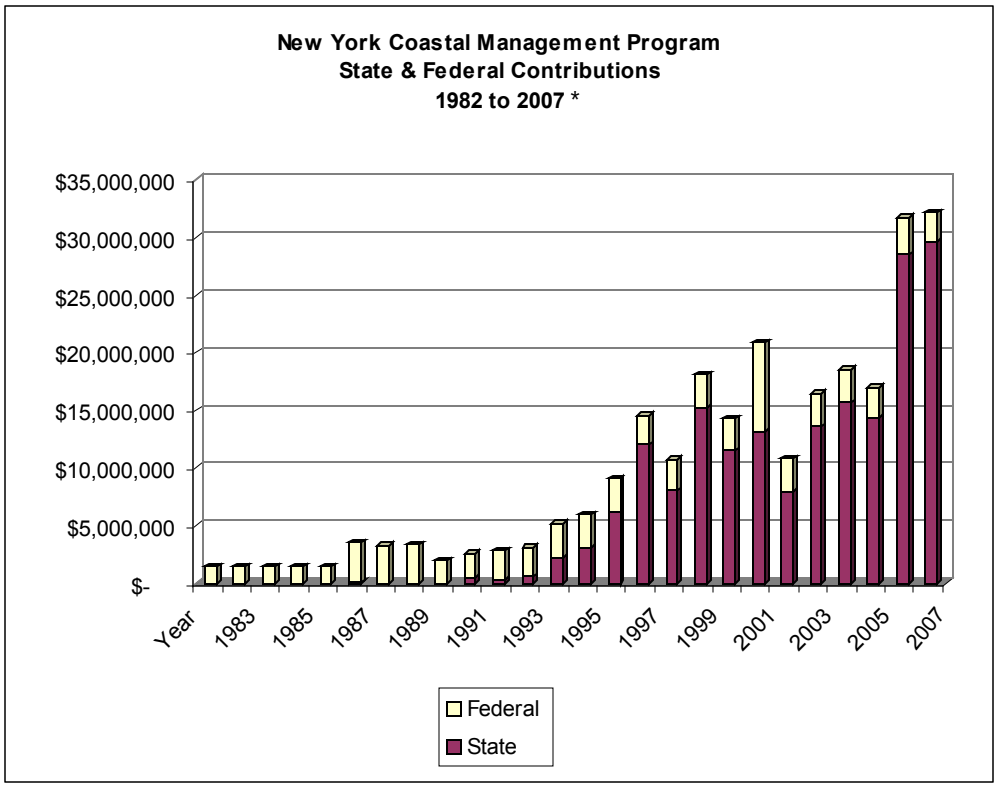
The majority of federal funds (78%) are pass-through grants for local governments and specific projects. These are provided under 16 U.S.C. § 1455 – Administrative grants (Section 306), concerned primarily with waterfront revitalization and redevelopment. Section 306 funding has decreased faster than overall federal funding, putting greater pressure on state and local sources to finance these activities.

Federal & State Funding 1982 to 2007*

	NY State	Federal	Total
All Years	$183,176,685	$70,761,115	$253,937,800
Percent share	72	28	
1982 to 1992	$1,073,985	$23,983,838	$25,057,823
Percent share	4	96	
1997 to 2007	$121,091,231	$35,572,377	$156,663,608
Percent share	77	23	
2006 & 2007	$58,161,622	$5,654,700	$63,816,322
Percent share	91	9	

*It is impossible to determine state and federal CMP spending on the Hudson River Valley alone. This chart analyzes program funding as a whole. Where possible, grants and other funding for the Hudson Valley coastal area are included.

State funding increased to partially compensate for the loss of federal funds. Between 1997 and 2005, state funding remained relatively flat, rising from $12 million in 1997 to $14 million in 2005. Accounting for inflation, this marked a decline in the state's commitment to the CMP.



*In 2006 and 2007, additional funding was made available for pass-through grants.

When measured in constant dollars, the state staff budget for the CMP declined from 1991 to 2002. In nominal dollars, the budget (excluding pass-through grants) remained flat. After accounting for inflation, this is a decline in available resources. The reduction in staff resources coincides with lower levels of new participants in programs such as the LWRP and increased staff effort to manage pass-through grants.

CONSISTENCY REVIEWS

- **CMP staffing coastal-consistency reviews have declined while the workload has remained steady in volume but greater in complexity.** Consistency reviews vary in scope. The majority are for small projects with limited potential to affect the coastal area. Larger projects require an unpredictable level of staff time and resources. With limited staff, there is less time available to carefully review small and medium-sized projects. In the past, CMP staff resources were sufficient to review federal registries and state activities in and near the coastal area. Current staffing levels make this impossible.

LWRP AND PROGRAM STAFF

- **LWRP staff is valued by local communities.** Local communities rely on the CMP's LWRP staff for consultation, technical assistance, facilitating the LWRP process and project selection. Local stakeholders described LWRP staff as a valuable resource in local coastal-management efforts. The main complaint is that LWRP staff support was not as high as in past years.

- **LWRP staff levels statewide are half of what they were in 1995**, falling from 22 then to 11 today. Remaining staff have increased responsibilities in new program areas, further reducing staff to promote and manage the LWRP program.

- **LWRP staff assigned to the Hudson River Valley are less than half of what they were in 1995.** Then, the 20 LWRP communities were served by 4 professional staff members. Today, 1.5 staff members serve nearly 40 communties. This reduction in technical assistance, outreach and involvement with local governments reduces the program's effectiveness.

- **The LWRP does not have staff resources to meet increased program participation.** Recent budget increases have brought LWRP authorization for staffing closer to historic levels. However, the bureau still does not have the staff-to-program ratio it did in 1995. The LWRP program is not prepared to increase services to local governments if program participation grows rapidly, if a substantial number of communities undertake updates or if communities require intensive staff involvement on large projects.

GRANTS ADMINISTRATION

- **The CMP devotes more staff to grants administration than in the past to manage the growing volume of programs and pass-through dollars.** Individual grants receive less staff attention because of sheer volume: One staff person is currently responsible for over 300 grants. This reduces the level of oversight, technical assistance and performance evaluation associated with each grant.

- **CMP staff efforts have moved away from staff support for local community LWRP-planning to handle the increased volume of grants.** Staff that were previously involved in local government assistance, collaboration with peer agencies and outreach spending have been retasked to grants administration.

- **Most of the CMP budget is passed through in the form of grants.** Since 1982, the portion of grant funds spent on projects/planning is nearly 90%. The majority of these funds (nearly $133 million) have been tasked to LWRPs. Staff resources have not kept pace with the volume of funds or the number of grants programs administered by the CMP.

OUTREACH AND TRAINING

New York depends on many state agencies and local governments to undertake consistency reviews and ensure implementation of coastal policies. This assumes a broad, thorough understanding of the policies. The CMP has long recognized the need to offer training materials and outreach to peer state agencies. A manual has been drafted but not published due to a lack of staff resources. The CMP offers ad-hoc consultations on consistency review; however, it has yet to implement regular training.

The CMP currently relies on collaboration with peer agencies and a process of informal consultation. This approach encourages awareness of coastal policies and interagency cooperation on a limited basis. The lack of training materials remain a concern as the program goes forward

"LWRP staff assigned to the Hudson River Valley are less than half of what they were in 1995. Today, 1.5 staff members serve 40 communities"

RECOMMENDATIONS

Increase state CMP funding, targeting the Hudson River Valley. Recent rises in CMP funding may narrow the gap between staff and workload in certain areas. However, this will not fully address resource needs proportionate to the increasing scope and complexity of coastal-consistency review or the boost in the region's population and economic activity – explaining in part why the majority of local coastal communities still do not have LWRPs.

CURRENT FUNDING NEEDS

The table below summarizes CMP staff levels. The first column shows current staffing; the second column the current allocation, with total Hudson Valley staff in parentheses. The final column shows the staffing needed to achieve this report's recommendations – an increased coastal management area, aggressive outreach to local governments, increased consistency reviews, monitoring and reporting, and training.

CMP Staff Levels (as of summer/autumn 2007)

	Current Staffing	2007 Budget Allocation	Future Recommended Staff Levels
LWRP Technical Assistance	1.5 FTE (HRV)	2 FTE (4 FTE)	5 FTE (9 FTE)
Consistency Reviews	3 FTE	1 FTE (4 FTE)	4 FTE (8 FTE)
Training State Agencies	0 FTE	1 FTE (1 FTE)	1 FTE (2 FTE)
Grant Administration	Existing Staff		
Outreach	Existing Staff	1 FTE (1 FTE)	1 FTE (2 FTE)
Monitoring activity in the coastal area	Existing Staff	1 FTE (1 FTE)	1 FTE (2 FTE)

FUNDING TO MEET THE CHALLENGE

This report recommends increasing the scope and authority of the coastal program. The following provides a summary of funding recommendations to meet these goals.

- **Increase LWRP participation in the Hudson River Valley to include all coastal communities.** This would more than double the number of communities in the LWRP, requiring a proportionate increase in staff and grant funds. Using historic averages, 5 additional staff and $3.125 million in EPF-LWRP planning grants will be needed.

- **Develop monitoring and reporting systems to include all state agency consistency reviews.** Collection and management of state permit data, Coastal Assessment Forms (state and federal), and SEQR reviews (including both long and short Environmental Assessment Forms) is essential to ensure accountability and consistent implementation of coastal policies. We recommend one additional staff person to coordinate CAF and EAF data collection and prepare an annual report to the governor and legislature.

- **Ensure LWRPs remain current and relevant to local decision-making.** Update LWRPs older than five years and coordinate updates with other local-government planning needs such as non-point source pollution, stormwater or water-supply planning. Currently, 18 out of 25 LWRPs were completed before 2000; only one community is in the process of updating its LWRP.

- **Allocate resources to serve an expanded coastal area in the Hudson River Valley.** Invite communities in the region's 10 coastal counties to participate in a coastal area management planning program modeled on the LWRP. Providing staff and funding for an initial 50 participating communities will require 4 additional FTEs and $3.125 million in EPF planning-grant funds.

- **Increase coastal consistency review in the Hudson River region within the existing coastal boundary and for an expanded coastal area.** One additional staff person should be added to the consistency-review unit to provide a greater level of review and outreach in this rapidly growing region.

- **Communities not participating in the LWRP will likely require greater resources and technical assistance because of resource needs.** The average LWRP costs $100,000 to $150,000 (excluding a local government's time and resources). Grants provide $50,000 to $75,000, with a matching commitment required from the recipient, putting the program beyond the reach of many local governments. Most EPF grants are paid out upon a project's completion, so local governments bear most of the cost. Comments from state and local leaders working with LWRP communities confirm that the lack of staff resources is an obstacle to increased participation. In the past, the CMP had greater staff resources to provide local-government assistance.

- **Increase technical services to local governments.** We recommend the CMP make GIS, data coordination and information-management resources more readily available to local governments, particularly small ones. The CMP will require additional technical staff to build capacity in local government and manage expanded coordination and reporting tasks. We recommend an additional 2 full-time staff to support this goal.

APPENDICES

2005 *National Coastal Conditions Report*, EPA, NOAA, DOI, USDA

This report is based on the large amount of monitoring data collected between 1997 and 2000 on the condition of the estuarine and Great Lakes resources of the United States. Ecological assessment of these data show that the nation's estuaries are in fair condition, with poor conditions in the Northeast Coast and Puerto Rico regions; poor to fair conditions in the Great Lakes; fair conditions in the Gulf Coast, Great Lakes and West Coast; and good conditions in the Southeast Coast. No overall assessments were completed of Alaska, Hawaii, Guam, American Samoa, the Northern Mariana Islands or the U.S. Virgin Islands. However, surveys of Alaska and Hawaii have been completed; samples are being analyzed and data will be presented in the next report. New ecological monitoring programs may soon permit a comprehensive and consistent assessment of all of the nation's coastal resources. The major findings of the 1997 to 2000 study period are as follows:

- The overall condition of the nation's estuaries is fair. This rating is based on five indicators of ecological condition: water quality index (including dissolved oxygen, chlorophyll a, nitrogen, phosphorus and water clarity), sediment quality index (including sediment toxicity, sediment contaminants and sediment total organic carbon), benthic index, coastal habitat index and a fish-tissue contaminants index.
- 21% of assessed resources are unimpaired (good condition), whereas 35% are impaired (poor condition) and 44% are threatened (fair condition) for aquatic-life or human use.
- 22% of estuarine waters are impaired for fishing, based on the risk-based, non-cancer guidelines for moderate consumption. Suitability of waters for fishing is measured using the fish-tissue contaminants index in this report.
- 28% of estuarine waters are impaired for aquatic-life use. Suitability of waters for aquatic-life use is measured using the water quality, sediment quality, benthic and habitat-loss indices in this report.

The indicators that show the poorest conditions throughout the United States are coastal-habitat condition, sediment quality and benthic condition. The indicators that show the best condition generally are the individual components of water quality – dissolved oxygen and dissolved inorganic nitrogen.

Rating Scores[a] by Indicator and Region
Comparing 2001 vs. 2005 *National Coastal Condition Reports*

(Calculated Using Consistent Indicators but Different Scoring Methods from Each Report)

Indicator	NE	SE	Gulf of Mexico	West	Great Lakes	PR[b]	US[c]
Water Quality Index	1/2[d]	4/4	1/3	1/3	-/3	3	1.7/3.0
Water Clarity	5/2	4/4	3/1	5/1	5/4	3	4.3/2.0
Dissolved Oxygen	4/3	5/5	5/5	5/5	4/5	5	4.5/4.3
Sediment Quality Index	1/1	3/4	1/3	1/2	1/1	1	1.3/2.1
Wetland Loss	2/4	2/3	1/3	1/3	1/2	-	1.4/2.7
Benthos	1/1	2/3	1/2	3/3	1/2	1	1.4/2.0
Fish Tissue Contaminants	1/1	5/5	1/3	3/1	1/3	-	1.9/2.7
Overall	2.1/2.0	3.6/4.0	1.9/2.9	2.7/2.6	2.2/2.9	-/2.6	2.4/2.7

[a] *Rating scores are based upon a 5-point scale, where ! is poor and 5 is good*
[b] *Scores for Puerto Rico are only available for 2005 report*
[c] *U.S. Score is based upon an area-weighted mean of regional scores*
[d] *NCCR I / NCCR II*

The Northeast Region lags behind the U.S. as a whole in all categories except water quality and wetland loss.* The report notes the Northeast is historically the most densely populated region and has the most intensive economic activity. In one respect, this serves to explain the pressures on coastal condition. Yet it also indicates that no other part of the country has so many people and businesses relying on a "poor"-quality coastal area.

*Extensive efforts were made to obtain data for the Hudson River Region. The program head and director of the data archives said the Hudson River data was lost due to a 9/11-related event. No data sufficient to draw inferences for this report are currently available. This will impede trend analysis in the next National Coastal Conditions Report with regard to the Hudson River Valley.

"Action Agenda" – Hudson River Estuary Program, DEC

The Action Agenda is included in the environmental trends section of this study because it offers a recent compilation of issues and goals facing the Hudson River Estuarine District and its associated shore lands. While it does not include quantitative research findings per se, it provides a summary of stakeholder concerns and expert opinion relevant to estuarine management. The Estuary Program currently is developing performance and monitoring measures. The following summarizes the major issues raised in the report and recommendations.

Issues

- Fisheries. **Fish populations and breeding areas have been compromised and should be restored.** Concerns range from over-fishing of recently restored fish populations to consumption/health warnings due to the presence of contaminants and/or heavy metals.
- River and shoreline habitat. **Important habitats are threatened by human activity including filling, shoreline alteration and changing land-use patterns.**
- Threats to adequate water quality are **untreated municipal discharges, non-point stormwater run-off and combined sewer overflows**.
- Diversity of plants, animals and habitats. **Significant habitats are being disrupted by changing land-use patterns.** The diversity of species is threatened by the introduction of invasive species.

Recommendations

- Protect and restore the streams and tributaries of the Hudson River. **The Hudson River is directly affected by what enters it from streams and other tributaries.** These waterways are impacted by increases in impervious surface, agricultural and lawn run-off, inadequate or failing onsite wastewater treatment systems, inadequate or under-maintained sewers and municipal wastewater treatment plants, fish barriers, water withdrawal and atmospheric deposition of pollutants.
- Conserve **open space** for its aesthetic, cultural, economic and ecological value.
- Conserve key features of river scenery**. Vistas are community resources often unrecognized by local communities**. These vistas are important to the environmental, community and economic-development efforts of the region.
- Promote **public access** to ensure that all communities have opportunities to enjoy the Hudson River.
- Promote **education**, understanding and appreciation of the Hudson River.
- **Revitalize waterfronts** as an essential activity with attention given to ensuring public access and other goals outlined above.
- Ensure that the Hudson River has **water quality** suitable for swimming and sufficient public access points.
- **Remove or remediate pollutants and their sources** with the goal of safe consumption of Hudson River fish and harbors that are not constrained in their operation by the presence of contaminants.
- Track progress with **performance measures**.

Confronting Climate Change in the US Northeast: New York (Union of Concerned Scientists)

Until recently, global climate change (global warming) was a contentious issue in the U.S. This has changed in the past two years. Today, the federal government and most state governments have added climate change to their environmental-policy priorities. Climate change reaches well beyond the scope of local communities, encompassing national and transnational behavior in consumption, transportation, production and land use. The Union of Concerned Scientists recently published a set of regional summaries in an effort to communicate the severity of different climate-change and sea-level rise scenarios.

Regardless of one's opinion of the underlying science of climate change, many of the proposed solutions can have positive results for the coastal area, regardless of when or how climate change occurs. For example, as we face increases in population and concomitant rises in residential and commercial development, we would do well to consider the option of devising standards that anticipate high levels of demand on our human and natural systems such as water supply, air quality and service provision. Climate-change strategies – such as preserving wetlands, reducing trip times and locating services within areas that are more efficient to serve – also will benefit communities as they manage a growing population.

Climate change can stimulate a discussion of risk and growth-management in the coastal area. Climate change is expected to increase the number and severity of storms and flooding. Flood-protection and stormwater infrastructure already are pressing issues and are likely to become more important as the region grows. Climate change adds a higher level of risk to our assessments of infrastructure needs and land-use planning standards. If predicted climate-change impacts have been overstated, the worst outcome is that we will have excess capacity in our systems for future growth and thus a competitive advantage as a region. Thus, a coastal-management approach that includes actions to reduce risks associated with climate change is prudent regardless of when or how it affects the Hudson Valley.

The report outlines probable effects of climate change and sea-level rise for the Northeast. (Potential effects on the coast or areas that will be impacted are included in parentheses.) These include:

- Temperatures are expected to rise, with more days over 100 degrees. (Reductions in water quality and water supply; habitat changes, including an increase in invasive species; disruption of tourism.)

- Winter precipitation is expected to increase 20% to 30%. (Higher average winter temperatures could mean more slush than snow, having a negative impact on winter recreation and tourism. There already has been an increase in the number and severity of damaging storms and flooding; an even greater increase is anticipated.)

- Drought is expected to increase in frequency in the Adirondacks and Catskills. (Increased stresses on water supply, water quality and habitat.)

- Sea-level rise affects more than property located at the water's edge. (Coastal areas could experience increases in the frequency and severity of erosion, flooding and property damage. Likewise, habitats and infrastructure [railroad tracks, outflow pipes, etc.] in the coastal area may be disrupted or destroyed by rising sea level, higher tides and storm surges.)

- Human health risks include extreme heat, reduced air quality and new/increased vector-borne diseases.

- Increased ocean temperatures are likely to disrupt fish populations. Farmers may need more water for irrigation during drought, putting pressures on crops. Forests and other habitats will face stresses ranging from new diseases to the proliferation of invasive species. (Fisheries, agriculture, recreation, habitat.)

Coastal Management Program and Final Environmental Impact Statement

New York's coastal boundary was originally defined in the "State of New York Coastal Management Program and Final Environmental Impact Statement" (August 1982) as submitted to the U.S. Department of Commerce. The rationale and criteria set forth in the FEIS are as follows:

- **Apply a single-tier boundary** rather than multiple tiers for ease of administering the program.
- **Conform with the nearest cultural or political boundary**. A "cultural boundary" is defined as a well-known landmark such as a road or railroad track. The purpose of these criteria is for speed of identification of what falls within the coastal area.
- **Include all land and water uses directly impacting coastal waters.** (Emphasis added.)
- **The boundary includes any special management areas.** These include state parks along the shore, areas defined in approved LWRPs and estuarine sanctuaries.
- **Include tidal and saline waters, wetlands, islands and beaches.** The Waterfront Revitalization and Coastal Resources Act sets forth the list of waters, barriers, islands, etc. included within the coastal boundary. Additionally, the criteria listed in the approved FEIS includes the language:

Also, significant portions of creeks, streams, and rivers which are tributaries to these coastal waters are found within the Coastal Area. (II-3-3)

The Hudson River region generates a relatively small number of consistency reviews, yet many communities are growing faster than the state as a whole. This is explained in large part by relatively lower population densities in the coastal area and by the presence of fewer but larger residential lots along the Hudson River. Many areas of the Hudson River are designated as parks or have railroad tracks that indirectly reduce permit requests. While activities may not occur within the coastal boundary, coastal consistency applies to any decision that may affect the coastal area.

Consistency Review by Region & Type (1992 to 2006)

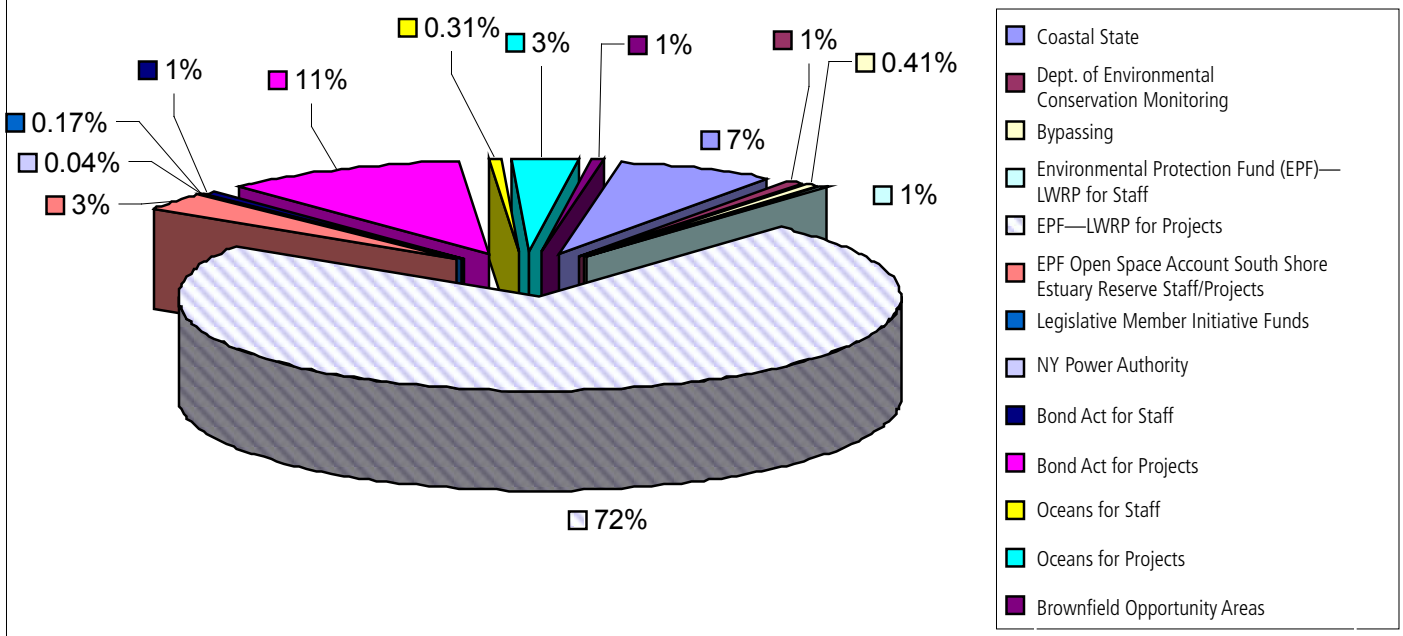
Action Name	GL	HR	LI	NYC	NYS	SL	Total
Certification				2			**2**
Direct Action (Federal)	60	81	141	127	2	12	**423**
Financial Assistance	73	127	53	46	1	6	**306**
Letter of Permission	3	8	371	7		1	**390**
Nationwide Permit	12	17	290	48		1	**368**
Permit	1,292	410	5,213	881	8	567	**8,371**
Permit Category Undefined	536	372	3,067	532	3	271	4,781
Total	1,976	1,015	9,135	1,643	14	858	14,641

LWRP Activity

Date	LWRP Draft Submitted	Final Approval
Pre 1990	19	3
1990 to 2000	6	16
2000 to 2007	4	6
No Date/Unknown	8	0

New York State Coastal Management Program LWRP Status Sheet August, 2007	Municipality	Draft LWRP Submitted	Local Adoption	Final Approval (Federal)
Albany	CITY	4/87	10/91	1/92
Athens	VILLAGE	4/88	10/94	3/02
Beacon	CITY	7/91	10/91	9/92
Catskill	TOWN&VILLAGE	10/88		
Coeymans	TOWN	7/87		
Cornwall	VILLAGE			
Coxsackie	TOWN&VILLAGE			
Croton on Hudson	VILLAGE	9/89	3/92	9/92
Dobbs Ferry	VILLAGE	9/02	8/05	
East Greenbush	TOWN			
Esopus	TOWN	7/86	7/87	8/88
~~**Fishkill**~~	TOWN	-	-	-
Hastings on Hudson	VILLAGE			
Haverstraw	VILLAGE	9/02	8/03	1/05
Hudson	CITY			
Hyde Park	TOWN	4/87		
Kingston	CITY	12/88	7/92	10/93
Lloyd	TOWN	9/89	5/94	7/95
Newburgh	CITY		5/01	8/02
North Greenbush	TOWN	11/89	7/90	9/90
Nyack	VILLAGE	4/88	1/92	7/92
Ossining	VILLAGE	5/87	7/91	7/93
Ossining Amendment			5/02	
Peekskill	CITY	7/99	1/04	1/05
Piermont	VILLAGE	11/89	1/92	4/92
Poughkeepsie	CITY	9/89	4/99	
Poughkeepsie	TOWN	4/87	1/99	6/99
Red Hook	TOWN	4/87	4/89	11/95
Rennsselaer	CITY		5/86	8/87
Rhinebeck	TOWN	3/06	2/07	7/07
Saugerties	VILLAGE		2/85	6/86
Schodack/Castleton	TOWN/VILLAGE	4/87	1/95	9/95
Sleepy Hollow	VILLAGE	8/95	1/97	7/97
Stony Point	TOWN	2/90	6/94	2/95
Tarrytown	VILLAGE	10/89		
Tivoli	VILLAGE	9/89	4/91	7/91
Troy	CITY			
Watervliet	CITY	7/05	3/06	3/06
Yonkers	CITY	6/90		

Coastal Management Program
Total State Spending By Activity
1982 to 2007



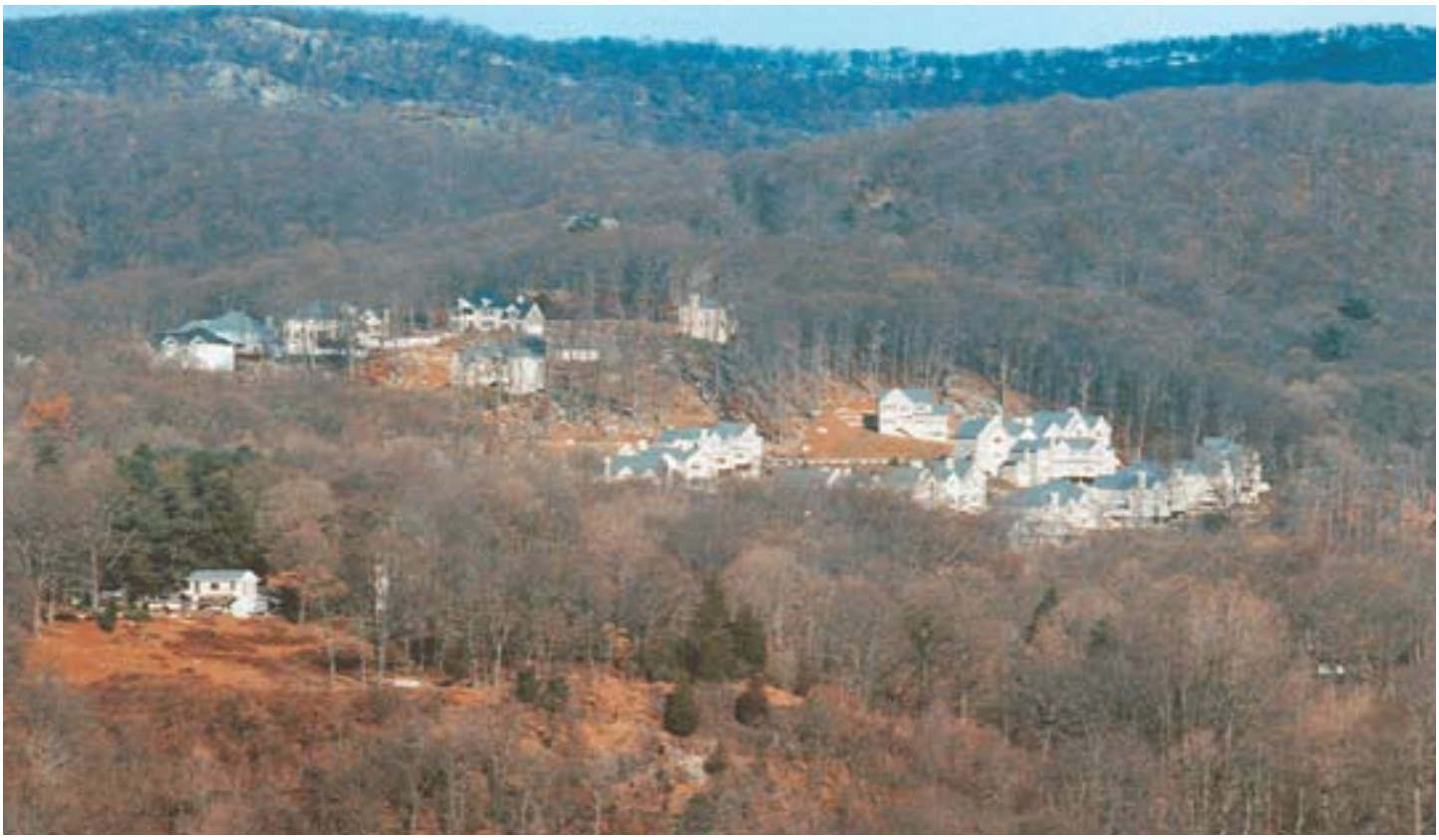
Samples from Scenic Hudson's Annual Photographic Survey of the Coastal Corridor*

Private development, Piermont, Rockland County. The development contains a narrow public-access walkway on the right side (north) of the photo. Located immediately to the south is the Piermont Marsh National Estuarine Research Reserve

"The Harbors," Haverstraw. Phase 1 of a private development on the Hudson River.

*all aerial photos: Jeff Anzevino

"Half Moon Bay," Croton-on-Hudson. Public access to the Hudson River consists of a constricted and narrow walkway sandwiched between a private development and the Hudson River. The project is often referred to as a "gated community without a gate."



"Corbin Hill," Highlands, Orange County. This project is located within a SASS and is visible to motorists on the Bear Mountain Bridge as well as hikers on the Appalachian Trail.

"Plum Point Condos," New Windsor, Orange County. This private development is located immediately adjacent to the Kowowese Unique Area and the Town of New Windsor Park to the south (left), which is a SASS. It also is visible from a SASS on the opposite side of the river. The project does not have public access to the waterfront. Sloughing and erosion of the riverbank is a frequent occurrence. Bannerman's Island is featured in the foreground.

"Plum Point Condos," New Windsor. Northern section of development.

Sprawl, New Windsor, Orange County.

Land clearing for the "Preserve on the Hudson" development, Beacon. The project is located in a SASS.

Single family home, Marlboro, Ulster County. Located in a SASS.

"Hudson Point," Poughkeepsie. Residential condominiums visible from the SASS-designated Franny Reese Preserve.

Private home, Hyde Park, Dutchess County.