Carolina Planning

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On the Waterfront

Editor's Note

More than half of America's population lives within a few hours of the ocean; many others live near a major river or lake. In this *Carolina Planning*, we explore the particular planning demands and development opportunities presented by waterfronts. In particular we look at the social, environmental and economic aspects of waterfront planning, and the conflicts that arise among them.

In *Forum*, Doug Rader of the North Carolina Environmental Defense Fund makes the case for thoughtful wetland regulations in North Carolina.

Our *Articles* break down into pairs of essays looking at waterfront planning issues from contrasting (although often complementary) points of view. Michael Young discusses the problems faced by Toledo, Ohio's Portside marketplace, while Ralph Wallace tackles "quiche vs. cargo" waterfront land use issues. The next pair of articles address legislative action in North Carolina. David Moreau, Jeri Gray and Kathy Watts discuss the history and impact of watershed protection rules, and Dale Roenigk and Maureen Heraty address the effectiveness of the North Carolina Coastal Area Management Act. Two articles focus on New York's Hudson River; the first, by Andy Strauss and Geraldine Wang of the Trust for Public Land, deals with efforts to create a public walkway that spans nine jurisdictions in the densely populated area of New Jersey across from New York City. The other, by Seth McKee, discusses Scenic Hudson's mission to protect the entirety of the Hudson and the use of conservation easements and land acquisition to achieve this goal. The final pair of articles deal with estuarine management. Wesley Crum's article about the Environmental Protection Agency's National Estuary Program highlights the Albermarle-Pamlico Sound Estuarine Study. Bill Dreyfoos discusses the necessity of consensus-building in the Charleston Harbor Project.

Occasionally we receive an article that does not fit in with the topic of a particular issue, but that we feel deserves inclusion anyway. Such is the case with our final article by Andy Raubeson. It deals with the provision of housing and social services to residents of downtown Los Angeles. The article serves as a reminder that there remain in Los Angeles (and other cities of our nation) many forces at work for positive change.

It is with great pleasure and some regret that John and I pass on editorship to Steven and John. We know that they will carry on the tradition of excellence associated with *Carolina Planning* that John and I worked so hard to uphold. I hope you enjoy reading this issue as much as the four of us enjoyed putting it out.

Margaret C. Stewart

Correction

In our last issue, we failed to identify the gentleman pictured on the cover. He is Tim Bazemore with the Workers' Owned Sewing Company of Ahoskie, NC. Our apologies to Mr. Bazemore and our readers for the mistake.

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Freshwater Wetlands: Environmental Treasures, Economic Opportunities

Douglas N. Rader, Ph.D.

Each year, burgeoning numbers of North Carolinians place additional pressure on the land and its resources. Accumulating changes on the land surface place stress on our state's waters and threaten the fabric of our natural heritage. The solutions to these prickly problems share a common denominator: the protection and restoration of freshwater wetlands.

Wetlands were once abundant on our landscape--23 percent of North Carolina (including 52 percent of the coastal plain) is covered by soils that developed in wetlands. These wetlands supported a wondrous array of plants and animals and were intimately linked to the vast and productive sounds and estuaries on our coast. They served as a natural purification system for water from storms, detaining or retaining it to provide a complex balance of flows into surface waters, supporting bountiful populations of fish and shellfish.

In many wetland systems in coastal North Carolina, it is likely that little if any of the rainwater falling onto the broad interstream areas that dominated the landscape ever reached sensitive estuaries at all; evaporation, transpiration and infiltration probably redirected most rainfall back to the sky or into the ground. The runoff that reached surface waters had been thoroughly cleansed both by percolation through rootmats and the biological activity of the wetlands.

In the piedmont and mountain regions, headwater and riparian wetlands provided a natural system of linked wet and dry detention ponds. This network buffered peak flows, reducing erosion on the land, stream scour and subsequent siltation in the streams. Many wetlands were hydrologically disconnected from surface waters. Wherever they occurred, these drier, more isolated wetlands acted as "black holes," retaining or transforming whatever potential pollutants entered them.

Natural wetlands have always been particularly effective at removing potential pollutants from water running off the land. Scientific studies have documented that wetlands retain up to 95 percent of incident sediment and an average of 70 percent of nitrogen and 50 percent of phosphorus. Phosphorus and sediments are physically trapped in wetlands; nitrates, however, are biochemically removed from runoff waters. A biological process called denitrification transforms nitrate and other potentially harmful forms of nitrogen into harmless nitrogen gas. Nitrogen gas makes up 78 percent of the air we breathe, and is ecologically benign.

Today's landscape presents quite a different picture. Although no one knows for sure exactly what fraction of our original wetlands remain, two independent guesses agree that about half had been lost by 1983. Estimates produced by the U.S. Fish and Wildlife Service (FWS) suggest that 49 percent of North Carolina's original wetland acreage had been lost by the early 1980s. A more recent study by Gordon Cashin (working under Curt Richardson at Duke University) corroborated this rate of loss. Cashin found that forestry accounted for 53 percent of this loss and agriculture, 42 percent. Significant additional wetland degradation has occurred since the early 1980s. Forestry, in particular, continues to convert massive tracts of isolated, forested wetlands into intensively managed pine plantations.

This wetland loss has decimated many important natural communities. In many ways, we have deforested the landscape more thoroughly in the United States than have the developing countries that we often complain about. A reasonable guess is that well over 99 per-

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cent of the forests on the piedmont and coastal plain have been cut at least once; very little old-growth exists in North Carolina. The once majestic hardwood and long-leaf pine forests are mostly gone, lost to development, agriculture, intensive forestry and misdirected management practices (including fire suppression) in coastal wetland systems. Most of the remaining undisturbed areas are linked to wetlands. Three-quarters of the significantly rare plant species and 85 percent of significantly rare animal species in North Carolina are either aquatic or wetland-dependent. If the remaining wetlands are destroyed, this sparse remnant of our natural legacy will also disappear.

Runoff and consequent pollution have increased dramatically with changes in the landscape. In fact, the most serious pollution problem in North Carolina, the southeast, and the United States is nonpoint source pollution--water contaminated as a result of land-disturbing activities. A recent summary by the State of North Carolina blames 86 percent of stream and river degradation on nonpoint source pollution. More than half of this pollution is agricultural in origin, including more than 30 percent due to sediment pollution. Similarly, about 79 percent of degradation in estuaries and sounds was attributable to nonpoint sources.

The causes of increasing runoff are more complicated than is commonly suspected. Removal of vegetation eliminates transpiration as a major shuttle of water back to the atmosphere. In fact, simply cutting down the trees from a site can result in tremendous increases in water standing at or near the surface. Compaction of soils and installation of impervious surfaces greatly restrict infiltration, resulting in additional ponding or movement downslope. Recent studies suggest that, within a watershed, every 1 percent increase in impervious surface will result in a 1.2 percent increase in runoff volume.

Wetland losses greatly reduce pooling and evaporation of surface water, exacerbating these runoff problems. The installation of drainage ditches provides a mechanism to shuttle water out of a wetland, which reduces or eliminates detention times. Similarly, stream channelization speeds up the delivery rate for water moving off the land. Recent studies in the Midwest have shown that watersheds with intact wetlands covering 15 percent of the surface area had 60-65 percent lower peak flow volumes than similar watersheds where the wetlands had been disturbed. Unfortunately, intensive drainage systems cover much of the coastal plain and commonly direct water to the worst places possible--sensitive estuarine nursery areas. Many areas that had been disconnected from surface waters, and thus incapable of contributing to water pollution, are converted from sinks into sources for water pollution.

This transformation from pollution sink and natural

Great Dismal Swamp

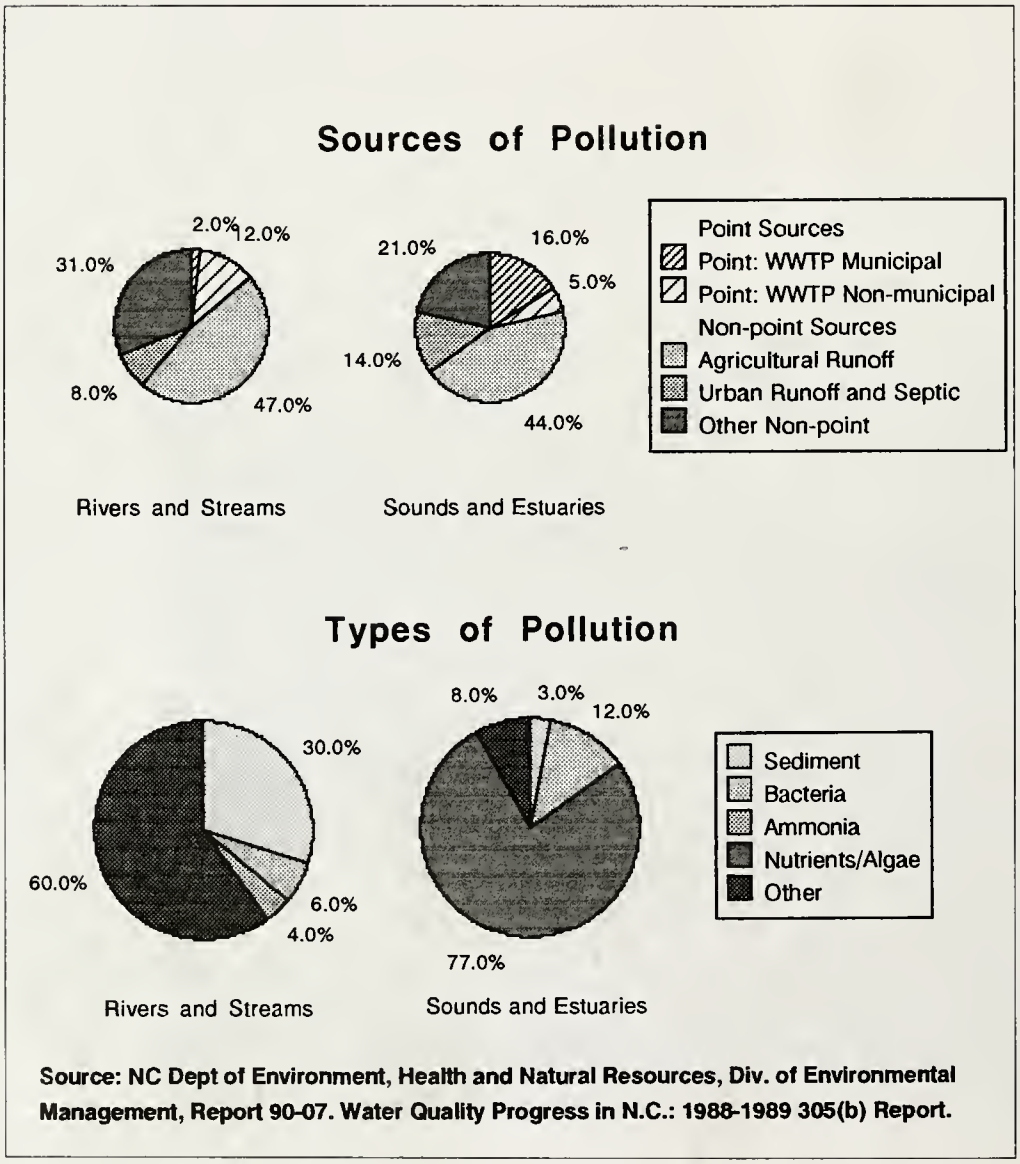
treatment system to pollution source is becoming even more critical, as more and more of our coastal rivers and estuaries show signs of serious nutrient enrichment. Recent scientific work has shown that deposition of nitrate and ammonia, associated with both acid rain and dry deposition, is a major factor in coastal eutrophication (nutrient over-enrichment). A 1988 study of Chesapeake Bay by the Environmental Defense Fund (EDF) estimated that more than 25 percent of the nitrogen getting into the bay came from atmospheric sources. These findings have since been generally confirmed by the Environmental Protection Agency (EPA). This is alarming since the EPA projects more than a 60 percent increase in atmospheric emissions of nitrate precursors by 2030. Our current, very expensive efforts to curtail nutrient pollution from sewage treatment plants and industry may be dwarfed by increases in atmospheric inputs.

Wetlands Regulation

Even more alarming is the recent flurry of activity by development interests to deregulate wetlands, threatening these fundamental life support systems for our waters. Because drier wetlands are more easily developed, developers' efforts have focused on increasing the degree of wetness necessary for an area to be considered a wetland for regulatory purposes. These attempts have been cloaked as complex changes in technical criteria, and have been portrayed as a redress of bureaucracy gone awry.

The truth is that the current definition of wetlands and the methodology used to apply that definition in the field meets all tests of scientific rigor. To a wetland scientist, identifying a wetland is easy; drawing appropriate boundary lines in a heterogeneous world is less so. In 1989, scientists from all of the agencies with legal responsibility to draw such boundaries agreed on a joint methodology to delineate wetlands. This process drew on previous works by the U.S. Army Corps of Engineers, EPA and FWS. The resulting manual was scientifically sound, consistent across programs, and technically feasible to apply in the field. The final product combined requirements for soils, vegetation and hydrology that guaranteed that ecologically functional wetlands were properly identified for protection.

This past year, however, the Bush Administration, acting through that noted scientific body, the Vice President's Council on Competitiveness, directed EPA and the other agencies to modify the manual, and called for an outrageous and technically indefensible degree of wetness for an area to receive protection. At the same time, several congressmen introduced proposed legislation that would not only reduce the scope of protected wetlands by half, but also tier the wetlands by degree of presumed importance, such that only a fraction of the total wetland resource would receive full protection. Simple arithmetic reveals that only five percent of original wetlands would receive full protection under this approach--half are already lost, half of those retain protection, and only one-fifth of those are in the highest tier (50



Source: NC Dept of Environment, Health and Natural Resources, Div. of Environmental Management, Report 90-07. Water Quality Progress in N.C.: 1988-1989 305(b) Report.

percent divided by 2 divided by 5 equals 5 percent). This legislation also requires compensation to landowners for maximum lost value in those cases, a budget breaker if ever there was one. Unfortunately, the political pressure exerted by the developers was so intense that many legislators signed on as co-sponsors without realizing the environmental and economic consequences of such actions. Congress also acted to scuttle the 1989 delineation manual, in favor of an older and less explicit 1987 version written by the Corps. The final irony is that the 1989 manual itself was developed because developers clamored about the unevenness in wetland programs under the 1987 manual!

Response to the proposed changes in wetland protection by the environmental and scientific communities was swift and intense. Many prestigious scientific societies in this country denounced the proposals as scientifically insupportable. Extensive field work by scientists from many state and federal agencies showed that the proposed manual was technically deficient, because it did not protect commonly recognized wetland systems. Field reports from North Carolina documented that over half of our remaining wetlands would no longer be protected. This included more than 40 percent of bottomland hardwood swamps, more than 30 percent of pocosins, and 90 percent of wet pine flatwoods and savannas. The scientists also felt that it was simply unworkable from a practical perspective.

Typical of the barrage of misinformation from developer sources is an analysis issued in August 1990 by the Economic Alliance, a developer front group in North Carolina. Their study claimed that wetland regulation is costing counties in North Carolina more than $11 million annually in tax revenue, and causes a total development-related loss of almost $56 billion. EDF economist Dr. Glen Anderson conducted an in-depth review of that assessment, and pronounced it invalid. To arrive at the grossly exaggerated costs listed, the developers had to make all of the following ridiculous assumptions:

- all areas with hydric soils are jurisdictional wetlands (ignoring centuries of conversions to other uses)
- all such areas will be developed (ignoring the counties' projections of future needs for land to accommodate projected growth)
- §404 regulations prevent development of a property containing wetlands (ignoring the fact that 95 percent of §404 fill permits requested nationally are issued)
- §404 regulations, by themselves, prevent development (ignoring engineering limitations on wetland soils, as well as zoning and other land use restrictions), and
- land use restrictions reduce the development value of the land by over 99 percent (ignoring the common result in this country of enhanced values associated with land-use restrictions).

The carnivorous pitcher plant is one of many plant species unique to Carolina wetlands.

The analysis also makes numerous technical errors, including the erroneous use of large multipliers, which inflate purported costs.

Only about 14 percent of available land even in our four fastest-growing coastal counties is needed to accommodate growth expected by 2010. The population of those counties would have to explode to over 2 million people to prompt the level of growth implicit in the Alliance study; the most recent population projection for the area is 392,000 by 2010. Thus, growth anticipated in the coming decades can occur without using wetlands at all, and tax revenues at the local and state level are not affected in any way by the proposed restrictions.

Moreover, destroying wetlands has direct and serious economic consequences. EDF collaborated with the World Wildlife Fund to produce a definitive report that

detailed the environmental and economic costs of failing to protect drier-end wetlands. Assisting in the task were 40 of America's top wetland specialists. The report concluded that 50 percent of our nation's wetlands would be eliminated from protection. This included vast quantities of wetlands that even laypeople recognize to be important (23 percent of the Everglades National Park, and 41 percent of the Everglades in private ownership; 38 percent of prairie pothole wetlands; 80 percent of the Great Dismal Swamp; 50 percent of bottomland hardwood swamps). This deregulation would reduce dabbling duck populations by approximately 44 percent. Increased flooding would cause both tremendous economic losses to riparian landowners downstream and potential additional loss of life. EDF estimated it would cost between $38 billion and $75 billion to offset increased nitrogen pollution into our rivers, just to maintain the already unacceptable status quo. These costs do not consider other pollution to surface water or any increases to groundwater pollution. Economic losses associated with the fishing industry and recreational fishery are potentially enormous--North Carolina alone depends upon its estuaries for 95 percent of its annual marine harvest, worth over $200 million directly, and perhaps $500 million to $1 billion overall.

When it comes to wetlands, wetter is not necessarily better. This profound misunderstanding or mischaracterization of wetland function lies at the root of the current efforts to reduce the level of protection for so-called "non-splashable" wetlands. The attempts to deregulate wetlands are nothing more than transfers of wealth from all citizens to greedy special interests.

On the other hand, the current wetland protection system is by no means perfect. From an environmental perspective, the Clean Water Act Section 404 program really acts to permit wetland destruction--roughly 95 percent of permits for wetland destruction are approved. Entire categories of activities are exempted from permitting (including "normal" or "ongoing" farming, ranching and silviculture). Federal agencies continue to refuse to regulate intensive forestry in wetlands. This policy led EDF to file its first lawsuit ever, against Weyerhaeuser and the federal government. Sequential draining and filling and other piecemeal activities allowed under general permits continue to wreak havoc on the landscape. Ironically, the existing wetland protection system is unduly harsh at times, allowing many serious and large-scale impacts on wetlands, but reacting strongly and inflexibly against individuals caught by changing regulations.

The forces that brought the current outrageous wetland deregulation efforts are real and boast considerable political strength. Unfortunately, the debate has become so polarized that little hope remains for calm and carefully reasoned solutions to be developed by consensus. An entirely new approach--the formulation of a comprehensive wetland restoration program--may be necessary to resolve this mess. Such a plan could make time-consuming and expensive arguments about specific boundaries largely moot, replacing wetland losses with gains in wetland acreage and function. An effective regulatory program will remain an important part of this plan for the foreseeable future, but regulation must be complemented with creative and powerful incentive-based programs that catalyze wetland restoration.

One such creative program is the nutrient reduction program currently approved for the Tar-Pamlico River Basin, one of our most valuable and threatened watersheds. The program allows waste dischargers to receive credit for funding nutrient reductions from other sources, including nonpoint sources. Funds from dischargers may be used to restore wetlands in critical positions on the landscape to intercept nonpoint source pollution. This approach is especially useful because denitrification in wetlands results in elimination of the nitrate pollution instead of simply transferring it into the ground, a possible negative side effect of other management practices. Ancillary benefits of wetland restoration include control of sediment pollution and the expansion of wildlife habitat. Although wetland restoration is currently not an approved best management practice under the Agricultural Cost Share Program in North Carolina, this hopefully can be rectified. After all, nonpoint source pollution remains our greatest water quality problem; wetland restoration provides a unique solution with multiple benefits. Other opportunities to increase wetland acreage include the creation of wetlands for wastewater treatment, application of nonpoint source control funds to wetland restoration, and wetland mitigation practices, which can protect or restore more wetlands than are destroyed. Tax credits and other incentives could make it to a landowner's advantage to maintain functionally important wetlands in their natural condition. All such programs should be included in regional restoration plans.

The debate over wetland protection becomes more caustic every day. It is time to design solutions that recognize and take advantage of the tremendous environmental and economic value of wetlands. It is time for individuals to look at wetlands not as obstacles to the maximization of individual profits, but as positive attributes of the land to be used and valued. With a modicum of creativity and foresight, we can protect our wetlands, necessary for a healthy and sustainable economy, as an essential part of our birthright. CP

"Quiche Versus Cargo" The Changing Development Role of U.S. Ports

Ralph Wallace

Port authorities in the United States have traditionally focused their resources on the development of marine terminals and related infrastructure for waterborne commerce. In recent years, however, forces within the port industry and the communities they serve have directed many port authorities to allocate land and capital resources toward the development of a broad range of land uses unrelated to waterborne commerce. The resulting increase in competition between maritime and non-maritime uses for limited waterfront land resources (sometimes characterized as the struggle of "quiche versus cargo") is a source of ongoing debate within the port industry.

This growing competition between maritime and non-maritime uses of the waterfront has been confined primarily to the Pacific coast. Dramatic growth in trade with the Pacific Rim and rapidly growing real estate markets have combined to exert tremendous development pressure on the scarce waterfront land resources of port authorities in major port cities such as Long Beach, Los Angeles, and Oakland. More recently, however, this issue has also begun to emerge in port cities in the southeastern United States. For instance, Tampa faced this issue when it began the redevelopment of the Garrison Terminal, an aging general cargo[1] facility located on the eastern edge of the Tampa central business district. The Garrison Seaport Center, as the project will be known, will be a mixed-use complex anchored by the Florida Aquarium, a non-profit educational and tourism facility featuring Florida aquatic life. The long-term benefits of the project are clear. The Garrison Seaport Center will greatly expand the offerings in downtown Tampa by drawing residents and visitors to this waterfront location during evenings and weekends. Commercial development of the site will provide the Tampa Port Authority with a significant stream of revenue, which can be used to finance maritime development projects, while the center will serve as the site of the port's cruise terminal complex.

The decision to undertake this project raised many concerns within the port industry in the Tampa Bay region. Although the age and location of the Garrison Terminal limited its usefulness for general cargo operations, it was nonetheless an active cargo terminal. The loss of this facility has constrained the Tampa Port Authority's capacity to handle general cargo at a time when the port's cargo traffic is growing dramatically. Capital funds and Tampa Port Authority staff resources required for the redevelopment of the Garrison Terminal has further limited the Authority's ability to perform its more traditional functions. The Tampa Port Authority has recognized that non-maritime development will play an important role in its future. To minimize potential conflicts with its traditional development mission, the Tampa Port Authority has included a new set of policies to guide its non-maritime development activities in its recently-updated strategic plan.[2]

This article will examine several aspects of the "quiche versus cargo" debate, using the Tampa Port Authority as an example. The competition between maritime and non-maritime uses of the waterfront must be balanced with the economic benefits of traditional maritime development and the unique spatial requirements of marine terminals. To do this, a set of broad policy guidelines for the management of waterfront land resources will be presented.

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Increasing Competition for Waterfront Land

Waterfront land is a scarce and valuable resource in any port community. Conflict among various public and private users of waterfront land is expected. In recent years, however, the level of conflict over the appropriate use of waterfront land in port communities has intensified. These increasing conflicts are the result of technological and economic changes within the port industry and changes in the broader development environment within which port authorities operate.

Changing design of marine terminals. The advent of containerization significantly changed the design and operation of general cargo marine terminals. The technological changes associated with containerization have generally reduced the amount of berth space and labor required to handle a given volume of cargo. Conversely, the area needed for storage and the overall capital cost of marine terminal development have increased significantly. Containerization has rendered many older general cargo marine terminals functionally obsolete. Originally designed for handling breakbulk cargo, these facilities are frequently located near urban centers on constrained sites with poor truck access. The Garrison Terminal in Tampa and the Columbus Street Terminal in Charleston are examples of such facilities. Redevelopment interest has focused on these facilities because of their location near commercial centers and their declining utility as active marine terminals. As cargo volumes grow and port activity shifts away from these older facilities, however, new and larger sites capable of supporting modern terminal development must be identified and preserved.

Financial Pressure on Port Authorities. The need to develop new marine terminals to accommodate changes in shipping technology has resulted in a dramatic increase in capital investment by port authorities. At the same time, containerization has increased the level of competition between port authorities. This competition has lowered the rates port authorities charge shipping lines for the use of their facilities. To remain financially viable in this highly competitive environment, port authorities have begun searching for alternative revenue sources. Commercial development of appropriate waterfront parcels has the potential to generate substantial amounts of revenue while requiring minimal capital investment on the part of port authorities.

Increased Public Awareness of the Waterfront. In many port cities, the waterfront has traditionally been viewed as an economic resource to be exploited for the development of port facilities and water-dependent industries such as ship repair. The success of numerous waterfront redevelopment projects undertaken in the 1980s, most notably Baltimore's Inner Harbor, has transformed the attitudes of government officials, private developers, and the general public regarding appropriate use of the waterfront. Heightened interest in alternative development of the waterfront, ranging from providing public access to intensive mixed-use development, has placed considerable pressure on port authorities to consider non-maritime use of their real estate.

More Stringent Environmental Regulation. The development of waterfront land is among the most highly regulated activities in the United States. Waterfront development is regulated by all levels of government, which have applied increasingly strict standards over time. The introduction of more stringent environmental standards has had three effects on waterfront development:

- the amount of waterfront land where development is permitted is reduced;
- mitigation requirements add to the cost of development and further reduce the net amount of waterfront property available for development; and
- the increased length of the environmental permitting process adds to cost of development and increases financial risk.

Regulations are designed to enhance and preserve vital waterfront environmental resources, such as tidal wetlands, which is clearly in the public interest. One consequence of these regulations, however, is that public and private bodies engaged in waterfront development have become increasingly reluctant to yield their

New transit shed and paved storage area under construction at the Port of Tampa.

existing development rights to alternative uses for fear that they cannot be replaced.

Institutional Conflict With few exceptions, port authorities in United States operate outside the structure of local government. The most common model for port management in the southeastern United States is a state-wide agency responsible for the development and management of public port facilities within various local jurisdictions throughout the state. Although free-standing port authorities have many advantages, one seemingly inevitable consequence is a lack of intergovernmental coordination between the port authority and local communities. This lack of coordination often results in the poor integration of port development into the land use and transportation plans of local and regional governments, exacerbating conflicts over the appropriate use of waterfront land. For example, the Tampa Port Authority, a major traffic generator and a key element of the regional transportation system, was not a member of the Metropolitan Planning Organization (MPO) which directs overall development of the region's road network.

Land Use Policies of Port Authorities

The decision to develop or redevelop a waterfront site which is suitable for a marine terminal for a non-maritime use should be approached with caution. Two considerations should govern this decision: the particular spatial requirements of marine terminals and the significant economic benefit that ports provide to their communities.

Spatial Requirements of Ports

A marine terminal serves as an interface between waterborne and land-based transportation modes; waterfront location is the primary spatial requirement of a marine terminal. Simply providing waterfront access is not sufficient, however. A site must offer deepwater access to be suitable. A deepwater berth and an unobstructed navigation channel (no low-lying bridges, power lines or other overhead structures) linking the site to ocean shipping lanes must be constructed and maintained in a manner which is both economically feasible and environmentally sound. Providing deepwater access has become more difficult in recent years. First, ships are becoming larger. One of the consequences of containerization has been an increase in ship size. Before containerization, a typical general cargo ship was 600 feet in length and had a draft of less than 35 feet. The modern container ships now calling at major ports such as Charleston and Norfolk may be over 950 feet in length and have a draft in excess of 42 feet. Bulk ships are even larger. Some carriers transporting coal between Hampton, Virginia and European ports have drafts in excess of 55 feet. The wider and deeper navigation channels and berths needed to accommodate these larger, more efficient vessels has reduced the number of sites suitable for modern port operations and significantly increased the cost of port development and maintenance. Compounding this problem are the increasingly stringent environmental regulations governing the dredging of navigation channels and the disposal of dredge spoils. Finally, the reduction and delay in funding of navigation projects by the federal government, which through the U.S. Army Corps of Engineers has historically assumed responsibility for development and maintenance of the country's waterways and navigation channels, has shifted an increasing share of the financial burden onto state and local port authorities.

In addition to adequate water access, a site must also provide access to land transportation. The site must be linked to the regional highway system by a local roadway network with a capacity, roadway geometry, and level of service sufficient to support large volumes of truck traffic. Marine terminals also require direct rail links for the movement of conventional rail traffic. Because of growing volumes of container traffic moving by rail, it is becoming increasingly important for modern container terminals to have access to intermodal rail facilities.[3]

Marine terminals also serve as storage facilities for export cargoes awaiting ships and imports stored for distribution. The factor that most often limits the throughput capacity of a marine terminal is the availability of tracts of land large enough to support substantial storage. As previously noted, the amount of land area required for handling general cargo has increased with containerization and the growth in the size of vessels. While a berth for handling breakbulk general cargo may only require five to ten acres, a general rule of thumb for the development of a large-scale container terminal is fifty acres per berth. Further expanding the land requirements for modern marine terminals is the growing trend toward locating trade-related distribution facilities and intermodal railyards adjacent to container terminals.

Marine terminals are heavy industrial sites which should be situated in a low-performance, heavy industrial use zone. Marine terminals typically operate 24 hours per day, generating significant levels of noise, visual pollution, and traffic. In addition, marine terminals often handle and store hazardous materials and should therefore be isolated from most residential and commercial land uses.

These four spatial requirements, deep-water access, excellent rail and roadway transportation access, adequate land area, and isolation from incompatible uses, greatly limit the number of sites suitable for marine terminal development. Even in Tampa, which enjoys an excellent natural harbor, there are a surprisingly limited number of sites where marine terminal development is both economically and environmentally feasible. There are two consequences of these stringent spatial requirements. Most waterfront locations are eliminated as potential sites for marine terminal development, free-

ing these areas to be developed or redeveloped for non-maritime uses. On the other hand, the scarcity of suitable sites for marine terminal development heightens the importance of landbanking appropriate sites for marine-related uses.

Economic Impact of Ports

Historically, the development and management of the nation's port system was one of the first responsibilities assumed by federal, state and local governments. This early and continuing public involvement in port development is based on the significant economic benefits of an efficient port system. The economic benefits provided by a port are twofold. Direct, indirect and induced economic activity result from port operations, while industries and consumers within the port's hinterland region benefit from the efficient transportation of raw materials, finished products, and consumer goods through the port.

Economic Impact of Port Operations Ports are powerful economic engines which generate significant levels of employment, economic activity, and tax revenue. The economic activities associated with port operations consist of both the physical handling of cargo and trade-related services that are directly required for the movement of cargo. These activities include ocean transportation; marine terminal operations, inland transportation by truck and rail, warehousing and distribution, customs-house brokering and freight forwarding; insurance, trade-related finance, and government agencies.

The economic impact of port operations vary by the type of cargo being handled. Non-containerized general cargo, the most labor intensive cargo to handle and transport, generates the highest levels of direct employment. In contrast, the handling of highly mechanized bulk cargoes, which predominate Tampa's cargo throughput, produces much lower levels of employment.

A study of the economic impact of the Port of Tampa on the Tampa Bay region[4] estimated that during its 1985-86 fiscal year, the port generated 68,000 jobs in direct, indirect and induced employment within the five-county port region, $1.4 billion in income, and $684 million in tax revenues. To place this in perspective, the surrounding five-county region had a total employment approximately 768,000 in 1986.[5] Based on this estimate, the Port of Tampa generated approximately 8.8 percent of all employment in the region, making it one of the region's most important economic forces. Because the Port of Tampa is primarily a bulk port located within one of the largest employment centers in the southeastern United States, its employment impact is small compared to many other ports. Ports which are located in smaller cities and handle substantial volumes of containerized and non-containerized general cargo (such as Charleston, South Carolina and Norfolk, Virginia) exert a profound influence on the regional economy. In these communities, the port often represents the major share of the basic sector of the regional economy, acting as the primary engine driving regional economic development.

Economic Benefits to Port Users Beyond the economic impact of port operations, ports also facilitate the efficient transportation of goods in and out of the region. This is by far the Port of Tampa's most important function. Neighboring Polk County is one of the world centers for the mining and processing of phosphate fertilizer materials. The raw materials used in the production of fertilizer (such as liquid sulphur and ammonia) are imported through the Port of Tampa. Roughly 55 percent of the industry's output, in the form of phosphate rock and finished fertilizer, is shipped to foreign and domestic destinations through the Port of Tampa. The Port of Tampa exports fresh grapefruit and other citrus products grown in the region. It is also the point of distribution for refined petroleum products moving into central Florida and handles imports of lumber, steel, and other inputs used by the region's construction and manufacturing industries.

Straddle carrier and container storage at the Port of Tampa.

Guidelines for Non-Maritime Development

In light of the many economic benefits of traditional port activity, the Tampa Port Authority established the promotion of waterborne commerce as the primary goal of its 1992 strategic plan. The Tampa Port Authority, however, has substantial real estate holdings not suitable for

maritime commerce. It has adopted a series of guidelines for marketing these assets.

- *Site Control and Selection* Promoting maritime commerce is the primary goal of the Port. Only real estate assets which are not suitable or needed to support maritime commerce are candidates for non-maritime development.
- *Capital Investment* The Tampa Port Authority must make substantial investments in port facilities in coming years and has limited capital funds available to pursue non-maritime development. Because of its capital constraints, non-maritime development undertaken by the Port must be largely self-financing.
- *Revenue Generation* A key purpose of non-maritime development is to generate revenues to finance port development. The Tampa Port Authority seeks projects which generate significant revenues and have low operating costs.
- *Land Use Compatibility* The Port is a heavy industrial activity and non-maritime uses must be selected and sited so as not to create potential conflicts with the Port's existing marine uses.
- *Enhance Port Performance* Certain uses, such as distribution facilities, enhance the marketability of a port. Development of such facilities is given priority.

It appears certain that competition between maritime and non-maritime uses of the waterfront will continue to grow within port communities. Both port authorities and local governments should temper their enthusiasm for non-maritime development with a careful assessment of the current and future needs of the port industry. Ports occupy an important position within the economies of their communities. Appropriate waterfront sites must be preserved through landbanking and zoning controls to insure that the long-term spatial needs of the port industry can be met. Once the decision has been made to permit development of a site suitable for port use, the decision is often irreversible. CP

Notes

[1]Cargo is typically classified into two broad categories: bulk and general. Bulk cargo consists of commodities, such as petroleum products, iron ore, grain, and coal which are loaded and discharged from ships using pipelines, conveyors, and similar mechanical handling equipment. Bulk commodities tend to be low in value and are typically transported in large volumes on dedicated vessels. General cargo consists of a broad range of higher value commodities, such as apparel, automobiles, foodstuffs, and machinery. General cargo is further classified according to how it is packaged and handled during shipment. Breakbulk cargo is packaged in relatively small units, such as bags, pallets, or drums. This is the traditional means of transporting general cargo and is very labor intensive. Containerized cargo consists of general cargo which is loaded into specially design metal shipping containers for transport. The use of shipping containers (which are similar in size to truck trailers) permits the efficient transfer of cargo between ship, truck and rail and greatly reduces the time and cost involved in ocean transportation of general cargo. Neobulk cargo consists of general cargo, such as automobiles, lumber and steel, which cannot be readily loaded into containers, but whose physical characteristics enable the cargo to be bundled into large units for efficient handling.

[2]Tampa Port Authority (Prime Interests, Inc. and Frederic R. Harris, Inc.), *Tampa Port Authority Strategic Plan Update*. November 1991.

[3]Intermodal rail refers to the inland movement of truck trailers and containers on railroad flatcars. Because of the lower cost of transporting trailers and container by rail, this has become an increasingly important means of moving containerized cargo to/from ports, particularly if the origin or destination of the cargo is more than 500 miles from the port.

[4] University of South Florida Center for Economic and Management Research, *The Economic Impact of the Port of Tampa*. July, 1988.

[5]U.S. Department of Commerce, *County Business Patterns -Florida, 1986*. 1987. The five-county Tampa port region consists of Hernando, Hillsborough, Pasco, Pinellas, and Polk counties.

Foreground: Dry bulk conveyer. Background: Scrap metal being loaded.

Portside

Michael Young

On a gray February afternoon the winter winds glide off the frozen water and sweep past the squat, silent building with the blue roof crouched low on the banks of the river. Diffused light bleeds through the dusty transparent walls and descends upon fading awnings and broken and scattered tiles. Leaves and papers rise and fall as eddies of cold air dance in front of the elegant archway constructed of iron spot brick. Within the alcove of the arch, iron and steel have been carefully twisted and tamed into a green painted crest emblazoned with the word "Portside." Nobody walks by. Except for the wind there is silence.

When Portside was built it was billed as the symbol, some say savior, of Toledo. When the symbol of your city lies vacant questions have to be asked... and answered. This article is meant to provide some guidance, some hint as to the "how's" and "why's" of the Portside saga.

Water has always been a source of intrigue, fascination, and life. Living near the water has always been important for very practical reasons such as thirst, hygiene, and irrigation. In some contemporary American cities, water's aesthetic attributes have overtaken the practical and have had a profound influence on urban design and downtown revitalization. This is probably no more clearly the case than in Toledo, Ohio. Toledo, a city of approximately 350,000, is the center of commerce, government, and culture for a trading area of nearly 1,000,000 at the western extreme of Lake Erie. Toledo was founded in 1837 and has a rich history, first as a trading post and, more recently, a world port and transportation hub. As is true with many older industrial cities, Toledo has well-financed and surprisingly significant cultural institutions such as the University of Toledo, Toledo Zoo, and renowned Toledo Museum of Art. Curiously, these entities of themselves have not been sufficient to dispel a persistent and annoying lack of civic pride. Toledo seems to lack an identity, a sense of uniqueness and worth. None of the three cultural "anchors" of Toledo are located downtown. This has had an effect on Toledo's central business district, preventing it from serving as a source of the collective civic image.

Without the cultural base of the "Big Three," or other institutions such as a major hospital, downtown Toledo lacked the relevance and activity to attract and retain the interest of the largely blue-collar Toledo work force. As the county seat and largest city in the area, it has retained its preeminence as a governmental and financial center. In the 1950s, Toledo's downtown started to suffer a decline in retail activity as a result of newly emerging shopping centers and strip commercial development. The city government and downtown business leaders perceived a need to act, to change the downtown to meet these emerging challenges. In the late 1950s, downtown master planning began to take on added importance and new master plans were developed to underpin the remaining department stores and offices. Because most of downtown's primary tenants were located in the interior, these plans concentrated on the core, largely ignoring the still-industrialized riverfront.

Riverfront Development

Toledo is located along the banks of the Maumee River, the largest tributary to flow into the Great Lakes. Historically, Toledo's industrial base was concentrated along the river. Riverfront location became less critical to commerce after the turn-of-the-century, when highways and railways began to offer cheaper and more

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efficient transport than waterways. By the 1950s, the Maumee Riverfront was still an important, if declining, player in the local economy, serving as a center of warehousing, cargo transfer, and inexpensive retail. Those creating the downtown master plan found it easy to discount the importance of the riverfront as a component of their downtown revitalization strategy.

In the 1960s, the Maumee Riverfront was chosen as the location for a downtown expressway, the Downtown Distributor, because its land was flat and relatively inexpensive. Plans for the riverfront expressway were finally dropped in 1973, due to a lack of Federal funding and the failure of local government to take action on the proposal. Jumping on the chance presented by this major change in highway planning, in 1975 the City of Toledo released *Toledo Looks To The River*, a comprehensive study of the entire Toledo riverfront. The plan proposed a public park along the downtown waterfront and a series of riverfront parks linked by bikeways and paths among new and existing residential, commercial and industrial sites. The study served as a milepost in the creation of a sensitive new public policy regarding development along the Maumee River.

The Port of Toledo was, and still is, a dominant user of the waterfront and has a policy of promoting the industrialization of the waterfront. Fortunately, the Port concentrated away from downtown, on the Foreign Trade Zone near Maumee Bay. This allowed visionary city officials like Richard Boers, Commissioner of Forestry and Open Space Planning, to undertake an aggressive policy of public acquisition of derelict and underutilized industrial lands along the Maumee River corridor. Sixty acres of railroad yards across from the downtown became International Park, while another 30+ acre railroad marshalling yard in the "Middlegrounds" just southeast of the downtown was purchased and land banked for a more compatible residential/recreational use. One hundred ten acres were acquired next to Riverside Park, four miles north of the downtown, near Maumee Bay. This provided Toledo with ownership of 200 acres of potential riverfront park land, an impressive figure given the competition for control of these lands with commercial and industrial interests. Equally significant in Toledo's waterfront development was that, through urban renewal, Toledo owned ten acres of prime riverfront property right at the doorstep of downtown Toledo.

With control of over 210 riverfront acres, the City was poised to implement the *Toledo Looks To The River* revitalization plan. The Toledo City Council adopted a Maumee Riverfront Overlay Zoning District (MR-O) to require review of development along the waterfront. One vital component was still missing. As of 1974, not one downtown corporate headquarters building was located along the Maumee River. In fact, downtown's largest employer, Owens-Illinois, was in the process of acquiring for redevelopment the remainder of the block surrounding it's 28-story art-deco 1929 headquarters, fully four blocks from the river.

In 1975, as downtown Toledo continued to lose its retail and corporate base, Mayor Harry Kessler formed

An aerial view of the Maumee riverfront and Portside.

Portside's grand opening.

the Greater Toledo Corporation, a citizen-corporate committee assigned the task of revitalizing downtown. Toledo Trust, the largest bank in Toledo, along with glass products giant Owens-Illinois and the Toledo Blade newspaper, worked with Mayor Kessler to develop a revised downtown master plan. This plan assigned roles to the financial and corporate interests involved, with a commitment to take full advantage of the Maumee Riverfront.

Thus, in 1977 the Downtown Toledo Master Plan was created. This time the Downtown Distributor was gone. In its place were an eight-acre public park, fountains, office buildings, a hotel and a grand boulevard stretching five blocks into the core of downtown and serving as a link to the Civic Center (government campus) and Courthouse Square. One year later, Owens-Illinois, which had been flirting with moving to the suburbs, committed to build their new headquarters on the waterfront. Along with Toledo Trust, Owens-Illinois agreed to undertake the revitalization of the entire 10-acre parcel of public land, with an emphasis on the critical waterfront elements in the adopted Master Plan. The two principals, Toledo Trust and Owens-Illinois, were represented by their respective Chief Executive Officers, George Haigh and Ed Dodd. Haigh and Dodd set out to create a new image for Toledo by developing a world-class waterfront and corporate campus environment. The firms worked with the City government and major downtown corporations and banks to assemble a development package, nicknamed the "Toledo Trick." This package employed Urban Development Action Grants, private capital, union pension funds and tax increment financing.

Called "SeaGate," the project initially included a 1,100-space parking garage across Summit Street, the 32-story Owens-Illinois world headquarters, a five-story Toledo Trust headquarters, and plans for a 14-story hotel. Nestled up against these towers was a new eight-acre Promenade Park, designed by Sasaki and Associates, that encompassed all of the downtown Maumee Riverfront. In addition, Jackson Street was converted into Jackson Boulevard, a classic grand avenue with a heavily landscaped 60-foot-wide median. Meanwhile, the State of Ohio made a commitment to build a 22-story Government Center at the Civic Center end of the boulevard--SeaGate began to take off.

With the assistance of another dose of federal funds in 1982, ground was broken for Four SeaGate (a twin-tower 10-story office building built on speculation), the Hotel Sofitel and, new to the plans, the first "festival marketplace" outside of the east coast. "Portside" as it was called, would be a 60,000-square foot center, blending retailing and entertainment, following the model that had succeeded so well in Boston and Baltimore. Designed by Morton Hoppenfeld and developed by urban guru James Rouse, Portside was the latest and most ambitious product of this winning team, though their smallest to date. Portside was given a "keystone" location in the very heart of the emerging riverfront. A first-class high-rise convention hotel was attached to the north wall of the building; additionally, the marketplace was located at a vital crossroads in the downtown Toledo's enclosed pedestrian walkway network. While Portside was under construction, plans were announced for a new convention center and hotel four blocks south of the site. Things looked like they were coming together for Toledo's waterfront and Portside.

Portside Opens

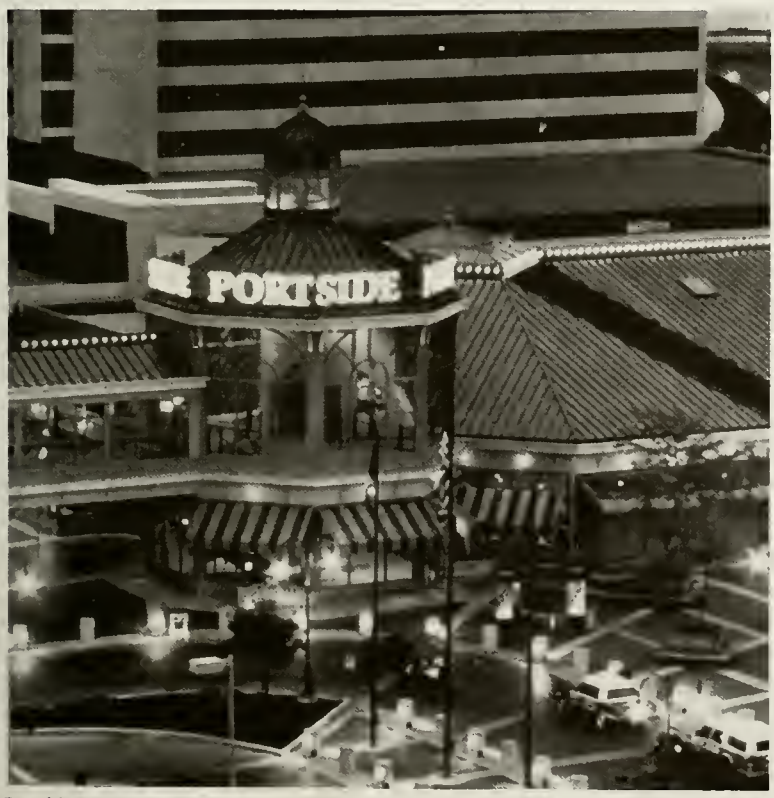
Portside opened in 1984 with a celebration that included the Governor of Ohio and a live remote broadcast of NBC's *Today Show* with Willard Scott. Almost from the beginning, however, Portside was beset with problems. Other portions of the SeaGate development, crucial to Portside's retail strategy, were delayed in opening by over two years. Rather than increasing as projected, downtown employment decreased after Portside's opening. Problems with the retail tenant mix, the size of the building, inconvenient parking and the absence of other downtown retail and entertainment attractions, kept Portside from becoming a retail destination. Finally, the cost of heating the under-used building proved too expensive.

Shunning most franchises, Rouse sought to evoke a Toledo "flavor" by bringing established local bakeries and shops as well as first-time local small business operators into Portside. Although the marketplace initially showed signs of vitality, sales and visitors soon fell short of expectations. Management changed several times over the next six years in an attempt to keep the facility with its novice merchant mix afloat. Further hampering the marketplace's viability, the long-anticipated convention center, the $100 million SeaGate Centre and Radisson Hotel, did not open until late 1986, fully 30 months after Portside. Because the SeaGate Centre was Toledo's first convention complex, the city had to effectively start from scratch to establish itself as a convention destination. The SeaGate Centre had rather limited use in its first few years of operation because conventions are booked so far in advance.

While Portside and the SeaGate Centre needed each other, they needed the corporations even more. Toledo's corporations were devastated by the hostile takeovers of the late 1980s. In 1978, when the SeaGate project was first conceived, Toledo was home to seven Fortune 500 corporations and three regional banks. Today there are only three Fortune 500 corporations and no major banks headquartered in Toledo--all others have been acquired by interests located outside Toledo. Owens-Illinois was purchased by KKR of New York in 1988; Toledo Trust was taken over by Society Bank of Cleveland in 1990. Additionally, Owens-Corning Fiberglas retained local ownership only after fighting off a hostile takeover by Wickes of California. Unfortunately, for Owens-Corning Fiberglas to survive, it had to cut its downtown work force by 600. Likewise, Owens-Illinois' downtown employment fell from nearly 2,000 in 1977 to approximately 700 in 1990. These changes in the fabric of the downtown economy had a profound impact on Portside. Instead of the modest growth projected in 1977, downtown Toledo's employment base was actually shrinking. The downtown that had lost relevance as a retail center was now in danger of losing its office role as well.

In addition to the loss of a customer base with corporate downsizing, Portside also suffered from being out of step with local consumer demands. Toledoans enjoy bargain hunting and are accustomed to parking that is visible, safe, close, and free. Parking at Portside cost money, was difficult to find, and was not in view of the shopping complex. Also, without familiar franchised outlets, Portside's shops lacked the name recognition necessary to draw Toledoans downtown.

Portside developers had projected that 5,000,000 visitors per year and sales of $200 to $300 a square foot, with profits going to inner-city revitalization projects. Actual visitor counts were closer to half that number. There were no profits to share. In fact, as of 1991, none of the debt service on the $14,000,000 construction cost had been reduced. Further, Toledo's consumers had long abandoned the downtown in favor of regional shopping centers and retail strips. No department store has existed in downtown Toledo since 1983, when the largely downsized Macy's finally closed its doors.



Portside at night.

Portside also lacked a sense of purpose or place. Its relatively small size and odd tenant mix did much to confuse and disappoint visitors. The selection of shops revealed an inconsistent mix, not quite a fashion mall or an exclusive retail center. At one point its lower level retail section consisted of one shoe store, a candle shop, a stuffed animal store, an outlet for local artists, a retailer of sunglasses and a Benetton. Upstairs included myriad fast food booths, a store where everything was purple and a kite shop. Portside was too small, its selection too limited and its prices too high for it to compete as a retail destination.

Without other downtown attractions, there was little reason for the tourist or visitor to return to Portside or, for that matter, Toledo. Tour busses continued to jettison unsuspecting elderly groups from Indiana, Michigan, southern Ohio, and Canada only to have them return dismayed at all the hype. The marketplace was nearly

packed at lunch time, as downtown workers convened around the upper-level food court overlooking the river. In the evening it was a quiet and eerie place to visit.

Portside, with its open framework design, tall ceilings, sky lights, and glass walls required a lot of energy just to stay heated and cooled. The City could not afford to keep the now nearly empty marketplace heated. The Mayor made a decision to close Portside as the winter of 1990-91 approached. At the end eleven merchants, mostly consisting of fast food retailers and confectioners, fought to stay.

Portside today ... empty.

Portside Today

Architecturally, Portside may be one of the most attractive festival marketplaces built. Mr. Hoppenfeld, working with the Toledo architectural firm The Collaborative, created a light and airy gossamer jewel on the waterfront. The proportions, colors and details fit comfortably with the surroundings. Unfortunately, Portside had the power to attract without the substance to retain. Like Gertrude Stein's comment about Oakland, "there is no there there."

Things may be looking up for Portside. The future of this building has been the subject of a great deal of public debate. Ideas range from demolition to grain storage, but one idea seems to have taken root. The Center Of Science and Industry (COSI), in Columbus, Ohio has taken an interest in Portside and the neighboring Water Street Station, a former steam generating plant designed by Daniel Burnham. Under the guidance of Society Bank and funding assistance from local investors and the State, Portside and the Water Street Station are expected to be reanimated as COSI Toledo, a $20,000,000 hands-on science museum and discovery center. What was once Portside would contain travelling and permanent exhibits, theaters, and a waterfront restaurant. The former Water Street Station would also house science exhibits, focused on the industrial heritage and future of Toledo.

As of this writing, fundraising at both the local and State level was reported to be ahead of schedule. COSI Toledo, as envisioned, would be only a small component of an overall Arts and Sciences corridor on Adams Street. The corridor would include a restored historic Valentine Theater for the Performing Arts, new retail activity in the shopping concourse of the recently-completed Summit Center office tower, and the School for the Performing and Visual Arts in the former Macy's.

The COSI project, along with the other elements of the "Arts and Sciences Corridor," the Valentine, and the Art School, will depend on the patronage of the residents of Toledo and Northwest Ohio, and not tourists and conventioneers. The corridor will constitute a complete destination. Toledoans have a long tradition of fostering and supporting family-oriented programs and institutions, such as the Toledo Zoo, Metropolitan Parks, and Museum of Art. The COSI project, and its companions, would be built upon a clear sense of what Toledo is and not on what Toledo could be. COSI has a much greater chance of success because it will be oriented to the majority of Toledoans and the family-oriented Toledo social foundation.

Once again, the elements of revitalization seem to be coming together in Toledo. The emphasis on the waterfront that began with *Toledo Looks To The River*, continues today. A new strategic plan called *ToledoVision* has been approved. A new non-profit downtown advocacy group has been formed to see COSI Toledo, the Valentine, and other elements of the plan realized. With a little luck, a solid financial base, and the anticipated support of the average Toledoan, the winds that chill the Portside Building will someday be replaced with the warmth, laughter and joy of children. CP

Protecting Water Supply Watersheds in North Carolina: The Rules and Their Impacts

David H. Moreau
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North Carolina's Water Supply Watershed Classification and Protection Act of 1989 grew directly out of legislation contemplated in 1987 to provide protection for Raleigh's water supply, Falls of the Neuse Reservoir. The Falls' watershed lies in the jurisdictions of six counties and two major municipalities, Durham and Raleigh. Long-standing concern about the potential for pollution of Falls; failure of long-running negotiations among and within the jurisdictions to produce satisfactory local ordinances to protect the Falls watershed; and, finally, development of Treyburn in the headwaters of the reservoir in Durham County motivated Avery Upchurch, Mayor of Raleigh, to request the legislative delegation from Wake County to introduce legislation in the General Assembly to protect the Falls watershed. In April 1987, Aaron E. Fussell, a member of the Wake county legislative delegation, submitted a draft "Watershed Protection Act." It would have required all local governments in the watersheds of nutrient-sensitive reservoirs used for public water supply to enact watershed protection plans. Because Jordan Reservoir was not then used for public water supply, the only nutrient-sensitive public water supply reservoir in the state was Falls of the Neuse.

Because of heated opposition from the Durham County legislative delegation, the "Watershed Protection Act" was replaced by a bill to establish a commission to study the need for a statewide watershed protection program. That bill passed, and during 1988 the Legislative Watershed Protection Study Committee held hearings and drafted the bill that became House Bill 156, the Water Supply Watershed Classification and Protection Act. The act established a mandatory program of local watershed protection consistent with statewide minimum performance standards to be set by the Environmental Management Commission (EMC). The act directed the EMC to adopt watershed classifications and to assign an appropriate classification to each water supply watershed in the state.

Ratified June 23, 1989, House Bill 156 also created the Water Supply Watershed Protection Advisory Council to assist the EMC in developing statewide minimum standards. The makeup of the council was spelled out in the act to include representatives of a broad range of interests, specifically: (1) secretaries of four cabinet-level departments of state government; (2) ten representatives of municipal and county governments, their regional organizations, health departments, and soil and water conservation districts; (3) experts on land use planning and water resources; and (4) representatives of environmental groups. During early 1990, the council held five public hearings and a work session, drafted a set of classifications and standards, and forwarded them to the EMC in April 1990.

The EMC voted in May to put the proposed classifications and standards before the public (see Table 1). Eight lightly attended public hearings and a series of educational meetings were held across the state in the summer of 1990. Most participants expressed support for the standards. In December 1990, EMC adopted the standards as modified following the public hearings.

In May 1991, representatives of Treyburn, a large housing development in Durham County, asked the EMC to invalidate certain parts of the standards because they were not adopted in accordance with administrative procedure. While the EMC refused to invalidate any portion of its standards, they did agree to send

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the entire set of classifications and standards back to public hearing (See Table 1). The watersheds and their proposed classifications (as identified at that time) are shown in Figure 1. In August 1991, eight public hearings were held on the standards adopted in December 1990. This second set of hearings was heavily attended, with environmentalists accusing developers of packing the hearings.

Following the second set of hearings, the classifications and standards were again modified. This third version of the standards was adopted by the EMC in February 1992 (See Table 1).[1]

Classifications and Standards

As it has been implemented, the watershed protection act can be characterized as a non-degradation policy similar to those in the federal Clean Air Act and the Clean Water Act. The classifications adopted by EMC are based on existing levels of development in watersheds. Nothing in the regulations is designed to mitigate existing conditions. The regulations establish four classes of watersheds. The same water quality standards must be met in all classes, but performance-based standards vary with existing levels of development. Uninhabited Class WS-I watersheds will remain that way. Watersheds not subject to much urban development and without known discharges are classified WS-II. The regulations are intended to keep these watersheds primarily undeveloped. Standards for WS-III watersheds are designed to hold the line in moderately developed watersheds in which there are only domestic and non-process industrial discharges. WS-IV standards maintain existing conditions in heavily developed watersheds with no categorical restriction on discharges.

In addition to restrictions on wastewater discharges, standards are set to guard against pollution from various sources of polluted runoff (nonpoint source pollution) and from accidental spills of hazardous materials. Measures intended to control nonpoint source pollution include vegetative buffer areas along streams and reservoirs; restrictions on activities and hazardous material use; and development density and impervious surface area limitations. The density and surface restrictions are either without engineered stormwater control devices (low-density option); or with engineered devices (high-density option).

Each watershed includes two areas: a critical area, within which pollutants from uncontrolled runoff or spills pose an imminent threat to the water supply and where stricter nonpoint source controls are applied; and a noncritical area, where controls can be less stringent.

Treyburn's 1991 challenge to the standards centered on the definition of the critical area, which had been increased from one-half mile from reservoir normal pool elevation in the 1990 version to one mile in the 1991 version. The rules adopted in 1992 reduced the critical area back to one-half mile and significantly increased allowable densities and impervious surface areas in all classifications except the WS-II critical area.

	Proposed 1990		Proposed 1991		1992 (Adopted)	
	Dwelling Units Per Acre	Percent Built Upon	Dwelling Units Per Acre	Percent Built Upon	Dwelling Units Per Acre	Percent Built Upon
WS-II Critical Area						
Without stormwater controls	0.5	6%	0.5	6%	0.5	6%
With stormwater controls	No high-density option		No high-density option			6-24%
WS-II Watershed						
Without stormwater controls	0.5	6%	0.5	6%	1	12%
With stormwater controls	No high-density option		No high-density option			12-30
WS-III Critical Area						
Without stormwater controls	0.5	6%	0.5	6%	1	12%
With stormwater controls		6-30%		6-30%		12-30%
WS-III Watershed						
Without stormwater controls	1	12	1	12	2	24
With stormwater controls		12-30%		12-30%		24-50%
WS-IV Critical Area						
Without stormwater controls	1	12	1	12	2	24
With stormwater controls		12-30%		12-30%		24-50%
WS-IV Protected Area						
Without stormwater controls	2	24	2	24	2	24
With stormwater controls		24-70%		24-70%		24-70%
WS-V					Classification added as river segment, with no restrictions	

Table 1. Comparison of Proposed Watershed Density Regulations

Impact of Rules on Residential Development

Two main economic development questions arise from these regulations. First, do these regulations pose a significant constraint on the supply of land that is available for new development? Second, what impact would the 1991 version of the regulations have on the economic welfare of affected communities and how would the 1992 version differ?

Land Availability

Residential development is the largest class of land use in urban areas. The regulations will not significantly limit the supply of land for that purpose. Gross develop-

Class	Area (Sq Mile)	Percent of Watersheds With Densities Less Than: 1 DU/10 Ac	1 DU/4 Ac	1 DU/2 Ac	Class as a Percent of Total Area
II-Critical	167	75%	96%	98%	1.5%
II	1,791	95%	99%	99.9%	15.8%
III-Critical	153	55%	82%	95%	1.3%
III	2,333	82%	92%	99%	20.5%
IV-Critical	1,173	50%	97%	99%	10.3%
IV	5,748	68%	93%	96%	50.6%
Total	11,365	73%	94%	98%	100.0%

Table 2. Percent of Total Area With Stated Densities (in Dwelling Units/Acre)

ment densities were estimated using a geographic information system to capture 1990 U.S. census counts of housing within each of the 359 watersheds in Classes WS-II, III, and IV. (WS-I watersheds are virtually uninhabited.) Only 22 percent of the 52,700 square miles of North Carolina are affected by the rules, and only a very small fraction of the 11,400 square miles that are affected have been developed to urban densities. Only nine of the 359 watersheds in Classes WS-II, III, and IV had gross densities in 1990 as high as one unit per acre. Those watersheds covered only 30.4 square miles, less than three-tenths of one percent of land in classified watersheds and less than one-tenth of one percent of the state. As shown in Table 2, 98 percent of classified watersheds had densities lower than one housing unit for every two acres, and 94 percent had densities under one unit for every four acres. Even with generous allowances for publicly-owned land and other unbuildable areas, the supply of land available for residential development is hardly affected. Land within classified watersheds will hold many times the present population of the state under any of the versions of the rules.

Prices

The second of these two questions is more complicated, and only partial answers are possible. A review of the literature does not provide a definitive answer to the question of economic efficiency (see sidebar). At best it may suggest the direction of change in land and housing prices under alternative conditions of supply. One special area of concern about the watershed regulations has been the question of how they will affect the cost of

Theoretical Approaches To Assessing Economic Impacts Of Regulations

Effects of regulations on the economic welfare of affected communities was the topic of a special issue of *Land Economics* in 1990. One of the principal assertions in the issue's lead article is that regulations confer both benefits and costs on the community and that those effects are capitalized in property values--benefits as increases, costs as decreases.[2] Empirical evidence about the magnitudes of these changes is limited, however, and the evidence that is available must be interpreted with care.

Most of the literature reviewed in that issue dealt with the question of zoning. Fischel noted that a large proportion of the literature erroneously viewed zoning as a single constraint. In practice zoning usually comes in a package of constraints. It is not entirely proper to use empirical results based on zoning to make inferences about the effects of density limits alone. One set of articles found little evidence to support the claim that zoning had any effect on property values, while another set of papers provided evidence of an effect. Fischel pointed out that empirical results in the first set came from cities that have had zoning for a long time; they were not necessarily applicable to cities where zoning has been adopted relatively recently.

Another factor shaping zoning's effects on property values is whether the city is "open" (no constraint on land supply) or "closed". Pollakowski and Wachter conclude that in an open city, land-use controls have no impact on the price of a standard unit of housing.[3] In a closed city, however, land use restrictions will lead to a positive effect on the price of developed land and a negative effect on undeveloped land. They used data from a housing market with stringent caps on new development to support these findings.

Fischel commented on one study which found that, after adjusting for other factors which may influence prices, vacant lands subject to floodplain regulations were less valuable than those without such regulations. He argued that while these effects are not welcomed by owners of vacant land, the cost to that group of landowners is not sufficient to assert that floodplain regulations are not economically efficient. To perform a test of efficiency, economic benefits from reduced flood damages and benefits to owners of developed land would have to be weighed against the costs to the owners of the vacant land.

undeveloped land and consequently, the price of housing. Much of the literature points toward either no effect or a downward pressure on prices of undeveloped land and an upward pressure on prices of existing development. Land prices are not the only factor affecting housing prices. The quantity of additional land required to satisfy density limits and the process by which those costs are incorporated into the housing market also influence housing costs.

Land Requirements

The impact of the rules on land requirements can be assessed by comparing the densities at which residential subdivisions have been developed in recent years with the densities specified in the rules. At least two indicators of impact are readily measurable: the percentage of developments that would not be affected by the rules; and the average percentage increase in land requirements to make recent development practices consistent with the rules.

These quantities can be estimated from an analysis of the land consumption frequency curve for recent developments. Impacts of the rules were examined in eight of the most affected counties (Catawba, Davidson, Durham, Gaston, Guilford, Moore, Person, and Rowan). No significant impacts on residential development were found in Durham and Guilford because local regulations in those counties are comparable to the state regulations. Person County was excluded because of the limited number of developments in its watersheds. In the remaining five counties, 65 subdivisions developed since 1985 within water supply watersheds were selected for further analysis.

Some developments in this sample were located in areas with no density limits; the most restrictive density limit for any of the watersheds in which these subdivisions were located was one housing unit per quarter-acre lot. No development in the sample had a higher density; 10 percent of the subdivisions consumed less than 0.43 acres per housing unit (a/hu), and 25 percent consumed less than 0.53 a/hu. The median consumption in these developments was 0.82 a/hu. Assuming that the sample is representative of development practices in unregulated watersheds, the curve can be used to estimate the percentage of developments that would satisfy the rules in those counties where state regulations are more restrictive than current local ordinances. Table 3 compares percentages of subdivisions that would satisfy the rules under the 1991 and 1992 (adopted) versions of the rules with and without stormwater regulations.

These results suggest that differences between the rules as proposed in 1991 and as adopted in 1992 were

	1991 Rules		1992 Rules	
	Without Stormwater Control	With Stormwater Control	Without Stormwater Control	With Stormwater Control
II-Critical	9%	9%	9%	81%
II	9%	9%	37%	89%
III-Critical	9%	89%	37%	89%
III	37%	99%	81%	99%
IV-Critical	37%	89%	81%	99%
IV-Protected	81%	100%	81%	100%
All	54%	83%	72%	98%

Note: The ALL category percentage shown was calculated by weighting the percentages within each category by the relative sizes (land area) of the categories.

Table 3. Percent of Subdivisions in Sample That Would Satisfy Rules

	1991 Rules		1992 Rules	
	Without Stormwater Control	With Stormwater Control	Without Stormwater Control	With Stormwater Control
II-Critical	183%	18%	183%	8%
II	183%	18%	52%	3%
III-Critical	183%	3%	52%	3%
III	52%	0%	8%	0%
IV-Critical	52%	3%	8%	0%
IV-Protected	8%	0%	8%	0%
All	54%	32%	18%	1%

Note: The ALL category percentage shown was calculated by weighting the percentages within each category by the relative sizes (land area) of the categories.

Table 4. Average Percentage Increase in Land Requirements for Residential Development in Classified Watersheds

significant. The land requirement impacts in WS-II, WS-III Critical, WS-III, and WS-IV Critical categories without stormwater controls were significantly modified by changes in the regulations. Changing the rules from those proposed in 1991 to those that were adopted in 1992 substantially increased the percentages of subdivisions that would not be affected, from 9 to 37 percent of WS-II developments, and from 37 to 81 percent of WS-III and WS-IV Critical developments. For all categories the percentage of exemptions increased from 54 to 72 without stormwater controls. With stormwater controls that percentage increased from 83 to 97.5.

A relative frequency curve of land consumption derived from the sample can be used to determine the average increase in land requirements for subdivisions under the new regulations. Percentage increases in land requirements necessary to satisfy the regulatory standard for each category of watershed can be calculated for all values of land consumption. Weighting those values by their relative frequency in the sample, an average for each category can be calculated (see Table 4).

These results indicate that the 1991 rule changes sharply reduced the average magnitude of impacts on developments. For example, average increases in land requirements would have been 183 percent in WS-II non-critical areas under the proposed 1991 rules. Further, the high density option with stormwater controls was not allowed in those areas. The 1992 changes reduced that impact to 52 percent without stormwater controls and 3.1 percent with stormwater controls. Reductions of impacts on WS-III and WS-IV Protected areas were also quite significant. Overall, the average increase in land requirements was reduced from 54 to 18 percent without stormwater controls, from 32 to 1 with stormwater controls.

If changes in the price of undeveloped land due to regulation are ignored, effects on housing costs can be approximated by changing raw land requirements while holding all other factors constant. Tax assessment data for the 65 watersheds in the sample indicate that the value of developed lots represents 10 to 20 percent of total housing value. Undeveloped land accounts for some lesser percentage, but those costs are so highly variable that reliable estimates are not available for the sample. Nonetheless, it is doubtful that raw land costs will exceed 50 percent of developed land costs except in those situations where only minimal improvements are made. Those cases with only minimal improvements (no water or sewer) tend to be located in rural areas where land costs are low. If raw land costs are as high as 50 percent of those of developed lots, then the cost of raw land would range between 5 and 10 percent of housing costs. Under those conditions, a 52 percent increase in land requirements under the 1991 rules (without stormwater control) would have meant a 2.5 to 5 percent increase in the cost of housing. The rules as adopted in 1992 would cause a rise of 0.5 to 0.9 percent. If stormwater controls are adopted, the cost of additional land will be reduced. However, these reduced land costs will be at least partially offset by the cost of the controls. Clustering makes on-site improvement costs the same with or without regulation. Some additional off-site costs for streets, water, and sewer can be expected in areas where additional land requirements are very high.

Conclusions

The watershed protection rules proposed in 1991 would have provided a substantial degree of protection to public water supplies. One of the costs for that protection would have been a significant increase in land requirements for new developments in those watersheds located in counties that did not have comparable local ordinances. The most important impacts on both the size of affected areas and average impacts on individual developments would have been in the WS-II non-critical class of watersheds. However, modest changes to the rules or adoption of stormwater regulations could have substantially mitigated those impacts.

The drastic changes between the rules adopted in 1992 and the 1991 version considerably reduced both the level of protection and potential impacts on new development. Without stormwater controls, the amount of additional land required for new development was reduced from 54 percent to 18 percent.

Rough estimates of effects of these requirements on housing prices indicate only modest impacts under either version of the regulations. The rules as adopted will, on the average, cause a less than one-percent increase in housing prices.

Finally, most of the attention given to this issue has been on the cost side of the balance sheet. Very little attention has been paid to the benefits. Without that information, it is not possible to determine the economic impact of the regulations. For instance, prior studies suggest that existing development will benefit from changes in land values. The most important of the benefits to measure, however, is the direct benefit of providing sustained protection to public water supplies. If the quality of water or available storage in existing reservoirs is diminished to levels that make some existing sources unusable, the economic and environmental costs of replacement could be substantial. CP

Notes

[1] Watershed classification information taken from: *WRRI News* No. 245, August 1987, No. 259, September/October 1989; No. 262, March/April 1990; No. 263, May/June 1990; No. 267, January/February 1991; No. 269, May/June 1991

[2] Fischel. 1990. "Four Maxims for Research on Land-Use Controls", *Land Economics*, Vol. 66, no. 3, pp.229-236.

[3] Pollakowski and Wachter. 1990. "The Effects of Land Constraints on Housing Prices", *Land Economics*, Vol. 66, no. 3, pp.315-324.

Local Land-Use Planning and Natural Hazards in Coastal North Carolina

Maureen Heraty
Dale Roenigk

The North Carolina Coastal Area Management Act (CAMA) of 1974 was designed to protect coastal resources. This legislation required local governments in the coastal region to develop land-use plans to guide development. While many saw a strong need to control growth in the region, few local governments managed land use. Proponents of the law believed that local land-use planning could protect the environment from unwise growth, while still allowing local control of development.

To determine CAMA's impact after more than a decade, we interviewed thirty local governments in North Carolina. This research was part of a larger National Science Foundation-sponsored study of land-use planning in North Carolina and four other states. The results from these interviews and additional surveys indicate that CAMA has played a critical role in shaping land-use planning in the coastal region. Furthermore, the evidence suggests that, while the mandate is still necessary to ensure local land-use planning in most communities, CAMA has increased support for planning and may be playing a long-term educational role. In this article, we provide a brief history of CAMA and its land-use planning requirements, particularly those related to natural hazards. We then examine the findings from our interviews and their implications for the future.

History of CAMA and Land-Use Planning

Concern over the deteriorating state of the marine environment inspired federal legislators to pass the Coastal Zone Management Act (CZMA) in 1972. For some time, several different groups, including the American Law Institute and the National Governors' Conference, had been pushing both federal and state governments to endorse the twin concepts of national and state land-use planning. The Nixon Administration had hoped to pass a comprehensive national land-use planning bill which would include coastal zone management. However, a considerable portion of Congress opposed the concept of national land-use planning. As an alternative, members of Congress proposed a coastal zone management bill supporting national land-use planning in coastal areas only.[1]

The resulting Coastal Zone Management Act of 1972 encouraged states to use their authority to promote coastal planning. The act set up a federal agency with the authority and money to encourage states to promote land-use planning along the coast. Under the law, a state receives financial assistance if it develops and operates a coastal management program that meets federal approval. The Office of Coastal Zone Management in the National Oceanics and Atmospherics Administration (NOAA) is responsible for developing and revising the standards used to determine a federally-approved program. To receive approval, a state must identify inland coastal zone boundaries and permissible land uses within them; designate areas of critical concern; organize a feasible organizational structure within the state for controlling coastal resource uses; and coordinate program development within federal, state, regional and local governments. Moreover, to obtain cohesive regional policies, NOAA encourages the states to require local governments to collaborate on coastal land-use planning.[2]

In 1974, two years after passage of CZMA, the North Carolina legislature voted to adopt CAMA in response to concerns about uncontrolled growth along the coast

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and encouraged by the new federal aid.[3] The law required all county governments in the twenty-county coastal region to produce land-use plans and submit them for approval to the state Coastal Resources Commission (CRC). Municipalities were allowed to make their own land-use plans, either separately or as a supplement to the county plans. The law also subjected all new development within state-defined Areas of Environmental Concern (AECs) to a permit process overseen jointly by the CRC and local governments.[4]

The CRC regulations guiding plan-making require certain issues to be addressed but do not specify the direction of local plans. Local governments are required to update the plan every five years. The state provided substantial assistance to local governments for the original planning effort and subsequently for the updates. If a county does not take on this planning responsibility or does not satisfy the CRC requirements, the state will complete a land-use plan for the county. Nineteen of the twenty counties complied with the initial regulations and met CRC approval in 1975. The remaining county, Carteret, challenged the constitutionality of CAMA, which was eventually upheld by the state's Supreme Court. In 1978, the CRC adopted a plan for Carteret County, which has since taken on the task of its own planning. Additionally, fifty-nine municipalities have voluntarily assumed some level of planning responsibility for their jurisdictions as of 1991.[5]

Although the original CAMA legislation addressed natural hazards, the initial focus was on environmental protection. The continuing threat posed by coastal storms led the CRC to expand their policies regarding natural hazards. Beginning with the first round of updates in 1979 and 1980, the CRC required localities to strengthen their hazard mitigation plans. During the 1985 update cycle, localities were required to address pre- and post-disaster mitigation. The current guidelines require that policies for damage prevention, emergency preparedness, and post-hazard reconstruction. The state does not expect to increase hazard-related components of the land-use plans.[6]

Interviews and Data Collection

Implementation of CAMA has not only provided protection of valuable coastal resources, but has also significantly changed local land-use planning. For our study, thirty jurisdictions in the 20 county CAMA region were selected at random from all counties and cities with 2,000 or more residents. The sample selected included fourteen counties and sixteen cities. Thirteen of these jurisdictions were on ocean; the rest were inland, usually adjacent to one of the Carolina Sounds. Similar samples were drawn in California, Florida, Texas, and Washington. Officials responsible for planning were interviewed during the summer of 1991. Local land-use plans were collected and evaluated on the extent of the factual basis, goal identification, and action recommendations for the hazard-related aspects of the plan. Additionally, state officials responsible for administering CAMA were interviewed. The interviews were designed to determine how CAMA guidelines had affected local planning and how much the jurisdictions relied on land-use plans to shape policy, particularly for natural hazards.

Effects on Planning

CAMA has clearly increased the amount of land-use planning in the coastal region. Of the thirty jurisdictions in the sample, only eight, or 27 percent, indicated they had some form of land-use plan before CAMA. A comparison of the CAMA region with the North Carolina mountains suggests that this change is not the product of statewide changes in attitudes toward planning. The mountain counties are similar to the coast in that their economy is based on natural resources, tourism, and second homes; most cities are small; population has grown significantly over the last two decades; and they share a skeptical view of the value of planning. A mandate similar to CAMA was proposed for the twenty-four mountain counties (the Mountain Area Management Act) in 1974 but did not pass. Of the twenty-four mountain counties, only 3, or 12.5 percent, had land-use plans in 1990.[7] It seems reasonable to speculate that substantially fewer coastal communities (possibly only the original eight) would have land-use plans in the absence of CAMA.

The effect on land-use planning has not been limited to simply the creation of a plan. CAMA has also im-

Plan Component	California	Florida	North Carolina Coast	Texas	Washington
Fact Basis	2.7	3.2	6.5	2.0	0.7
Goal Identification	2.6	3.0	3.5	1.0	0.9
Action Recommendation	3.8	8.6	16.9	3.9	1.2
Combined Score	3.0	4.9	9.0	2.3	0.9
N =	27	30	30	14	29

Note: Plan scope scores based on evaluation of the number of items and their relative quality for each of the plan components.

Table 1. Comparison of Average Plan Scope Scores for Five States

proved the quality of the plans in certain targeted issues. Table 1 compares the scope of hazard plans across the five states. The scales used for this comparison reflect the number of hazard items addressed (e.g. facts, goals, actions). North Carolina coastal plans rated the highest in each category. North Carolina coastal plans on average have twice the number of items for facts and actions as Florida, the next highest. The average plan scores for California and Florida reflect state planning mandates. Texas and Washington did not have planning mandates at the time, but Washington has since adopted one. Similar qualitative evaluations of the hazard-related components of land-use plans in the North Carolina mountains and Piedmont resemble the results from Texas and Washington where there are no mandates. As in other states with planning mandates, CAMA has had a strong impact on the scope of the adopted land-use plans. North Carolina's program appears particularly strong, at least regarding natural hazards.

Interviews revealed that without the specific hazard requirements of CAMA, many of the communities would shift their plans away from mitigation. When asked whether they would change their strategy in the absence of specific planning requirements, sixteen of the thirty North Carolina sample governments said no, primarily because they either approved of the current CAMA approach or felt there were no other options. However, eight of the thirty, or 27 percent, said they would focus less on mitigation. Four of the interviewees also indicated their regulations would definitely be less stringent without CAMA.

Although CAMA has increased the amount and scope of planning in the coastal region, its effect on the level of local support has not been as strong. Only three of the communities that did not have plans before CAMA said they would have one now if CAMA were discontinued. Thus, nearly two-thirds of the localities surveyed would probably drop the mandated planning if possible. Several of these governments indicated they would nevertheless do more to monitor and manage development as a result of CAMA. These respondents attributed the shift to the educating influence of CAMA on decision-makers, the public, and even developers.

The most common reasons cited for discontinuing planning in the absence of CAMA were lack of need, insufficient staff, and controversy. A possible explanation is that many of these communities are inland and have experienced little or no population growth. It should be noted, however, that there is no clear statistical relationship between size of hazard area, population growth and interest in continued local planning. Lack of funding and technical expertise would be significant barriers for some of the smaller communities if CAMA were no longer in place.

While most of the respondents indicated they supported or strongly supported CAMA's goals, it is clear that the mandate is still necessary to maintain the current level of planning. A gradual acceptance of the value of planning may be taking place in many of these communities, but it is not self-sustaining.

Effects Beyond Planning

Although CAMA's local government emphasis is on developing plans, the mandate's effects have exceeded this narrow focus. Respondents indicated that CAMA has led to stronger or more appropriate regulations and has increased political support for hazard reduction measures (Table 2).

Another result of CAMA is that more plan recommendations are implemented as development management measures. These measures can be divided into two categories, development standards (e.g. building codes) and land use measures (e.g. zoning). Table 3 shows, by state, the proportion of recommendations in land-use plans which have been implemented into actual development controls. North Carolina coastal communities have implemented, on average, 69 percent of their plans' recommendations into development standards. This average is again higher than the other four states. This success is especially notable because North Carolina had higher numbers of plan recommendations at the start.

The North Carolina Division of Coastal Management has stressed consis-

Effect Reported	Respondents (N=30)	
	Percentage*	Number
Changed type, quality, or location of development	30.7%	(9)
Greater political acceptance of hazard reduction measures	16.7%	(5)
More stringent regulations	13.3%	(4)
Increase in public awareness	13.3%	(4)
Better technical assistance to developers	6.7%	(2)
Little or no effect	26.7%	(8)

* Respondents could provide more than one answer

Table 2. Effect of CAMA on Local Hazards Regulations

Development Management Measures	Califomia	Florida	North Carolina Coast	Texas	Washington
Development Standards	0.47	0.62	0.69	0.42	0.18
Land Use	0.48	0.60	0.64	0.39	0.29
All Measures	0.32	0.41	0.44	0.27	0.16
N =	27	30	30	14	29

Table 3. Comparison of Average Proportion of Plan Recommendations Which Have Been Implemented in Local Development Management

tency between recommendations and development standards to encourage communities to create plans they sincerely intend to implement.[8] Several of the interviewees indicated that this caused problems at first because some people did not expect the plans to carry any real weight. The state expects to increase this emphasis on consistency in the future. This should increase the effectiveness of the plan-making process.

Directions for the Future

During the interviews, local officials were asked to identify changes that they felt should be made to CAMA, particularly its land-use planning requirements. Although most of the respondents indicated general satisfaction with CAMA requirements, several issues arose. First, many felt that the planning requirements should be made more flexible to allow local governments to structure plans to their own needs rather than following a prescribed pattern. Several respondents indicated that the structure required by CAMA limited the usefulness and application of the plans. One locality convinced state reviewers to allow a different format after it created a cross-index to the state format. While this flexibility will allow localities better plan formats, it might also make it more difficult to compare plans with adjoining localities.

Localities also requested less stringent regulations or even the complete removal of requirements. To some extent this reflects a desire to avoid regulation in the very areas CAMA addresses. Change is therefore unlikely. It may be reasonable, however, to consider removing some communities, such as cities located far inland, from the CAMA program.

Several of the officials recommended increased coordination in the planning process between local government, adjacent jurisdictions and state agencies. As mentioned earlier, the Division of Coastal Management intends to put more emphasis on consistency in planning. It is likely this will promote consistency not only within a jurisdiction but also with local governments and state agencies.

Conclusion

In the years since the adoption of CAMA, the amount and scope of local land-use planning on the North Carolina coast has increased significantly. CAMA has allowed communities to overcome financial constraints on and local opposition to planning. Although many communities still believe that the planning has little value, it appears that a slow change is taking place. In some communities CAMA has served as an educational program while enforcing state standards.

CAMA has notably improved the quality of policies regarding natural hazards. Natural hazards are often a low priority, even in communities where the risk is reasonably clear and serious. CAMA requirements have motivated communities to protect themselves. CAMA's planning mandate has gone beyond just producing more planning. It has shown the value that planning can create. CP

Notes

[1] Brower, David J. and Daniel S. Carol. *Coastal Zone Management as Land Planning*, Washington, D.C.: National Planning Association, 1984, pp. 3-4.

[2] Ibid., pp. 4-6.

[3] DeGrove, John. 1983. "North Carolina: Combining the Local and State Roles," *Land, Growth, and Politics*. Chicago: Planners Press. pp. 335-350.

[4] Owens, David W. 1985. "Coastal Management in North Carolina: Building a Regional Consensus." *Journal of the American Planning Association*, Summer 1985, p.322-32.

[5] Interview with Roger Schecter, Director, and Rich Shaw, Assistant Director of the North Carolina Division of Coastal Management, September 17, 1991.

[6] Ibid.

[7] McLaughlin, Mike. December 1990. "Preserving the North Carolina Mountains: Time to Develop a Plan?" *North Carolina Insight*, p. 10.

[8] Interview with Schechter and Shaw.

New Jersey's Gold Coast: Revisiting Public Access and the Hudson River Waterfront Walkway

Andrew L. Strauss
Geraldine Wang

Once written off by the public, the environmental quality and economic potential of the Hudson River waterfront has become a centerpiece of New Jersey's public policy debate in recent years. Over the last decade, the shoreline of the Hudson River, stretching 18 miles from the George Washington Bridge to Bayonne and crossing nine densely developed municipalities, has undergone significant redevelopment. Formerly the domain of heavy industry, warehousing and shipping, the waterfront has long been all but inaccessible to the general public. With the implementation of a state walkway plan and procedures over the last decade, the public is for the first time gaining direct access to the water's edge.

The Hudson River Waterfront Conservancy

In 1988, The Trust for Public Land (TPL), a national, nonprofit land conservation organization, created the Hudson River Waterfront Conservancy (HRWC), a multi-jurisdictional nonprofit organization. HRWC works to ensure the physical accessibility of the riverfront and actively supports educational programs designed to inform the public about the Hudson River and the cultural and historic heritage of the waterfront communities. A primary component of this work is to facilitate the implementation and management of the Hudson River walkway. As presently constituted, the HRWC's board of trustees is composed of landowners, developers, public agencies, citizens and nonprofit organizations in the nine waterfront communities. The responsibilities of the HRWC include walkway planning, monitoring of development permits, assisting in the acquisition of new public access points along the waterfront (fee or easement), and the monitoring and enforcement of walkway easements.

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*The **Trust for Public Land** is a national, nonprofit land conservation organization dedicated to the protection of public access and open space. Since its founding in 1973, TPL has protected over 600,000 acres of scenic, recreational, urban, rural and wilderness land in 38 states and Canada. TPL is headquartered in San Francisco, CA.*

Walkway History

The Hudson River Walkway (hereinafter referred to as the "walkway") is designed as a continuous pedestrian route providing direct public access to and along the water's edge. The walkway--which is less than 20 percent complete today--is intended to run approximately 18 miles, from its intersection with the Palisades Interstate Park/George Washington Bridge in the north to its southern terminus at Bayonne's Constable Hook. The proposed route brackets the most densely populated region of New Jersey, which is also the densest portion of the New York metropolitan area. From any point along the walkway the visitor enjoys spectacular views of Manhattan, located on the opposite bank of the Hudson River.

The planned walkway route is intended to link existing parks along the waterfront. Connections to paths above and below the famed Palisades Cliffs will eventually be developed to take better advantage of the region's open spaces. Once complete, the walkway will be an important transportation corridor linking all nine municipalities along a continuous pedestrian spine.

The walkway concept has existed for several decades and has followed its own quirky and circuitous path to

the present. The walkway was first proposed in the Regional Plan Association's visionary 1966 study, *The Lower Hudson*. Nearly twenty years later, the concept was refined in the 1983 report of the New Jersey Waterfront Study, a legislatively sanctioned body. The plan, then as now, required developers to build a public walkway in exchange for the right to build office, commercial and residential projects on land touched by the tides that legally belongs to the state (See, Sidebar: The Public Trust Doctrine). Following the Commission's report, the walkway received state agency support through reference in the 1984 New Jersey State Outdoor Recreation Plan, published by the New Jersey Department of Environmental Protection and Energy (DEPE). In the same year, DEPE, assisted by the Philadelphia-based planning and design firm, Wallace, Roberts and Todd, created the plan and design guidelines that form the basis for the walkway's present development.

Throughout all of this planning activity, it was clear that the state's interest lay in getting the walkway built via regulation--in this case a permit condition or exaction, depending on one's perspective--rather than through direct state acquisition. Over ninety percent of the walkway's planned 18-mile length will be constructed over private property presently or formerly flowed by the tides, and thus subject to the state's regulatory interest.

Since the early 1970s, New Jersey's coastal zone management guidelines have imposed on all waterfront development a dual level of permit review and approval. In addition to the ordinary municipal planning board review, the DEPE's Division of Coastal Resources is vested with the power to issue a Waterfront Development Permit to all commercial, office, industrial or residential projects (the latter must exceed a density of 24 dwelling units) that fall within 1,000 feet or the first major public highway or built structure that parallels the water's edge. In recent years, various legislative enactments and administrative rulemaking procedures have resulted in a substantial expansion of DEPE's review and policymaking role under the Waterfront Development Permit process. One such expansion includes the definition of the Hudson River waterfront as an area of "special state concern," thereby triggering the public access and waterfront requirement.

About the time the Waterfront Study and Planning Commission released its 1983 report, the DEPE expanded the range of its Waterfront Development Permit to include the Hudson River waterfront. The expansion of state regulatory power was particularly timely in light of recent changes in ownership and land use along portions of the waterfront. The vast yard belonging to the Jersey Central Railroad, which had carried immigrants west following their discharge from nearby Ellis Island, had been abandoned in the early 1970s and numerous factories closed over the last two to three decades. As a result of technological change favoring mechanized container operations, bulk cargo facilities along the lower waterfront had become obsolete for industrial use. In the mid-1970s, cargo operations that had once flourished in places like Weehawken, Hoboken and Jersey City moved south to large, new facilities financed and operated by the Port Authority of New Jersey and New York at Ports Newark and Elizabeth.

By the early 1980s, loss of traditional waterfront manufacturing employment was greeted by the rapid expansion of the New York region's service sector, as typified by the geographic leapfrogging of Wall Street's famed "back office" computer operations. The changing economic climate likewise fed on an increase in the rate

The Public Trust Doctrine

The guiding force behind the walkway plan and regulations is a unique and well-articulated legal concept known as the "public trust doctrine." Recognizing the special environmental and economic value of tidally-flowed land, the courts of this country, in upholding English common law, have determined that states claim legal title to the land as "trustees" for the public. In *Illinois Central Railroad Company* v. *People of State of Illinois* (146 U.S. 387, 1892), the Supreme Court stated that: "It is the settled law of this country that the ownership and dominion and sovereignty over lands covered by tide waters ... belong to the respective States within which they are found, with the consequent right to use or dispose of any portion thereof, when that can be done without substantial impairment of the interest of the public." It was the original purpose of the public trust doctrine to preserve, for all, such essential waterborne uses as fishing, navigation, commerce and recreation.

It is safe to say that the scope and limitations of the public trust doctrine have never been precisely defined. The Supreme Court left it to individual states to legislate and statutorily articulate the limits of the public trust doctrine. Each state maintains the right to sell, lease and regulate private use of tidally-flowed lands or activities occurring on filled lands that were once tidally flowed. Naturally, the interpretation of the public trust varies by state. Each state, however, is required to perform a regulatory balancing act whereby some uses must be substantially advanced without other uses being substantially impaired.

This balancing act is apparent in the case of the Hudson River Walkway. Through its power to review and issue waterfront development permits, the New Jersey DEPE has required that Hudson River developers donate a thirty-foot-wide pedestrian easement along the entire length of their property, in addition to constructing and maintaining the actual footpath. This requirement forms the basis of and is the essential genius behind the waterfront walkway.

of new household formation and a net regional in-migration. Given the availability and affordability of large waterfront building tracts, coupled with ready construction capital, the waterfront was rather swiftly opened to new development and redevelopment opportunities. Obsolete land uses coupled with the easily-available capital of the 1980's swiftly opened vast areas of the waterfront to development and redevelopment. Regional developers responded to the new demographics with large-scale planning and construction of office, commercial and residential space along the waterfront. Currently, over 17 million square feet of commercial/office space and 15,000 residential units along the waterfront are in various stages of planning approval, with approximately 10-15 percent presently under construction or occupied.

The DEPE, recognizing a rare opportunity, recently completed a conversion of the former Jersey Central freightyard into the State's premier urban park on 800 acres just across from the Statue of Liberty. The DEPE worked closely with waterfront residents, local, state and federal politicians as well as regional public interest groups who had been pushing for a comprehensive solution to the freightyard abandonment as well as a county-wide system of public parks, walkways and access to fishing piers along the Hudson River.

Walkway Management and Use

While the DEPE has not been flooded with permit applications over the last two or three years, the agency has been increasingly confronted with management-related issues, reflecting the hybrid nature of the walkway. It is a park which runs through multiple land uses and hundreds of private ownerships across nine municipalities, with limited access points. Overseeing a partially-built, publicly-accessible, privately-managed walkway has become one of the State's most difficult challenges. Located as it is in a heavily urban environment, sections of the walkway have suffered substantial amounts of vandalism and graffiti. Park benches have been ripped out and tossed in the river, lights shattered and the remains of drug activity strewn about. In desperation, a limited number of private landowners have appealed and won relief from the DEPE policy of 24-hour public access. Recognizing the vulnerability of some isolated walkway sections, the DEPE has granted exceptions to the 24-hour rule for owners able to demonstrate hardship. In these cases, the State Park System's own dawn-to-dusk rules have been applied.

The intent of the DEPE's 24-hour access policy is to enable the public to enjoy the walkway, as they would a waterfront sidewalk, at all times. The questions raised by the 24-hour policy, however, are complex. Isolated walkway sections have tended to attract undesirable activi-

Underdeveloped Hudson River waterfront consists of rotting pier pilings and a soft edge.

ties, while other sections--planned and designed more like backyards than public promenades or sidewalks--intrude on the privacy of homeowners. Newer sections of the walkway have benefitted from the lessons of the past decade, as the DEPE refined its policy to reflect the realities of a privately-managed urban walkway.

Waterfront Walkway Design Issues

In 1989, new design guidelines for the walkway were incorporated into DEPE's original 1984 document *Walkway Planning and Design Guidelines*. While advisory in nature, the new guidelines have assisted DEPE in its review of Waterfront Development Permit applications. They have also been used by developers and waterfront officials for site planning and public access purposes. The guidelines establish dimensional, locational and overall requirements for the walkway. The dimensional requirements call for a minimum thirty-foot-wide public easement the water's edge, including a pavement width of sixteen feet. The walkway must be located as close to the water's edge as possible and include connecting walkways to furnish perpendicular waterfront access from the first public road inland from the river. Specific exceptions to these dimensional requirements are established for environmentally sensitive areas, industrial areas and narrow waterfront sites, including development on waterfront piers.

In August, 1990, this easement requirement was adopted by DEPE in regulatory form, requiring that:

> All waterfront development along the Hudson River shall develop, maintain and manage a section of the Hudson Waterfront Walkway coincident with the shoreline of the development property. The developer shall by appropriate instrument of conveyance create a conservation easement in favor of the Department. The conservation easement shall define the physical parameters of the walkway and the allowable uses, address the maintenance and management duties and identify the responsible party. Development of each project's public access system shall conform to ... the Hudson Waterfront Walkway Planning and Design Guidelines (1984) and the Hudson Waterfront Walkway Design Standards (1989). (N.J.A.C. 7:7E-3.48(e))

To facilitate compliance with the easement requirement, The Trust for Public Land, in conjunction with DEPE, developed a model walkway easement which permits the agency, as grantee of waterfront easements, to transfer the easement to a qualified, charitable land conservancy (also known as a land trust).

There are numerous advantages to this type of arrangement. For one, local land trust monitoring and enforcement of conservation and public access easements--especially easements that involve multiple landowners and political jurisdictions--is apt to be more responsive and flexible than parallel monitoring by a government agency. While this is not always the case, it is worth considering that, due to the project's urban context, current walkway easements contain numerous affirmative measures (such as the allowance of demolition, redesign and construction of adjacent built areas) which mandate systematic and adaptable monitoring and enforcement. This easement technique is a departure from standard rural easements, consisting principally of references to prohibited activities.

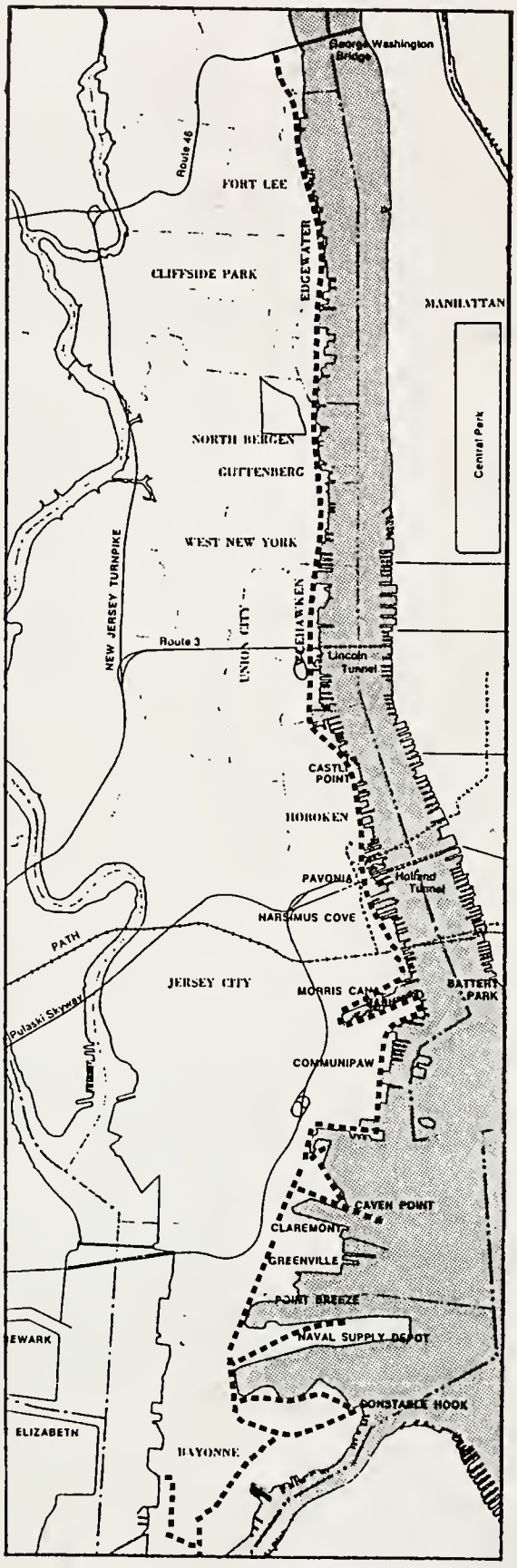
Whose Walkway Is It Anyway?

Public spaces that are managed and paid for by private dollars have an intrinsic problem: Both users and owner/managers want control. Across the river from the Hudson Walkway, Battery Park City (BPC) in lower Manhattan is one of the best-maintained and most successful public waterfronts. Its high maintenance costs are heavily subsidized by the surrounding residential developments as part of their common charges. The BPC Parks Corporation, the park's manager, has had to balance the demands of its residents with those of the park users. As owner assessments increase with escalating costs, this task has become more difficult.

BPC residents, for the most part, have made it clear that they resent the use of the park by non-residents. Many residents believe that the park's rules don't apply to them, and have flagrantly disregarded security guards trying to enforce regulations. There are instances of owners purposefully lifting their dogs over fences onto ornamental flower beds, of residents informing users that the park is private, and arguments over park use with security guards that have culminated in violence. Despite the residents' stance, the Parks Corporation's current Executive Director, Tessa Huxley, continues to plan activities for a broad, citywide audience. A change in leadership, however, could quickly eliminate those programs and confine the Corporation to an agenda narrowly focused on the interests of the residents.

The NIMBY Syndrome in Waterfront Housing Developments

In its current form, DEPE's *Walkway Plan and Design Guidelines* fails to address adequately the relationship between the walkway and the range of public and private land use along the water's edge. For example, commercial and office projects that aggressively seek to attract the public to their sites are typically more committed to public waterfront access than are owners of small scale, semi-attached luxury homes. For instance, developers of some office and commercial projects have incorporated the walkway requirements into the preliminary design phase. This resulted in more integrated sections of the walkway, and, on two occasions, the voluntary doubling of gross area dedicated to public use.



Map of the Hudson Waterfront Walkway.

From the beginning, housing developers and homeowners' associations have viewed the walkway as an intrusion and a heavy burden. A number of residential walkway sections reflect this attitude in their planning and design. Instead of acknowledging the presence of a public walkway, the majority of residential walkway sections appear to deny its existence. In many instances, the separation between walkway and residences is obscured, with inadequate transition zones between publicly-accessible and private lands. In contrast to other successful urban waterfront walkways (See sidebar, "Whose Walkway Is It Anyway?"), the walkways have been enveloped by the residential development as an extension of its front- or backyard. Frequently, the walkway segments along residential developments are designed with the express purpose of discouraging public access: signage is nonexistent and public access to the walkway is difficult to locate. Waterfront developers often market exclusivity; although open space and the esplanade are used in advertising brochures to attract homebuyers, mention of a public walkway can only be found buried in the legal prospectus.

To those who bought homes believing the walkway was private, the public's right to access is considered an untenable intrusion, an infringement of property rights that places an unfair liability and financial burden on homeowners. Homeowners' associations have reacted to DEPE's access policy in differing ways. Perhaps the most extreme example is that of one association in the Boro of Edgewater, which erected a "No Trespassing" sign attached to a heavily padlocked fence with barbed wire. Notified by outraged users, DEPE issued stiff fines for the blatant violation. The homeowners' association responded by initiating legal action against the State for requiring public access in the first place. The case, the state's first effort to enforce the developer permit conditions, represents a direct challenge to the walkway criteria under the public trust doctrine. The suit is expected to be settled out of court within the next few months.

Over the years, developers have urged the DEPE to reconsider its walkway and open space requirements along developable piers in the Hudson River. One proposed project includes the designation of an entire pier as open space to facilitate the transfer of development potential to adjacent piers. Other pier projects accept the public access and walkway policy grudgingly. In Weehawken, the most recently built pier development is Riva Pointe, a luxury residential project. Riva Pointe has been not so subtly designed to discourage public access. The entrance to Riva Pointe is up one flight of stairs through a large ornamental gate. There are, of course, no signs stating that the walkway, which runs along the center of the pier, is open to the public. Every indication is that the pier is private.

One last problem specific to residential sections of the walkway concerns the public's right to gain perpendicular access to the water's edge, frequently by walking through a site from the nearest public road. Portions of the waterfront are accessible to the public at present, although access to many of the privately owned parcels is difficult or non-existent. The Port Authority Trans-Hudson (PATH) rail system provides immediate access to the waterfront at several points. Some bus service is available, but for the most part the waterfront is currently accessible only by car. Parking along the waterfront can be difficult, particularly near PATH stations. The case for perpendicular access is made more compelling when considering large, but isolated waterfront parcels, where the walkway ends abruptly, with no connection to other segments of the walkway. On several occasions, representatives of the DEPE, Trust for Public Land and the Hudson River Waterfront Conservancy attempted to gain access to these walkway sections. They were turned back repeatedly by security staff, who were often ill-informed about the access requirements. Where alternate access to the walkway was available, more often than not it was by an unmarked and thoughtfully disguised route.

Grundy Park in Jersey City offers fine views of Manhattan's Financial Center.

A Public Purpose, Privately-Implemented Walkway

With assistance from the Hudson River Waterfront Conservancy, the walkway has emerged, section by section, in one of the nation's most urban and densely-populated areas. In its policymaking role, the DEPE continues to face new challenges. Developing an 18-mile linear waterfront park plan across nine municipalities represents the first, and arguably least difficult, step towards realizing the vision that was originally promoted almost thirty years ago. The walkway's completion and ultimate success as a public amenity hinges on several additional factors, including a sound real estate market and supportive policies relating to walkway use, management and enforcement.

The DEPE's 1984 walkway plan reflected the heady times and optimism of a period marked by development activity and public-private partnerships--a time when government regulators enjoyed substantial leverage over waterfront projects and permit applications. Today, with development along the "Gold Coast" down to a trickle, with foreclosures and auctions dotting the shore, progress on the walkway has come to a virtual halt, held hostage by the recession.

In its present incarnation, the walkway is almost entirely the product of private development activity, lacking the continuity and financial strength of a government-sponsored project. Because DEPE's walkway requirement is triggered by a change in land use, parcels without development plans may remain without a walkway for years. Conversely, isolated parcels that have been developed under the walkway requirement have, in some instances, created parks plagued by management problems. The image of a continuous "string of pearls" is powerful indeed, but today that image must acknowledge current market realities.

Management and Security

Although the walkway was planned as one continuous park, no mechanism currently exists to ensure consistent management and security along the waterfront. One owner may fail to provide even minimal maintenance, while another, seeking to encourage public access, may have an expensive management program. Commercial owners typically prefer to retain control and responsibility for the management of the walkway (i.e., public security as well as maintenance of the walkway, street furniture, plants and lighting fixtures) to ensure a standard of quality consistent with their development.

Recognizing the state's limited powers to monitor and enforce public access and management of the walkway, the Trust for Public Land, in conjunction with the HRWC and under contract to the DEPE, drafted a set of proposed management guidelines for the walkway in 1991. These guidelines set forth explicit standards that all walkway owners must follow. The guidelines will be incorporated into the walkway plan and can be used as a reference in easements conveyed to DEPE. The report

A walkway section of the Lincoln Harbor mixed-use redevelopment area in Weehawken.

accompanying the guidelines strongly recommends the establishment of penalties for non-performance of management duties, with the Conservancy monitoring all walkway easements.

Given the multiple political jurisdictions and relative youth of the walkway, it comes as no surprise that a recognizable system of police authority and response has yet to develop. A strong local police presence along the walkway could limit liability and costs assumed by owners, while also protecting the rights of users in sections where private security forces may seek to prevent or unreasonably restrict use. With each walkway owner and municipality struggling to oversee its own lands, and little or no coordination of security, the question of adequate security along the waterfront remains unresolved.

Liability

Under DEPE's walkway requirement, liability is retained by the landowner. This is not as heavy a burden for office and commercial projects, which carry comprehensive liability policies, as it is for residential projects and waterfront condominium homeowners' associations. For the homeowners' associations, liability insurance is typically one of the larger expenses. As one would expect, many residential projects have sought to control their liability costs by limiting or excluding the public from walkway use. In an unusually effective countermeasure, the State recently enacted the Public Access Liability Law (P.L. 1989 c. 172). The law states that, for landowners whose property is freely accessible by the public, liability is limited to cases of gross negligence. This statute is expected to reduce liability litigation and, consequently, landowner insurance costs.

Conclusion

From both a planning and implementation standpoint, the objective of constructing a continuous pedestrian walkway along the water's edge--through nine separate political jurisdictions and hundreds of private land ownerships--is nothing short of breathtaking and groundbreaking. While the formal DEPE walkway effort is just short of its tenth birthday and less than twenty percent complete (thus leading one to project its build-out at fifty years), it remains proof positive that the walkway is currently under construction. Triggered solely by regulatory requirements, the walkway stands as testimony to the delicate balance between a publicly conceived and fostered amenity that is built, managed and insured by myriad private interests.

A number of walkway observers have asked the question whether it would be possible to accelerate the completion of the walkway through direct state purchase or funding of sections. Others have wondered whether a 50-year buildout is satisfactory. Regrettably, it was the initial policy of DEPE and other government decision-makers to build the walkway principally through the process of regulatory exaction. From the vantage point of the 1980s, this position seemed eminently reasonable. Of late, however, walkway planners, local citizens and their elected representatives have begun to press for direct public expenditure for acquisition of needed walkway sections. Several groups have gone public with proposals for purchase of specific "gap sites" or promenade areas that can better link existing walkway sections. With last year's reauthorization of the federal Surface Transportation Act, walkway planners and advocates are hoping to secure a significant portion of the $71 million available to New Jersey over the next five years for qualifying pedestrian and alternative transportation projects. There is no question that when it comes to the Hudson River walkway, hope springs eternal. CP

Protecting a Natural Legacy: Scenic Hudson, Inc. and the Hudson River Valley

Seth McKee

From its source at Lake Tear of the Clouds in the Adirondack Mountains of upper New York State, the Hudson River flows over 300 miles to its mouth in New York Harbor, where it empties into the Atlantic Ocean. Along the way, it flows past a wealth of diverse landscapes: rolling farmland, rustic, industrial river towns, mountain ranges of striking geology, ecologically-significant tidal wetlands, and finally New York City. For over half the length of this journey, the Hudson is tidal, and as a major estuary, the river contains marine, brackish, and freshwater habitats. This diversity of landscapes and natural habitats has intrigued residents and visitors for centuries, and has been the scene of historic events, extensive commerce, spectacular artistry, and everyday inspiration. It has also posed a challenge to planners and conservationists throughout the Hudson Valley--how to safeguard its natural attributes in the face of considerable long-term development pressures, while accommodating inevitable growth and development in a manner that is compatible with this natural heritage.

This challenge is faced by many regions across the nation and the world, but is intensified by certain attributes specific to the Hudson Valley. The New York metropolitan area has little room to grow in directions other than the Hudson Valley, due to near build-out conditions in other suburbs of the region. Indeed, the Hudson Valley may represent the New York metropolitan area's last frontier in terms of development. Despite these pressures, current economic hard times have not spared the Hudson Valley. The industrial base of the area is shrinking, with General Motors closing its plant in North Tarrytown, and major regional employers such as IBM announcing plans for restructuring and "voluntary attrition."

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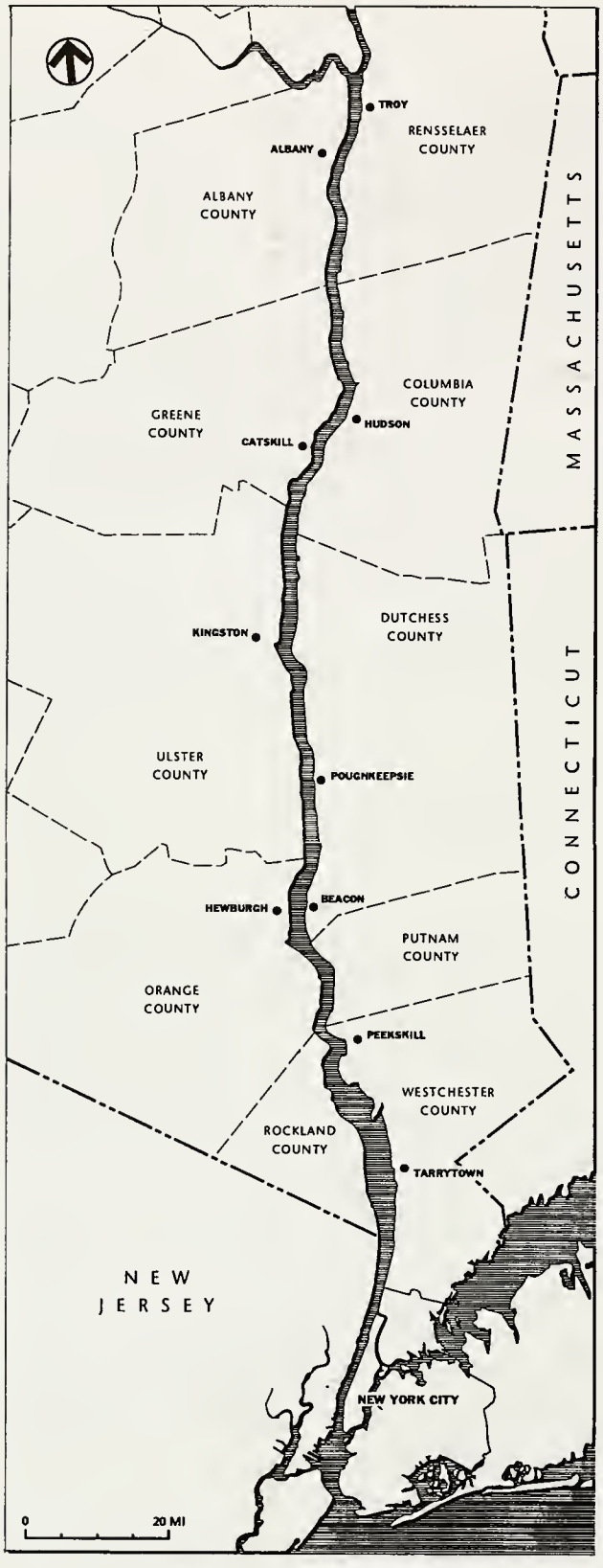
The industrial legacy of the river has brought about other problems. First, the river was traditionally the site of water-dependent industry, which used the Hudson as an inexpensive, reliable source of transportation. The result has been a legacy of industrial location on the river. This pattern of industrial development continues in the present, despite the lack of truly water-dependent industries. This has degraded many of the Hudson's natural attributes and has limited public access to the riverfront.

Second, historic industrial activity along the river haunts its current residents. In the 1940s, 50s and 60s the General Electric Corporation buried toxic PCBs in the river's sediments. Current health standards recommend against consumption of most fish species caught in the Hudson, due to the presence of PCBs which are linked to cancer and neurological problems. This has had a disastrous impact on the region's fishing industry, which now must limit its catch to species that reside in the Hudson for short periods of time.

Finally, over 35 percent of the Hudson's riverfront towns and villages lack any public means of accessing the river, such as parks, boat launches and trails. For many residents of the Hudson River Valley, the river is simply something to be crossed on the way to somewhere else, despite the strong regional identity that it fosters. Those communities without river access also lose tourist dollars to towns and villages that offer opportunities for recreation along the river.

The Response

Many local governments have been trying to address these problems, through parkland acquisition, zoning and subdivision regulations, agricultural districts, and environmental impact reporting requirements. As is true everywhere, some local governments are more diligent, capable, and have more resources and political will than others. Many local planners and municipal officials



Map of the Lower Hudson River Valley

strive to increase public access and limit development in sensitive riverfront areas. Often, however, local governments are short-staffed and lack the financial resources to fully cope with the problem. Given the decrease in federal and state aid to local governments over the past decade, increasing the local tax base is an understandable priority. This drives local governments to look more kindly on private waterfront development proposals and to sometimes overlook negative environmental and fiscal effects they may bring.

Local not-for-profit groups have been quick to respond to the lack of local government resources. There are many such groups in the Hudson Valley: Scenic Hudson; Hudson River Sloop Clearwater, which monitors riverfront development and provides hands-on river environmental education for citizens; the Open Space Institute, which acquires land in fee and via easements for trails and public parkland in the valley and elsewhere; and many local land trusts and citizens groups with an interest in the protection of land or river frontage. In addition, several national not-for-profit organizations maintain an active interest in the Hudson Valley, such as The Nature Conservancy, which protects significant habitat and plant and animal species, and The Trust for Public Land, which purchases land for public parks.

Scenic Hudson: Its History and Mandate

Scenic Hudson was born out of one of the defining controversies of the environmental movement in the United States--the battle to preserve Storm King, a massive, regal-looking bare mountain at the northern reaches of the Hudson Highlands near Newburgh, New York. In 1963, the New York City utility company Consolidated Edison proposed the construction of a pumped storage facility on the slopes of Storm King. This alarmed many people who were concerned about the impact such a development would have on the mountain, and on the precedent it would set for development in other sensitive, historic or otherwise valuable areas. Storm King symbolized the regional identity created by the Hudson--majestic, historic, yielding to no human. Sustained opposition over a decade by a coalition of environmentalists, historians and recreation enthusiasts halted Con Edison's plans and convinced a generation of New Yorkers that citizen activism could accomplish the goals of environmental conservation.

One of the leaders in the fight was the Scenic Hudson Preservation Conference, a group formed in response to the threat to Storm King. The group soon became known as Scenic Hudson and attracted the support of many residents of both the Hudson Valley and the New York metropolitan area. Over time, the group focused its efforts on monitoring development trends in the Hudson Valley and acquisition of significant parcels of riverfront land for conveyance to government agencies.

Today, Scenic Hudson has a full-time staff of 17, and works in three major program areas: land preservation, waterfront development, and environmental monitoring. Its land preservation division works directly with

landowners, local governments, citizens groups and the State of New York to protect land with outstanding scenic, natural resource, historic or recreational value. Waterfront development specialists provide technical assistance and advice to local governments in the Hudson Valley, and advocate public access to the river and environmentally sensitive development. Environmental specialists monitor water quality, water use, and industrial impacts on the river, promote watershed protection and water conservation, and lobby for policies at all levels of government that will result in a clean Hudson River. This article focuses on the approaches and techniques used by Scenic Hudson in the areas of land preservation and waterfront development.

The Hudson Valley: The Next Frontier

It is useful to look at the work of Scenic Hudson in the context of development trends in the New York City metropolitan area, in the Hudson Valley, and in the state of New York as a whole. The Hudson Valley is the least developed subregion in the New York City MSA. Suburbs to the east (Long Island) and west (New Jersey) of the city are nearly built-out, as are the portions of the Hudson Valley closest to the city, such as southern Westchester County. There is literally nowhere else for New York City-generated urban sprawl to go, other than further into the Hudson Valley.

The rate of growth in the Hudson Valley has slowed since the onset of the current recession, which has hit the northeastern U.S. particularly hard. IBM's troubles cause many in the Hudson Valley to feel insecure about the region's economic future. Despite the economic downturn, development pressures remain. "Developers are continuing to work their projects through the approval mill, so that they'll be ready to go when the economy turns around," says Scenic Hudson's Associate Director Carol Sondheimer. They continue to show a strong interest in riverfront property for residential, commercial and industrial uses. "It is a mark of the allure of the river that developers continue to maintain a healthy interest in siting projects there," says Sondheimer.

Another factor which will undoubtedly influence the regional economy of the Hudson Valley is the imminent expansion of Stewart Airport, a heretofore small, regional facility in Newburgh. Tentative plans are for an increase in passenger service by several hundred percent and the creation of seven million square feet of cargo facilities by the year 2000. This expansion will consume approximatcly 8,000 acres of undeveloped buffer lands. Whether the net impact of this expansion on the local economy will be either positive or negative is the subject of current debate. Many people believe this expansion will result in the de facto creation of a fourth metropolitan airport for New York City. Combined with a proposed high-speed rail system linking New York City with Albany, the expansion of Stewart Airport will undoubtedly accelerate the decentralization of the New York metropolitan area into the Hudson Valley.

Long-term development along the Hudson River has caused losses of tidal wetlands and other significant riverine habitat, public access for recreational and aesthetic purposes, and natural characteristics due to incompatible land uses. All of these are areas of concern for Scenic Hudson.

Scenic Hudson: Land Preservation

The land protection efforts of Scenic Hudson focus on the acquisition of interests in land that represents a valuable public resource, either for its natural value--wetlands, significant tributaries, and contiguous forest stands--scenic beauty, historic significance, or potential for meaningful public access. Scenic Hudson promotes the wise use of land resources in ways that both protect the natural environment and enhance the quality of life of riverfront communities. A balance is also sought between long-range planning for resource protection and responding to opportunities as they arise in the private land market.

Scenic Hudson's land preservation activities are conducted through its subsidiary corporation, The Scenic Hudson Land Trust (SHLT). SHLT generally "preacquires" sensitive land from a private landowner for eventual conveyance to a public entity, such as the state, county or local government. Like most not-for-profit land trusts, SHLT operates on the premise that it can bring a degree of flexibility, responsiveness, and creativity to land protection that public agencies generally cannot. Given limited funds, limited staff resources, stringent project review and approval processes, and that ever-present monkey wrench called politics, public agencies are often unable to respond quickly enough when an opportunity to protect a parcel of significant land arises. Land trusts like SHLT can often strike a deal before the landowner gets frustrated by the red tape and funding obstacles involved in transfers of land into public ownership.

The affluence that New York City spins off keeps the price of real estate along the Hudson River high, especially in its southern reaches. Prices for developable riverfront land along the Hudson in early 1992 ranged

Population Growth Trends in New York State 1980-1990

Region	*Growth Rate*
New York State	2.5%
Hudson Valley[1]	3.9%
Westchester County	1.0%
Orange County	18.5%

Source: ***A Hudson River Valley Greenway*****, February 1991, from** ***The New York Times*****, January 25, 1991**

Nutten Hook. One generation's dredge spoil is another's future riverfront park.

from $5,000 to $60,000 per acre, with the highest values found in Westchester and other southern Hudson Valley counties, as well as in cities and towns in the mid-Hudson area. These prices make it difficult for not-for-profit land trusts, which rely on the donations of members, supporters and, to some degree, corporate sponsors to compete with private developers for sensitive or notable land.

The Scenic Hudson Land Trust, however, is a beneficiary of a privately created fund for the conservation of land in the Hudson River corridor. This fund makes it possible for SHLT (hereafter referred to as Scenic Hudson) to protect land in this high-priced real estate market.

A recent development has made it impossible, at least for the moment, for land trusts such as Scenic Hudson to acquire land for conveyance to the State of New York. In November 1990, the voters of New York State narrowly voted down the Environmental Quality Bond Act (EQBA) of 1990, which proposed the issuance of $2 billion in bonds by the state for environmental projects, $800 million of which was specifically earmarked for state land acquisition. This came as a surprise to many, because prior EQBAs in 1972 and 1986 had enjoyed widespread public support. It would seem that with the recession in full swing, a narrow majority of voters, primarily in less urbanized areas, perceived land conservation to be a luxury reserved for better economic times.

Thus Scenic Hudson and other land trusts in New York State cannot at this time rely on state government to be the ultimate buyer of land that they first acquire. This has forced the organization to look at creative ways to protect land without bearing the burden of day-to-day stewardship. One option is to acquire the land and then enter into long-term leases or management agreements with the state or other public agencies in the hopes of eventual public acquisition.

The recent publication of a draft Open Space Conservation Plan by New York State's Department of Environmental Conservation and Office of Parks, Recreation and Historic Preservation may help create state funding for land preservation. The plan identifies the Hudson River Valley and estuary as a major resource area deserving of active protection efforts. It recommends that funding for open space protection come from an existing soda and beer tax, a fee on the sale of automobile tires, and/or unclaimed beverage deposits. If such funding is secured, Scenic Hudson will once more be able to "pre-acquire" sensitive land for the state.

As of April 1992, Scenic Hudson had protected over 1,990 acres of significant land along the Hudson River through fee acquisition. Four hundred acres of this total was the purchase and transfer of Storm King Mountain to the state. In addition, Scenic Hudson holds conservation easements on over 800 acres of land, including lands comprising portions of the views from the historic Franklin Delano Roosevelt Home and Vanderbilt Mansion in Hyde Park.

Land Preservation Techniques

A variety of techniques is available to land trusts for the protection of significant land. The use of a particular approach is dictated by the type of resource being protected, by the needs of the landowner, and by the resources of the organization. Scenic Hudson relies on two distinct approaches: fee simple acquisition (i.e. full ownership of land) and acquisition of conservation easements (i.e., ownership of the development rights to the land).

Fee Simple Land Acquisition In general, Scenic Hudson seeks to purchase outright land which requires full ownership in order to protect its outstanding resource value. For example, fee acquisition is often the chosen strategy when dealing with tidal wetlands, due to the state of flux of national and state wetlands protection laws and to the potential of wetland property to provide opportunities for public research, education, and nature appreciation. Additionally, large, contiguous tracts of woodlands or river frontage are often protected through fee acquisition. They are often most appropriate for future conveyance to a public agency for parkland.

There can be many incentives for owners of riverfront land to sell. The owner may be struggling with a heavy property tax burden, due to high property values. Lack of developer interest due to the recession can make the sale of such land more difficult. Or, the owner may be a developer having second thoughts about the viability of his or her project, as has been occurring more frequently in the past year because of local economic conditions. The owner may have an emotional attachment to the land that is not shared by his or her children, prompting a concern for its long-term preservation as open space. Or, the owner may simply be a "land-rich, cash-poor" family, desiring to convert its land into a liquid asset.

Due in part to its flexibility as a private not-for-profit corporation, Scenic Hudson can structure a land acquisition to maximize the advantages to different landowners in different circumstances. For instance, if a landowner is concerned about the income or capital gains tax implications of a sale of land, Scenic Hudson can structure the deal so that payments occur over a period of years, resulting in a manageable long-term income stream for the seller. This can help limit the seller's income and capital gains tax liability. In addition, a sale to Scenic Hudson that is below the appraised fair market value can qualify as a *bargain sale*, in which the difference between the fair market value and the sale price qualifies as a donation to a charitable organization. This donation is a valid income tax deduction for the seller.

Sometimes landowners are interested in the long-term preservation of their land, but do not want to give up their use and enjoyment of the land during their lifetimes. Under these circumstances, a sale with a *life estate agreement* is appropriate. This allows the sale to take place today, but allows the landowners to remain on the property through their lifetimes. Upon the death(s) of the sellers, full use of the property goes to Scenic Hudson. This technique is also called purchase of a *remainder interest* in the land. Alternatively, a *sale and lease-back* can be devised to allow for occupancy by the seller for a specified time period.

Conservation Easement Acquisition Conservation easements are the desired approach when total ownership or control of the land is not necessary to protect its outstanding resource value. For instance, conservation easements are appropriate for the preservation of scenic viewsheds, family farms, actively harvested timberlands, or historic architecture, where conservation and public benefit can be realized merely by continuing current land use practices.

A conservation easement severs the development rights of the landowner from his or her bundle of property rights, leaving the owner with full ownership of the land, but with development restricted by the terms of the easement. Such easements generally are valid in perpetuity; they run with the land and are binding on all future landowners. They can be written flexibly, to accommodate limited future development in designated areas, cluster development, selective tree cutting, or other terms mutually agreed upon by the two parties.

As a land protection strategy, the acquisition of conservation easements depends in part on the good faith of the landowner in complying with its terms and on the diligence of the easement holder in enforcing them. For this reason, Scenic Hudson obtains baseline data about the resource being protected through aerial and on-the-ground photographs and site visits. Scenic Hudson has an easement monitor on staff who is responsible for assuring compliance with the terms of the easements. There have been only a few violations to date, and these have been resolved to Scenic Hudson's satisfaction, without resorting to legal action.

Scenic Hudson also seeks to acquire riverfront trail easements across privately owned lands, to provide public access between publicly owned lands, and to further the creation of a greenway stretching from New York City to Albany on both sides of the river. An example of this is the Hyde Park Trail linking the Franklin Delano Roosevelt Home with the Vanderbilt Estate, both federally-owned historic sites. The trail was created in part by Scenic Hudson through the acquisition of a trail ease-

ment across the property of a private landowner. In this situation, acquisition of the land in fee was impractical and unnecessary due to the nature of the resource being protected, a narrow access path between two properties.

Conservation easements are generally acquired in two ways: donation or purchase. Purchased easements are at the heart of public purchase-of-development-rights schemes, such as the successful and much-publicized program in Montgomery County, Maryland. Scenic Hudson generally tries to encourage the donation of conservation easements, again using its charitable status as an incentive to landowners, but has on occasion purchased development rights to significant property.

Both purchased and donated easements can reduce landowners' property taxes. In theory, by severing the right to unrestricted development of the land from its bundle of property rights, the fair market value of the land is decreased from its "highest and best use" to its current use value or potential use value under the terms of the easement. Local assessors should take this into consideration in assessing such properties. Since there is no statewide requirement that they do this, however, the assessment of easement-restricted property is an inconsistent business. Some assessors are not familiar with easements, or suspect they will be used by landowners to evade property taxes. It is imperative that local governments concerned with conservation of sensitive land resources educate their assessors about valuations of easements. Scenic Hudson staff try to encourage the incorporation of easement values into land assessments through providing information to landowners about easement valuation.

Conservation easements can also be used to reduce estate taxes, the tax that is levied at the time of the transfer of property through inheritance. Many "land-rich, cash-poor" families face the prospect of a combined federal and state estate tax of up to 55 percent of the value of the property.[2] This will often force the landowner to sell or subdivide the property to make the payment of this tax. If the land is subsequently developed, the natural or public resource is lost forever. By lowering the fair market value of the property, a conservation easement can often lower the estate tax to a level that heirs of the property can afford. As a result, the property remains in the family's hands, and its resource value is preserved by the terms of the easement.

Finally, a conservation easement donated to a land trust such as Scenic Hudson can be claimed as a charitable deduction by the owner, and may result in income tax savings. The value of the easement for tax deduction purposes is determined by taking the difference between the value of the land unencumbered and the value of the land under easement. In order to qualify for a deduction, however, the easement must meet several strict criteria established by the Internal Revenue Service. These include the requirement that the easement provides public access to a recreational resource, or protects significant natural habitat, scenic landscapes, productive farmland, or historic landscapes or structures.

Identifying Public Access Opportunities Scenic Hudson seeks to increase public access along the river over both public and private land. Abandoned railroad lines or spurs, power line right-of-ways, and unused trails all represent potential for public access and recreation. Often the owners may be willing to sell or even donate these linear properties.

Formerly underwater lands that are technically public property but generally considered to be owned by adjacent landowners offer intriguing public access possibilities. Many parts of the Hudson were dredged during the 1920s and 1930s to create today's shipping channel. The dredge spoil was often dumped along the shore of the river. Since the State of New York claims title to all land "now or formerly below the mean high water mark of the Hudson River," these dredge spoil deposits are legally public property. In many places, the spoil deposits have evolved to become fully vegetated, lush land masses; private landowners have purchased adjacent uplands thinking they were also buying the land that is dredge spoil.

Scenic Hudson was involved in a land purchase over the past two years that demonstrates the significance of these dredge spoil deposits. Scenic Hudson intended to purchase Nutten Hook, a lush peninsula in rural Columbia County, and then resell it to the State Department of Environmental Conservation for future recreational purposes. A survey of the property, however, showed that significant amounts of land were actually dredge spoil deposits. Instead of purchasing this already publicly-owned land, Scenic Hudson purchased only the historic uplands and conveyed them to the state, saving the public a substantial sum of money.

With a grant from the Hudson River Improvement Fund, Scenic Hudson has undertaken a study to identify some of these "formerly underwater lands" along the Hudson. The study will delineate the extent of dredge spoil deposits in a specified pilot area and notify the state, title companies, surveyors and the like that these lands are actually owned by the State of New York. A number of opportunities for public access to the Hudson River may be created as a result of this study.

Greenway Planning At the end of 1991, New York Governor Mario Cuomo signed into law a plan to create a Hudson River Valley Greenway, a system of connected trails and parks along both sides of the Hudson, stretching from New York City to Albany. The greenway plan is more than a trail system, however; it encourages the Hudson River Valley to engage in regional planning, to think and act like a region with common economic and environmental interests, rather than as a collection of municipalities and counties. The Greenway legislation encourages waterfront revitalization, farm preservation,

tourism development, master plan and zoning ordinance updates, overlay zoning for waterfront areas, and natural and cultural resource inventories. A Greenway Council and Conservancy have been established to provide technical assistance in these areas to the various communities in the region.

Since the Greenway plan relies on the voluntary participation of riverfront municipalities, it does not threaten the home rule authority of local government. Incentives for participation include preference for state infrastructure and land acquisition funding and indemnification of municipalities from legal challenges arising from implementation of the greenway.

Scenic Hudson is helping communities to plan and create projects related to the greenway. This includes assistance in trail-creation, using the above-mentioned land preservation techniques; assistance with grant proposal writing; and provision of information and advice on innovative zoning devices, such as waterfront overlay zones, to promote compatible land use practices in the greenway area.

Waterfront Development

Scenic Hudson works in partnership with local and county governments to promote sound planning practices along the Hudson riverfront. Its goal is to mitigate visual impacts of new construction along the river, preserve the integrity of the river's shoreline by protecting it from haphazard and inappropriate development, and create public access opportunities within private riverfront developments. This is done both proactively, by providing local governments with information on creative zoning and planning techniques, and reactively, by reviewing development proposals, site plans, ordinances and master plans, providing input at public hearings and scoping sessions, and working directly with developers to mitigate negative impacts on the riverfront.

Waterfront development specialists at Scenic Hudson espouse a number of sound planning principles. The first is that modifications can be made to riverfront development proposals to make them less obtrusive on the natural environment. On specific development proposals, Scenic Hudson advocates and encourages height and density limitations, the use of earth-tone colors in construction materials, adequate setbacks from the river's edge, cluster development, the provision of natural open space in private developments, limiting the intrusion of development into sensitive river habitats, and timing construction to occur at times of the year when it is least likely to disturb sensitive natural processes.

A second principle is that non-water dependent industry should not be located on the river. "In the past, much of the industry on the river was truly water-dependent," says Scenic Hudson waterfront specialist Ellen Hanig. "Businesses depended on ships and the railroad [which runs along the Hudson] for transportation." Today this is no longer the case. The trucking industry, enabled by the interstate highway system, is the predominant transporter of commercial goods. The problem remains, however, that many localities have not gotten around to changing the industrial zoning along their waterfronts. "This," according to Hanig, "permits non-water-dependent, often noxious and visually intrusive industrial facilities to continue to locate along the river. The challenge is to encourage local governments to modify the zoning along their waterfronts to reflect the wonderful recreational resources that these areas can and should be."

Scenic Hudson encourages local governments to update their zoning. It also opposes specific industrial projects, such as recent proposals for the City of Yonkers waterfront involving sludge processing and electricity cogeneration. Scenic Hudson and other local citizen's groups maintain that these activities are not water-dependent and should be located in non-sensitive areas away from the river.

The provision of public access in private development is a third development principle. Well-designed public access walkways have an amenity value that can enhance

Waterfront development in Kingston, NY lacking adequate setbacks and public access.

Residental Development at Half Moon Bay

the sales potential of private residential development along the waterfront. Good design allays the potential for problems, such as vandalism and loss of the residents' sense of security.

Scenic Hudson has published a guide to local governments entitled *Integrating Public Access with Private Development: The Two Can Mix*, which promotes a variety of techniques for effective provision of public access. These include grade separations between private residences and community open space; boardwalks that enhance the feeling of separation between the public pathway and private residences; use of landscaping as a natural barrier (shrubs, trees, lagoons, natural rises or depressions); vertical separation through mixed uses (e.g., residential units over retail space); and designation of public use hours, enforced by gates and/or guards.

To date, there are few examples along the Hudson of effective provision of public access in private development. At Half Moon Bay at Croton-on-Hudson, the developer provided a four-foot wide public trail in response to requests by Scenic Hudson and the village, but there is virtually no separation between the public and private uses. Part of the problem is that the buildings are so close to the river that little room exists for separation of uses. In addition, the trail does not really lead anywhere, resulting in infrequent use. This is a good argument for both sound design practices and the creation of the Hudson River Valley Greenway, which will attempt to link these individual segments into meaningful trails with real destinations.

A more promising project is the Waterfront at Fishkill, a mixed use development project located on a peninsula in the Hudson and on connecting uplands. It will ultimately involve over 1,000 residential units, a shopping center and a waterfront restaurant. At Scenic Hudson's urging, a 30-foot wide public access trail will run across the peninsula's waterfront, and all land uses on the peninsula will be generally public-oriented, water-dependent, and recreational. All the housing units will be located away from the river.

Scenic Hudson encourages local governments to include public access stipulations in the sale of public riverfront land to private developers. It also presses for public access provisions in rezoning petitions that affect the waterfront.

Finally, Scenic Hudson promotes the message that open space costs less in terms of municipal services than private residential development. This argues against the perception that private development will always have a net positive effect on the tax base of communities through the provision of ratables. In a study of several waterfront communities in the Hudson Valley, Scenic Hudson found that open land, in the form of farmland and parks, cost these communities an average of 38 cents in services needed for every dollar it brought in through property taxes. Residential development, by contrast, cost the same communities an average of $1.19 for every dollar generated through taxes. Where it is appropriate and affects riverfront land, Scenic Hudson promotes these findings at public hearings.

Conclusion

Waterfront development along the Hudson River is a dynamic process affected by the region's history, economy and natural attributes. Private developers are understandably attracted to the Hudson, due to its prestige, scenic amenities, and proximity to New York City. The challenge facing planners and conservationists is how to accommodate inevitable and desirable economic development without killing the goose that laid the golden egg. Scenic Hudson is but one example of how the local, not-for-profit sector can assist public agencies in protecting sensitive riverfront lands, provide meaningful public access to the river, and promote sustainable, sensitive economic development that enhances regional quality of life. This partnership is both necessary and desirable in these times of limited public financial resources.

While the Hudson Valley is unique in some ways, in terms of its industrial history and proximity to one of the largest, most populous cities in the world, Scenic Hudson's approach could be equally useful in other regions with significant waterfronts. Essential to the success of this approach are an organized and confident citizenry, creative fund-raising, and a recognition that communication and partnership between state and local governments and not-for-profit groups can yield greater results than either working alone. CP

Notes

[1]The Hudson Valley is defined here as the ten-county area comprising the following counties between New York City and Albany over 150 miles to the north: on the east side of the river, Westchester, Putnam, Dutchess, Columbia, and Rensselaer; on the west side of the river, Rockland, Orange, Ulster, Greene, and Albany.

[2]Stephen J. Small, *Preserving Family Lands*, 1988.

The National Estuary Program

Wesley B. Crum

Estuaries are waterways where fresh water from rivers mixes with salt water from the ocean. They sustain an abundance of finfish, shellfish and marine microscopic life as well as valuable habitats such as marshes and underwater grass beds. The definition of estuaries may not be widely known, but they are one of the most commonly used natural features on earth. Estuaries, their shores and adjacent drainage basins have always been popular sites for commercial, recreational, industrial and agricultural activities. The number of people and businesses attracted to estuaries by their recreation, commerce and aesthetics is increasing. Almost fifty percent of the population of the United States lives within fifty miles of the coast. The aquatic life that estuaries support is affected by these growing populations and their use of estuarine resources. Pollution and physical alteration have taken their toll on a number of estuaries and threatens others.

Background

Congress recognized the need to protect the nation's endangered estuaries when it established the National Estuary Program (NEP) under the Water Quality Act of 1987. The goals of the program are to identify nationally significant estuaries, protect and improve their water quality, and enhance their living resources. Congress initially appropriated $4 million to the U.S. Environmental Protection Agency (EPA) to study the first four estuaries in the program: Narragansett Bay in Rhode Island, Buzzards Bay in Massachusetts, Long Island Sound in New York and Connecticut, and Puget Sound in Washington. In 1986, San Francisco Bay in California and Albemarle/Pamlico Sounds in North Carolina were added to the program. Since 1986, eleven others have been added to the program for a total of seventeen.

The Water Quality Act of 1987 amended and extended the Federal Water Pollution Control Act of 1972 and its 1977 amendments, known as the Clean Water Act. Section 317 of the 1987 Act declares that the increase in coastal population, demands for development, and other direct and indirect uses threaten estuaries. It goes on to state that it is in the national interest to maintain the ecological integrity of estuaries through long-term planning and management.

The National Estuary Program has its roots in the lessons learned and the precedents set by the Chesapeake Bay and Great Lakes Programs, as well as from federal legislation and programs such as basin planning. These earlier efforts proved the effectiveness of the problem identification, characterization, and phased management process now employed by the National Estuary Program. The program uses collaborative problem-solving approaches to balance conflicting uses while determining the actions needed to restore or maintain the estuary's environmental quality.

The Water Quality Act of 1987 embodies a new level of national concern for estuaries. It recognizes that there can be no single solution for problems related to specific environmental, demographic, and socio-economic considerations. The Act instead directs EPA to facilitate the development of a framework within which the users and managers of an estuary can work together to develop long-term protection and management plans.

The National Estuary Program addresses complex environmental problems including loss of habitat and living resources, elevation of nutrient levels, depletion of oxygen, contaminated sediments, bacterial contamination of shellfish, and fish disease. These problems

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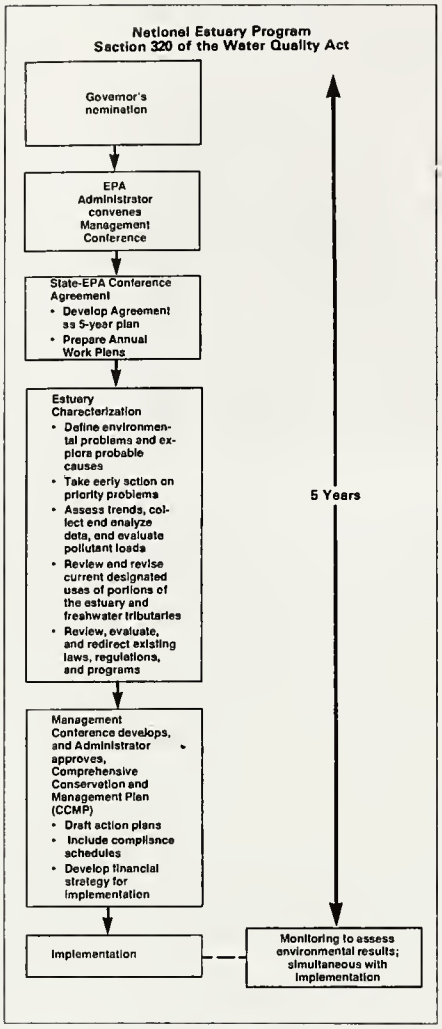
Figure 1



Source: Saving Bays and Estuaries: A Primer for Establishing and Managing Estuary Projects. USEPA, August 1989.

limit commercial and recreational uses like finfishing and shellfishing and can close beaches to swimming.

Program Approach

Section 320 of the Water Quality Act of 1987 authorizes the Administrator of the Environmental Protection Agency in Washington, D.C., to convene Management Conferences. Conference participants characterize an estuary, define its problems, and develop a Comprehensive Conservation and Management Plan (CCMP) (see Figure 1). Even though the collaborative process is basically the same at every Management Conference, each estuary program establishes its own objectives and operating methods. These depend on the character and problems indigenous to the particular estuary; of utmost importance are the interests and values of its public.

Consensus Building and Public Participation The primary strategies of the Management Conferences are consensus building and public participation. Many consider consensus building to be the most important aspect of the National Estuary Program. There is almost total agreement that estuaries deserve protection; however, there is almost total disagreement on how to achieve this protection. The strategy is to first build on the agreement by specifying which resources are threatened.

To reach consensus on the measures necessary to protect these threatened resources, opposing sides must focus on their common desire to protect the resources. Those involved must set aside personal agendas. They must realize that everyone contributes to the problem through their lifestyles, and likewise all are part of the solution. Consensus building in a planning process is tedious, time consuming and expensive. In the long run, however, it is a more efficient use of resources than trying to build consensus after designing a program.

The Water Quality Act specifically mandates that EPA and the states provide for, encourage and assist public participation. A well-conceived public participation strategy should be an early product of the Management Conference. Public acceptance or informal consent is essential because it is the public who pays for CCMP implementation. Public pressure during implementation ensures that federal, state, and local commitments are met.

The Management Conference Process

Phase I--Planning The planning phase builds the management organization for identifying and solving problems. This phase begins a 5-year effort during which the three phases are carried out sequentially. This has been necessary for most of the current set of 17 NEPs because of the need to set up a management structure, and to characterize the estuary through comprehensive information acquisition activities before developing a CCMP. The management framework established in Phase I must define the decision-making process for the estuary program. This process is often difficult because it attempts to balance conflicting needs and uses without compromising the goal of restoration and maintenance of the estuary. To achieve this balance, the Management Conference must be a forum for open discussion, cooperation, and compromise among disparate interests. Such a forum is the instrument for collaborative decision-making that leads to acceptance and support for implementation of program plans.

The Conference creates a committee structure which includes a policy committee, a management committee and technical and citizens advisory committees. These committees represent four constituent groups: elected and appointed policy-making officials from all government levels; environmental managers from federal, state, and local agencies; local scientists and academics; and private citizens--business, industry and community and environmental organizations. The policy committee sets the program's goals, objectives and priorities. It decides on recommendations from all committees and leaves the operational duties to other working committees. An important component of the conference work is an effective program director and staff, supported by Water Quality Act appropriations, who provide technical assistance to conference participants.

Phase II--Characterization Once the Management Conference structure has been set up, participants begin to characterize the estuary and define its problems. In this phase, existing data concerning the health of the estuary as well as physical, chemical, and biological factors which control changes, both spatial and temporal, are summarized. New data may also need to be collected to develop a fuller understanding of problems and their causes.

The characterization process identifies existing and potential problems, missing information, and ways to fill these data gaps. The result should be an understand-

ing of the estuarine process as well as the links between human activities and environmental change. This provides the objective basis used to develop action strategies for the estuary's CCMP.

An evaluation of the institutional structures governing the estuary is also conducted during the characterization process. This involves examining laws, regulations and management programs. This evaluation addresses the enforcement of regulations, program coordination, and the effective use and allocation of resources.

During the evaluation process, problems can be identified for early action. These high-priority problems can be acted on while the rest of the evaluation takes place. In every estuary program, Water Quality Act funds have been used to address these problems. These highly visible actions have generated interest and support for the program.

At the conclusion of the characterization process, participants produce a report telling the story of the estuary. It is critical that this report be written in a manner that can be understood by the public. If the program is to be successful, the public must understand the estuary's problems and support the solutions developed.

Phase III--CCMP The Comprehensive Conservation and Management Plan is the major product of the estuary program. The CCMP does the following:

- summarizes findings;
- identifies and prioritizes problems;
- determines environmental quality goals and objectives;
- identifies action plans and compliance schedules for pollution control and resource management; and
- ensures that designated uses of the estuary are protected.

The relationship between the CCMP components and the Management Conference Process is shown in Figure 2.

The NEP program relies heavily on intergovernmental collaboration not usually found in other federal programs. The development and implementation of the CCMP for an estuary involve a variety of cooperative as well as unilateral but complementary actions by federal, state, and many local government entities.

Phase IV--Implementation The Management Conference also has the responsibility for coordinated implementation of the CCMP. While scientific evidence and public support are essential for estuary restoration and protection, a comprehensive series of actions designed to clean up an estuary are also important. It is further necessary to have the money and political will to make clean-up and preservation a reality.

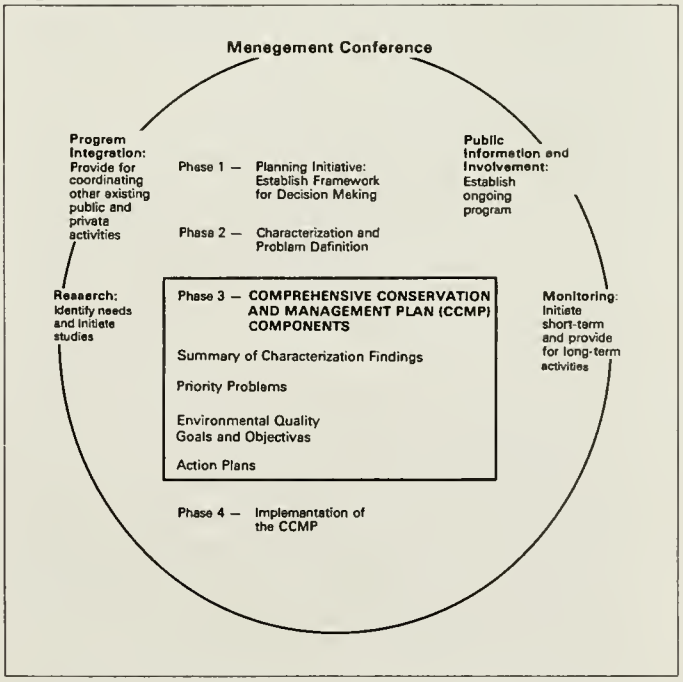
The Management Conference must ensure that funding resources are identified and that participating parties commit their moral support, political muscle, and financial resources to implementation. NEP requires that the CCMP include agreements to this effect. Approval by the EPA Administrator and the governor lend additional weight to the CCMP action plans.

How Successful Has the Program Been?

The oldest of the National Estuary Programs have only recently completed or are about to complete their CCMPs. These include Puget Sound, Buzzards Bay and Narragansett Bay. As a result, it is difficult to find data that can document improvements in water quality in any of the estuaries. The Chesapeake Bay Program, which has been in existence since the mid 1970s, has shown success in improving the estuary. Indicators of this success include a 20 percent reduction in phosphorus levels over the past six years; the return of underwater grasses along Bay shorelines; a renewed increase in striped bass in the Bay; and a 50 percent reduction in 1990 in municipal and industrial facilities that were in significant noncompliance.

Even without water quality data to document improvements, the National Estuary Program shows early signs of success. The level of cooperation between federal, state, and local entities has grown dramatically over the last five years. A national network of coastal environmental managers has developed. Appreciation for the value of estuarine resources has increased as a result of education and public involvement in the develop-

Figure 2



Source: Saving Bays and Estuaries: A Primer for Establishing and Managing Estuary Projects. USEPA, August 1989.

ment of CCMPs. These early indicators, along with the successes of the Chesapeake Bay Program, suggest that the NEP process will correct and prevent problems in nationally significant estuaries.

The Albemarle-Pamlico Program

The Albemarle-Pamlico Program is in its fifth and final year. A CCMP is expected in November 1992. This program covers a study area of approximately 30,880 square miles in northeastern North Carolina and southeastern Virginia. It is the second longest estuarine complex in North America and a key nursery area for east coast fisheries. Human uses of the estuary have increased and changed over the last several decades. Major uses of the estuary now include commercial fishing, agriculture, forestry, waste disposal, residential and commercial development, national defense, mining, wildlife habitat, tourism, and recreation.

The Albemarle-Pamlico estuary does not exhibit the same severe problems that some others do; however, there are warning signs that environmental degradation is present. The major signs that the estuary is in distress include:

- a general decline in finfish fisheries since 1980;
- large-scale fish kills and outbreaks of fish diseases such as "red sore" disease, and ulcerative mycosis;
- outbreaks of "shell disease" in blue crabs;
- massive blooms of blue-green algae occur each year in some tributaries; and
- the loss of vast areas of rooted aquatic plants from Albemarle Sound, Pamlico Sound, and the Pamlico River.

The Albemarle-Pamlico Program has successfully used the collaborative problem-solving approach to address these problems. More than ninety individuals representing all levels of government, business and industry, and private citizens are participating in the Management Conference as members of the Policy, Technical, and Citizens Advisory Committees. The accomplishments of the Albemarle-Pamlico NEP are many and include:

- the development of information in four key areas--critical resources, fisheries dynamics, water quality, and human impacts;
- action demonstration projects involving agricultural best management practices to control excess nutrients from non-point sources, animal waste projects in North Carolina and Virginia and a seafood processing waste project in North Carolina;
- an effective public participation program which has reached out to school children, local government officials, interest groups, involved citizens and the general public-projects include the development of a "mini-CCMP" by the Citizens Advisory Committees (Blueprint for Action), creation of fact sheets and educational posters, the development of school curricula, radio and TV broadcasts, and the citizens water quality monitoring network.

Future of the National Estuary Program

The National Estuary Program has proven to be a popular and successful approach for dealing with estuarine problems. The Administrator of EPA has recently determined that the addition of new estuaries to the program is warranted. In a February 20, 1992, notice in the Federal Register, EPA announced its call for nominations of estuaries to the National Estuary Program. EPA will select up to three estuaries to be included in the program in Fiscal Year 1993.

The lessons learned in the NEP over the last five years have led to modifications in the timetable and approach used for developing CCMPs. It is now expected that new Management Conferences will enter the program with a fairly complete problem characterization. This should enable conference participants to complete a first draft of the CCMP within the first eighteen months of the program. In addition, new applicants to the program will be expected to focus on early action demonstration projects. They will develop CCMPs and synthesize data simultaneously, in contrast to the sequential approach currently used. Finally, new Management Conferences will be expected to complete their final draft CCMP one year before the final CCMP is due. Applicants who commit to these modifications will be given preference. CP

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Exploding Shrimp and Estuary Management: A Different Approach

William W. Dreyfoos

In the truest sense, estuarine management programs are designed to bring order out of chaos. Beginning from a disparate assortment of regulatory and management efforts, these programs must change perspectives toward a view of the estuary as a discrete geographic unit, in need of holistic management. Those who use, benefit from, and appreciate the estuary and its resources must come to recognize the interdependence between the users and the estuary. At various levels, agreement must come as to what to manage, how to manage it, and who will manage.

The Environmental Protection Agency's National Estuary Program (NEP) has addressed this organizational challenge through an approach that appears to track the textbook rational planning model: after a long initial period devoted to problem identification and definition, alternative approaches to problem resolution are examined, selected alternatives are combined into a management plan, and the process then moves into the implementation phase. A closer look, however, discloses one pivotal departure from this model: in many instances, the institutions/individuals involved in problem identification and plan development are not the same ones who are called upon to implement the management program. Many of the measures needed to protect estuarine resources involve not the resources directly, but instead activities that affect the estuarine system. As a result, the call for estuarine management may come from scientists and resource managers, but the responsibility for implementation lies on local decisionmakers and administrators.

In the world of estuarine management, one quickly learns it is difficult to get people to implement a policy or program they have not had a hand in creating. This ideas was a central tenet of the Charleston Harbor Project (CHP), created by the South Carolina Coastal Council (SCCC) in 1991. The CHP's charge is to develop a workable management plan for the Charleston Harbor estuarine system. In creating the CHP, the staff and board members of SCCC sought to modify the NEP organizational model, and involve potential implementers at the earliest organizational stages. Potential implementers included all entities, public and private, whose activities affect the estuary and who might incorporate CHP policies, recommendations and programs into their continuing activities. The final list encompassed state and federal regulatory and management agencies, local governments, local special service districts, major economic interests, users of estuarine resources, recreational interests, environmental interests, and the general public. Project organizers developed an organizational framework that would allow these potential implementers to help set direction and priorities for the Charleston Harbor Project.

The Charleston Harbor Estuary

The Charleston Harbor estuary covers more than 1,900 square miles, contains over 140 miles of rivers, hundreds more of creeks and thousands of acres of wetlands, and is home to half a million people and millions of marine animals. Like all estuaries, it is an interconnected, interdependent system which supports an abundant variety of wildlife, allows many different human uses, and adds a distinctive beauty to the region.

The estuary is a vital part of everyday life throughout the region, making possible activities like the movement of Navy ships, shrimping, the weaving of sweetgrass baskets, and the shorebirds flying at sunset. Fortunately, the estuarine system is still productive. Episodes like the exploding shrimp in the Ashley River in 1991 (due to the combustion of phosphorus-laden sediments brought in contact with air) are infrequent, spatially confined, and

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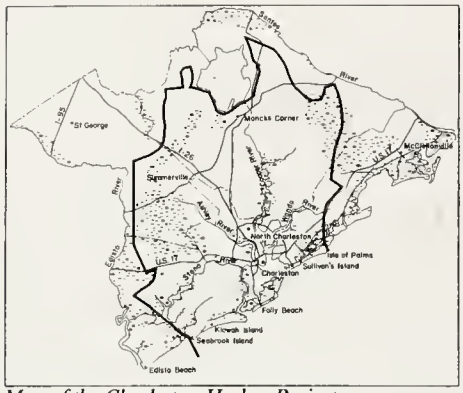

Map of the Charleston Harbor Project

not characteristic of the overall system. Growth increases the stress on sensitive natural systems, however; the Charleston region is projected to grow by 50 percent between 1990 and 2005. Unless ways are found to manage the system, the quality of the estuary and the uses made of its resources are expected to decrease.

At the project's outset, the predominant problems appeared to be uncontrolled stormwater runoff and the fragmentation of estuarine management efforts--particularly land use controls at the local level. Stormwater and land use management measures were assumed to be the domain of local governments.

Consensus Building

The Charleston Harbor Project began with myriad participants and a period of consensus-building. To facilitate informed involvement, participating individuals and agencies chose among twelve task forces. Each task force focused on a specific topic or aspect of estuarine management. Some topics were broadly inclusive (e.g., biological resources, stormwater), whereas others related to specialized management tools, such as water quality modeling, and data management and GIS. The topics were based upon preliminary input from estuary users. Through this process, it became clear that it was important to have separate task forces for cultural and recreational resources, due to the prevalence of historic resources within the Charleston region.

Task force membership was self-selected, and involved more than 225 individuals during the initial phase of the project. Participants became involved for a variety of reasons: turf protection, concern for the estuary as an environmental entity, concern for the continuation of estuarine uses, and concern for regional development. Where self-selection failed to provide a task force with the range of opinions and interests known to exist within the community, project staff solicited participants to fill these gaps. The task forces met regularly; participants in each task force were asked to identify goals, problems, management needs, desired end results and administrative options within the topical area of interest.

Some task forces functioned more smoothly than others. Over a period of several months, however, consensus positions on the management needs for the estuarine system emerged from each of the task forces. Perhaps more significantly, participants came to feel that the estuarine system was a discrete resource deserving of protection, and that they had a hand in controlling, and were responsible for, the direction and success of the overall project.

How Did This Happen?

Consensus was developed fairly quickly--in part due to hard work and organization, but in larger part because the project staff let it happen. For the most part, the consensus was already there--what the project had to do was identify it, and give it opportunity for expression.

The participatory approach to project development is unusual--most likely none of the 200+ participants in this process had allowed others to have a fraction of the input when developing their own organization's policies, objectives and programs. Still, the estuarine system is intertwined with the lives of most Charlestonians, and the participants accepted the challenge to help create an overall framework in which everyone's interests played a part.

This challenge was made easier because the initial working goals of the project grandfathered in all existing users. These goals have remained unchanged:

- To maintain and enhance the quality of the environment in the Charleston Harbor estuary system.
- To maintain the range of uses of the waters and natural resources of the Charleston Harbor estuary system.
- To anticipate and address potential problems before they harm the Harbor system.

No interest was necessarily going to be hurt by the project, and the project could conceivably be beneficial to each of the participating groups.

This approach is possible because the Charleston Harbor estuary is still in good shape environmentally, and, only now, are conflicts over the allocation of estuarine resources appearing. As a result, the project has been able to focus on maintaining the benefits of a healthy resource, rather than remedying the problems of a more severely polluted estuarine system. The challenge was to develop mechanisms to protect the estuary as the region grows, shaping a future in which everyone was invited to participate.

Putting the Pieces Together

Over a period of 4-5 months, each task force succeeded in identifying objectives and setting issue and action priorities within its topic. The task forces then developed these concerns into a set of recommended projects that would further overall project goals. When combined, the task force recommendations totaled more than $3 million for the project's first full year of operation, an amount considerably in excess of available funding. The project's Management Committee--pri-

marily task force chairs--then undertook the task of culling and refining projects. Of primary concern was maintaining a balance among the different topical areas included within the project and ensuring that prerequisites for future work were properly scheduled.

The Management Committee deliberated on the mix and scope of projects for four months. At the end of the process, the total cost of recommended projects still exceeded the available federal funding. The participants recommended that this shortfall be addressed through supplemental financial contributions from other federal, state and local sources. In other words, while the impetus for the project came from federal funding, the local commitment to estuarine management would provide the additional resources needed. As the project enters its first substantive year of operation, this financial participation is well on its way to being realized.

How It's Supposed to Work

In November 1991, EPA and NOAA held the *Coast & Estuary Management Workshop* held in Seattle. Two of the general conclusions from this workshop were:

- The central players in coastal and estuarine are local government and local interests. Once broad goals are established at federal and state levels, local authorities must identify and prioritize the problems particular to the area, create the political will to deal with those problems, effectively marshal the resources of higher levels of government and academia, and supplement those resources as necessary.
- Research that leads to useful, management-oriented information is an important basis for estuarine and coastal management. That research must be multidisciplinary and goal-oriented, and address management and governance issues, as well as technical problems.

At its outset, the Charleston Harbor Project sought to incorporate both of these points into the structure of the project.

During the developmental phase of the project (FY 91), information compiled about the estuarine system disclosed gaps in our knowledge of how the estuarine system works, particularly with respect to spatial relationships and causality. As a result, local policy makers and administrators do not have sufficient information and justification to enact programs dealing with stormwater management, land use at the water's edge, critical habitat protection, and cooperative efforts among multiple local jurisdictions.

These gaps were the topic of many conversations both in the task forces and in the Management Committee. In the end, it was determined that project monies should be targeted to gather this missing information. Local participants stated that they would wait until FY 93 to address management issues, as long as the technical bases for their programs could be strengthened through science projects in FY 92. Accordingly, scientific research funded by the Charleston Harbor Project are directed toward management needs.

Scientific research is also essential for technical decision-making in the estuary. Proposed projects include the development of a mathematical wasteload allocation model for the estuary, which takes into account tidal variations and stormwater inputs; identification of critical habitats; review of the effectiveness of best management practices for stormwater management; examination of pollutant discharges from discrete sources, including golf courses, agricultural sources, suburban development, and stormwater retention ponds; and development of long-term dredge spoil disposal alternatives for the harbor. The products of these efforts will be used as inputs in the following year to develop stormwater management plans, land use plans, and resource utilization and protection plans by local jurisdictions. Implementation actions at the local level will begin in 1994.

Will It Work?

At Coastal Zone '89, I stated that federal funding was the catalyst needed to effect estuarine management in the Charleston Harbor estuary. The participation generated in Charleston from fairly limited funding in 1991 seemed to prove this point; the federal commitment to continued funding promises that meaningful estuarine management can be achieved. Already in 1992, however, bureaucratic delays and election year politics have wreaked havoc with the timing and amount of project funding. How much the project will be hurt by such problems remains to be seen. Fortunately, though, the initial emphasis on consensus and implementation may be bridging the funding chasm, as participants in both public and private sectors help out financially with "their" project.

The Harbor project staff has consistently taken the view that the Charleston region now has an opportunity to safeguard the estuarine system, and to incorporate estuarine protection into the region's growth. A year of looking at management needs and approaches has shown that this view is shared by the wide range of interests involved in the estuarine system.

The approach we have chosen--consensus building, integration of involved interests, and targeted research--has meant a long period of preparation. We believe that this approach will lead to effective and participatory management of the estuarine system as the project moves forward. We can only hope it will do something about the exploding shrimp. CP

Housing for Special Needs Populations: Supportive Services in SRO Hotels

Andy Raubeson

The SRO Housing Corporation was formed by the Community Redevelopment Agency (CRA) of the City of Los Angeles in February 1984. The new non-profit corporation was given a mission of improving the quality of life in the Central City East, or Skid Row, neighborhood of Los Angeles. The main objective was then, and remains today, the acquisition, renovation, management and maintenance of the existing housing stock. In 1984, there were 63 operating SRO hotels with over 6,000 rooms, constituting virtually the entire housing stock of this 55-square block area.

The Corporation under its governmental sponsor, the Community Redevelopment Agency of the City of Los Angeles (CRA), realized that the Central City East area was so bereft of any sense of community that upgrading the housing was not enough to assure a decent quality of life for those who live, work, and shop in the neighborhood. From its inception SRO Housing's role was seen to be broader than the provision of decent, safe, and sanitary housing at affordable rents. At the time this paper was written base rents ranged from $195 per month for those on General Relief to $235 per month for those on Supplemental Security Income (SSI). General Relief in Los Angeles County is currently $341 per month plus $105 in food stamps and $42 bus pass for those assigned to Workfare or to approved education or training programs; SSI ranges from $630 to $718 per month.[1]

CRA adopted a strategy for SRO Housing to develop parks in the area and to purchase hotels in clusters around those parks. CRA then gave SRO Housing the mission of developing the capacity to manage and maintain these parks so they would benefit the neighborhood and the tenants of single-room occupance hotels. As such, the strategy of grouping hotel purchases in clusters was also based on the concept of extending the area of control from the hotels to the surrounding streets, thereby creating "islands of sanity."

No one who is captive in his or her living unit, no matter how well it is managed and maintained, can lead a decent life. The tenants of SRO Housing's hotels must be free to leave their buildings to shop, seek recreation, socialize with friends who live elsewhere, and to conduct the ordinary business of life. In short, SRO Housing Corporation cannot build a sense of community by concentrating solely on physical, housing quality issues.

The Corporation recognized early in its history that its tenant needs exceeded basic housing needs. The development and management of parks was the first response to those needs. However, a demographic survey conducted in mid-1984 highlighted a range of problems within the population: a large proportion of hotel residents in the area had a history of alcohol and drug abuse; a smaller but significant portion of the hotel population had a history of mental illness; elderly tenants were often victimized by predators and had limited access to services designed to help them; and homeless, indigent men were housed in hotels that were in deplorable physical condition and in which drug use and crime was rampant.

SRO's strategy to deal with this problem was to acquire, renovate, and professionally manage the single room occupancy hotels that comprised virtually 100 percent of the housing stock in the neighborhood. SRO Housing felt that good management practices, especially careful tenant selection, would reduce the number of drug-using and criminally inclined tenants and create a more stable tenant base that would result in safer streets and a better neighborhood.

Andy Raubeson has been Executive Director of SRO Housing in Los Angeles since 1984. He serves on the boards of the National Coalition for the Homeless, the National Low-Income Housing Coalition, and the Low-Income Housing Information Service.

Front Facade of the Angelus Inn, a 31-unit special needs hotel serving recovering substance abusers.

The Challenges of Resident Management

The role of the resident manager in an SRO Housing Corporation managed housing facility is broader than a narrowly defined housing management function. Although resident managers are not expected to be social workers, they are expected to care for their tenants' welfare and to identify tenant needs. They help provide for those needs by making knowledgeable referrals to service providers including those employed by the SRO Housing Corporation in its Social Services Division.

To maintain safe buildings and promote a safe environment overall, resident managers must act as a team, observe each other's buildings, and develop their own strategies for assuring the safety of tenants outside as well as inside the buildings. Since cleaner neighborhoods are usually safer neighborhoods, managers must be sure that the facades of their buildings and the sidewalks and streets in front and around their buildings are clean, free of trash, and free of graffiti. SRO has street cleaning capability in its Parks Division, and managers have a responsibility to request services from this unit in the same way they have a responsibility to request services from the Maintenance Division.

Initially, resident managers were expected to carry full responsibility for identification of tenants who needed social service referrals. Information and referral services, case planning and monitoring require intense personal involvement, as well as time. This proved to be too demanding for even the most skillful resident managers. As a result, SRO Housing created six special needs hotels and a Social Services Division. The Social Services Division administers, supervises and develops the services in these special needs hotels. It also advises resident managers on social services and provides direct services for tenants who are not located in a special needs hotel or whose problems are too complicated for resident managers. This has helped alleviate the demand on resident managers.

Special Needs Hotels

The 1984 demographic survey and tenant profiles helped identify several special needs populations residing in the hotels. SRO Housing has developed seven general population hotels and six hotels for designated special needs groups (see table 1).

The Russ and the Panama Hotels house general population as well as short-term tenants and homeless, indigent men. The Russ also houses non-contagious, active tuberculosis patients in cooperation with the Los Angeles County Department of Health Services. SRO Housing felt these two properties (290 and 230 units respectively) were too large to foster the sense of community found in other Corporation-owned hotels, which range in size 31 to 72 units. When they were purchased in January 1985, the Russ and the Panama were largely populated by "voucher clients." Because of the size of these hotels and the need of the voucher client for decent, safe, and sanitary short-term housing, it was decided to continue to provide short-term housing, for homeless, indigent men in these two properties.[2] Eight other hotels purchased by the SRO Housing Corporation were formerly voucher hotels and were converted to permanent housing.

In Los Angeles County, any indigent person has a right to shelter on the same day he or she applies to the Department of Public Social Services (DPSS) for welfare. Voucher clients are housed in residential hotels for short periods while they wait for their first check. There are 115 such hotels throughout the county. The Russ and the Panama are two of the four remaining hotels in the Central City East--Skid Row--neighborhood.

Voucher clients are referred to SRO Housing by DPSS for a period from one to fourteen days. Vouchers are renewed in rare instances, usually when a person's mobility is restricted by an injury. The average length of stay on a voucher is 3.3 days. Voucher clients are issued keys and have access to their rooms on a 24-hour basis. They receive laundry tokens to wash and dry their clothes on-site. Playing cards, games, newspapers and movies are available in the lobby. In addition, SRO Housing provides grooming kits and will make wake-up calls via a buzzer system. A case manager is on-site to help the

A. General Population Hotels		Units
Carlton Hotel		45
Eugene Hotel		55
Florence Hotel		60
Haskell Hotel		38
La Jolla Hotel		53
Regal Hotel		70
Ward Hotel		72
	Sub-Total	393

B. Special Needs Hotels	Population Served	Units
Angleus Inn	Recovering Substance Abusers	31
Ellis Hotel	At-Risk Elderly	54
Golden West Hotel	Chronic Mentally Ill	61
Leo Hotel	Recovering Substance Abusers	38
Panama Hotel*	a. Homeless Men	120
	b. Short-Term Tenants	76
Russ Hotel*	a. Homeless Men	180
	b. Active TB Patients	11
	c. Short-Term Tenants	89
	Sub-Total	660
	Total	1,053

*These hotels also serve general population clients.

Table 1. Hotels Owned and Operated by SRO Housing Corp.

voucher client to meet his needs.

SRO Housing's cost for these services is $13.50 per person per night. This rate is negotiated between the SRO Housing Corporation and DPSS. It compares favorably with the latest US Department of Housing and Urban Development (HUD) report, which places the average cost at $22.00 per person per night in government-supported emergency shelters. In most of these shelters a person sleeps on a pad on the floor or a cot and must leave the shelter a 7:00 A.M. and cannot return until 6:00 P.M.

Two other special needs hotels provide housing for recovering substance abusers. The Leo Hotel (38 units) and Angelus Inn (31 units) are both operated as alcohol-free living environments. Residents of these hotels must have a minimum of six-months verifiable sobriety upon admission and sign a lease which prohibit their use of alcohol or drugs and restricts their visitors to persons who have no alcohol in their system and do not use illegal drugs.

The usual way to verify six months sobriety is the completion of a residential treatment program of at least six months duration. Since opening the Leo Hotel in 1987, SRO Housing has developed close working relationships with area treatment programs. The Leo Hotel and Angelus Inn are the only two permanent housing facilities with sober living environments in downtown Los Angeles and are important for the treatment community. SRO Housing is also able to gain access to treatment for tenants or employees with alcohol or drug abuse problems.

A third special needs category is the chronically and severely mentally ill, who are housed in the Golden West Hotel (61 units). This hotel requires its tenants to be on the caseload of the Skid Row Mental Health Project of the Los Angeles County Department of Mental Health. It is a transitional housing program funded by the HUD under the Stewart B. McKinney Act. After the transition period of two years, tenants of the Golden West are transferred to permanent housing hotels operated by the SRO Housing Corporation or, in some cases, they are relocated off Skid Row.

Finally, SRO Housing operates the Ellis Hotel (54 units) as permanent housing for at-risk elderly. To be eligible for tenancy, men and women must be 55 years or older. The Ellis Hotel is owned by a limited partnership, with the SRO Housing Corporation as the general managing partner. Under the terms of the 1986 Tax Reform Act as amended, tenants of the Ellis must have income not in excess of 60 percent of the area median. Since SRO Housing's tenants average 22.1 percent of the area median, this restriction has little relevance.

The Ellis Hotel is located adjacent to Gladys Park which is operated by SRO Housing under contract with the City. The Ellis serves a congregate meal for the elderly in its lobby daily. This meal is open to all elderly residents in the neighborhood, not just to Ellis tenants. One of the commercial spaces in the hotel has been converted into a community room for Alcoholics Anonymous, Narcotics Anonymous and Cocaine Anonymous meetings, as well as community forums and a variety of educational and outreach programs. A second commercial space has been converted to a community fitness center that is operated jointly by SRO Housing and the Downtown YMCA.

Social Services

Resident managers have a responsibility to help meet a broad range of tenant needs. To facilitate this effort SRO Housing has developed and published the *SRO Housing Corporation's Social Services Referral Manual.* Managers must become familiar with this manual and use it as a tool to obtain necessary services for their tenants. Only agencies that regularly service Skid Row clients are listed. Managers have the responsibility to update their individual manuals by noting staff and program changes and by adding information that will be useful for future referrals. Such manuals quickly become dated and remain useful only if they are constantly updated.

SRO Housing also provides other tools managers may rely on to help meet the needs of their tenants. The Housing Management Division holds bi-weekly train-

ing sessions for resident managers that include discussions of social and support services. SRO Housing's Social Services Division provides the following additional programs and services:

Project Hotel Alert (PHA) PHA is a program for the elderly operated under contract with the City of Los Angeles' Department of Aging. Persons 60 years of age and older are eligible for services that include daily congregate meals at the Russ and Ellis Hotels.[3] Participation in the congregate meal program is not restricted to tenants of SRO Housings' hotels, but is open to all elderly persons from the Skid Row Area. Disabled persons who are residents of these two hotels are also eligible to participate in the congregate meal, regardless of age. Tenants who are shut-in because of permanent or temporary loss of mobility receive home-delivered meals through the Meals on Heels program. Both congregate and home-delivered meals must provide at least 50 percent of the nutritional needs of elderly persons as established by the U.S. Department of Health and Human Services. There is also a nurse available for health screening and referral as well as routine medical care such as changing dressings. Case management services provide professional needs assessment, case planning, referrals, money management, transportation, recreation, education and more.

Mental Health Managers in SRO Housing's other hotels who suspect that tenants are mentally ill can call on the senior case manager at the Golden West Hotel for assistance in diagnosis and advice on meeting the needs of such tenants. In some cases, tenants will be transferred to the Golden West from other hotels. In other cases, ongoing support will be provided to managers in other hotels to deal with mentally ill tenants. In cases where tenants are transferred from the Golden West to other SRO-managed hotels, a plan should be worked out between the manager and the case worker from the Golden West before transfer, and regular contact is maintained after the tenant is moved.

Emergency Shelter Program The Russ and Panama Hotels are recognized as emergency shelters by the State of California Department of Housing and Community Development (HCD). SRO operates the Emergency Shelter Program under a grant from the State HCD to provide case management services to over 14,000 homeless men each year. Case managers operate out of the lobbies of the Russ and Panama Hotels and provide a range of services, including referrals, transportation, assistance in obtaining identification, and military records.

Homeless Assistance Program (HAP) HAP serves the same population as the Emergency Shelter Program. It is operated cooperatively with a sister Skid Row service agency, Chrysalis. Chrysalis provides employment programs and services. The purpose of this joint program is to provide job readiness workshops and placement into jobs and/or vocational training.

Food Distribution SRO Housing is a member of the Los Angeles Regional Food Bank, through which it has access surplus foods from the U.S. Department of Agriculture as well as locally donated food. SRO Housing makes weekly deliveries to hotels. Managers are then responsible for distribution of food to tenants.

Alcohol and Drug Services The two alcohol-free living communities are managed by recovering alcoholics with long periods of sobriety and a commitment to help others achieve and maintain a sober life. These buildings have Alcoholics Anonymous (AA) meetings for tenants on a regular basis. Some meetings are open to non-tenants of these hotels. In addition, the Drifters AA meeting, which meets seven nights a week and Sunday mornings, is housed in the community room at the Ellis Hotel. The Harbor Light and Safe Harbor alcohol treatment programs of the Salvation Army operate after-care services for graduates of their program who move into SRO Housing Corporation's buildings. It is the policy of SRO Housing to help recovering alcoholics and addicts to maintain their sobriety in all its buildings. If an alcoholic or addict has a slip s/he is counseled to re-enter treatment. The first time a tenant slips, s/he will be accepted back into the SRO housing network upon satisfactory completion of the residential treatment program. Subsequent relapses are treated case-by-case, but reacceptance after treatment is not automatic.

Recreation In addition to the parks, SRO Housing offers a range of other recreational opportunities for

Elderly meal site at Russ Hotel lobby.

San Julian Park, a one-third acre mini-park in downtown LA, opened July 19, 1986.

tenants. The Downtown YMCA operates a professionally-staffed fitness center with high quality exercise equipment at the Ellis Hotel. This center is open to the community. SRO Housing provides trips to sporting events, theaters, and movies. Resident managers inform tenants of these opportunities, make arrangements, and encourage participation.

Tenant Amenities In addition to the activities described above, managers are expected to arrange minimum of one congregate meal and one birthday celebration each month. The meal should be scheduled late in the month when tenants tend to be low on cash. Managers should review tenant records to be sure that every tenant with a birthday in a given month is recognized at the birthday party. Managers show two movies each night. Coffee is available in the lobby on a regular basis.

SRO Housing continues to seek resources to provide service to its tenants. It has Federal Emergency Management Agency (FEMA) vouchers to house homeless persons who have not obtained a DPSS voucher. It maintains an agreement with the Downtown Lions Club to provide vision care, including examinations, prescription glasses, cataract operations, glaucoma screening and care. SRO Housing has also obtained motorized wheelchairs from the Rotary Club.

SRO Housing also sponsors special events to improve the quality of life in Central City East. Concerts in the park are partially funded by a grant from the City of Los Angeles Cultural Affairs Department; job fairs and health fairs are sponsored in conjunction with other service agencies. Regular neighborhood clean-up campaigns include street and sidewalk cleaning, trash and weed removal from vacant lots, and graffiti removal.

SRO Housing has submitted grant applications for funding to provide advocacy for persons seeking Supplemental Security Income benefits. It is also pursuing possibilities for special needs housing for persons who are HIV-positive, and transitional housing for recovering alcoholics and addicts.

Conclusions

The SRO Housing Corporation has an advantage in owning and operating a large number of hotels within a relatively small geographic area. Because of its size (currently 14 hotels with 1,174 housing units), SRO Housing is able to meet a variety of special needs. The various programs tend to support each other: for instance, placement of tenants from transitional facilities can be guaranteed when the service provider also controls permanent housing.

Supportive housing does not require placement in a large or diverse organization in order to be successful; however, there are many examples of such housing being operated as a stand-alone facility. There are even cases in which only one floor in a building is designated for use by a special needs population. For example, the Estate Hotel in Portland, Oregon, a four-story building with 156 units, houses recovering alcoholics in an alcohol-free living environment on its top floor. This area is closed off from the rest of the building.

Clearly, single-room occupancy facilities are well-suited to provide a combination of housing and support services. These buildings can include traditional downtown residential hotels, motels on the outskirts of town, and rooming houses. Less obvious structures such as warehouses, convents, schools and hospitals are also often creatively adapted for use as an SRO hotel.

There is a growing tendency to use SROs as sites for housing special needs populations. This trend can be expected to continue to gain momentum form new HUD policies that encourage supportive services as a condition for receiving federal housing subsidies. The experience gained by the SRO Housing Corporation can be a useful model for this expansion of supportive housing throughout the United States. CP

Notes

[1] Supplemental Security Income (SSI) is a Federal program, with considerable State enhancements in the case of California, that provides benefits to persons who are disabled or over age 62 who have not qualified for Social Security benefits or whose benefits fall below established minimums. General Relief, in some jurisdictions called General Assistance, is provided for persons awaiting an SSI eligibility determination or who are able-bodied and under age 62 and thus ineligible for SSI.

[2] The Russ and Panama house only men. For the purposes of this article, there is no difference between the terms "voucher clients" and "homeless, indigent men."

[3] Federal regulations allow persons over age 55 who are members of a Senior Citizen organization to participate in the meal program. All residents of the Ellis Hotel are enrolled in the congregate meal program.

Departmental News:

Summaries of Recent Departmental Papers

Compliance With Federal Handicap Regulations
by Zoe Durrell Bruner

All towns and counties that receive federal funding must comply with Section 504 of the Rehabilitation Act of 1973 as defined in 24 CFR, Part 8, and with the Americans with Disabilities Act of 1990 (ADA). These acts and accompanying regulations are quite complex, and proving compliance is often more involved than small town managements can handle. Failing to prove compliance can cost towns their federal funds.

In 1991, an informal survey of towns in eastern North Carolina that had received or applied for government grants revealed little or no documentation supporting compliance with Section 504. The documentation evident in some towns was based on formats which circulated through the state in the mid-1970s. These forms do not adequately explain the requirements of Section 504, nor do they help a town discover where it may be out of compliance. In addition, many local governments have not kept their documentation current. With passage of the Americans with Disabilities Act in 1991, interest in local compliance with existing regulations has been renewed.

This paper serves as a simple workbook which can be used to demonstrate local compliance with Section 504 and ADA. It includes a short description of the acts and statutes, a description of the handicap regulations which apply to recipients of federal funds, and questionnaires to be used by local governments to support their compliance with handicap laws. This guide may be useful to both local governments and to consultants hired to write grants for local governments. Use of this booklet, however, is not a substitute for thorough knowledge of Section 504 and the Americans with Disabilities Act.

Black Town, Black Gown: The Role of Historically Black Colleges and Universities in Community Revitalization
by Tim Cohen

The Historically Black Colleges and Universities (HBCUs) in the U.S. have a rich tradition of community service since their establishment following the Civil War. Their graduates serve the Black community as knowledgeable professionals and committed leaders. The schools themselves provide many outreach programs and serve as meeting centers and as sources of community pride. Like many urban institutions, however, HBCUs have experienced remarkable changes over the past thirty years.

As highway construction, urban renewal, and the mortgage interest deduction have decimated inner cities, much of the urban population and its institutions have left for the suburbs. Those individuals remaining in the declining central cities are increasingly poor, minorities, and troubled. HBCUs have, by and large, remained in the central cities and have seen their historically amicable relationships with their communities deteriorate into mutual mistrust and alienation. As the health of the HBCUs has become inextricably intertwined with the health of their host communities, they have found it necessary to take larger roles in community revitalization efforts.

Both push and pull factors are at work here. HBCUs are being pulled into community development efforts due to the limited successes of previous community revitalization programs, and pushed to intervene by parties anxious to tap this enormous community resource. Recently, a Ford Foundation intermediary awarded start-up funds to five HBCUs to engage in community revitalization. This paper examines the recent revitalization efforts of three institutions which have received grants: Johnson C. Smith University in Charlotte, North Carolina; Hampton University in Hampton, Virginia; and Clark-Atlanta University in Atlanta, Georgia. Though it is premature to judge their contributions to community development, some important patterns are emerging:

- Black colleges are more inclined to address the needs of the university community than the needs of the non-university residential community;
- Quantifiable projects, such as affordable housing construction and rehabilitation, are preferred;
- HBCUs are invaluable catalysts for community revitalization, but poor managers of the process;
- HBCU ventures tend to be top-down, with insufficient opportunity for input from the non-university residential community.

The paper discusses these observations, describes the barriers that may prevent HBCUs from being more effective community development partners, and suggests roles for HBCUs in community revitalization.

Effects of Bypasses on Small Town Development in North Carolina
by David Cristeal

Bypasses are designed to facilitate more efficient flows of people and materials. This function has cast transportation improvements such as bypasses into a major economic development role for states, regions and communities. We can see whether bypasses seem to make a difference by examining their effects on small town in North Carolina. This analysis uses a case study approach to examine retail and manufacturing sector changes in eight small towns and a statistical approach to view changes in income and retail sales for a statewide sample of 43 towns with characteristics similar to the towns in the case study.

The case study and statewide sample results suggest that bypasses have little effect on the overall economic health of communities. Bypasses appear to affect the location of retail and manufacturing activities, but non-bypass towns exhibit similar retail and manufacturing land use patterns. Retail establishments within both bypass and non-bypass towns appeared more likely than manufacturing establishments to move to outlying areas. New manufacturing firms were just as likely as new retailers to locate along bypasses or other outlying locations. Statistical analyses of the statewide sample of towns revealed that bypasses had negligible effects on changes in median family incomes and retail sales. Finally, planning efforts, which for the case study towns began after retail and manufacturing uses had begun leaving from downtown areas, have been more successful in steering manufacturing firms into industrial parks than controlling strip retail development along bypasses and other highways. Unless more aggressive regulatory measures are taken by towns with bypasses, they may find themselves in the position of building bypasses around existing bypasses, which are becoming cluttered by strip retail, manufacturing and other uses.

Small towns can employ an array of measures and resources to more effectively control retail and industrial activities. These include evaluating and enforcing zoning ordinances and employing publicly funded agencies and universities to help conduct the work.

Emerging Issues in Forestry: an Analysis of Harford County, Maryland's Forest Conservation Ordinance
by Regina Esslinger

At the beginning of this year, Harford County, Maryland implemented a forest conservation ordinance founded on the principles of preservation, forest conservation, reforestation, and afforestation. This ordinance is based on a state forest conservation ordinance that will take effect January 1, 1993. Because Harford County is rapidly losing rural countryside to suburban development, large amounts of forest were being cleared prior to this legislation. This ordinance attempts to replace mass clearing and grading of sites with individual site assessment and forest conservation.

There are two requirements for the development review process--a forest stand delineation and a forest conservation plan. The forest stand delineation is an assessment of the site's existing resources, while the forest conservation plan is a detailed strategy of how conservation on the site will occur.

Despite its comprehensiveness, there are administrative and policy problems with Harford County's forest conservation ordinance. This paper makes recommendations to alleviate these problems. It will take time before the full effects of the ordinance are seen, but it is an important step in protecting the county's environment and character.

Economic Development Zones in Western New York State
by Tom Whalen

The New York State Economic Development Zone Program was created in 1986 to help foster economic growth in distressed communities. Typically, these communities suffer from poverty and high unemployment. There are currently 19 economic development zones in New York State. This paper focuses on the economic development zones in Western New York State, specifically locations in Niagara Falls, Lackawanna and Olean.

Economic development zones vary in size from one square mile in urban communities to two square miles in rural communities. After a zone is officially designated, incentives are provided for ten years to companies that choose to locate there and to existing companies that choose to expand. State incentives include a wages tax credit, investment tax credit, sales tax credit, utility rate reductions, low interest loans, and job training grants. Local incentives, such as property tax abatements and technical assistance, help supplement state incentives.

While each zone has attracted a significant amount of investment, the original expectations have not been fulfilled. The director of each zone felt that these incentives influence the decisions of companies, but can not induce investments by themselves. Other factors, such as infrastructure, geography, availability of skilled labor, and proximity to consumer markets are also considered by firms when they make locational decisions. Overall, however, zone designation has been a positive experience for the communities I studied because it created an incentive for public officials, businessmen, and local residents to work together to plan for economic and community development.

The Use of Inclusionary Zoning to Promote Affordable Housing in Orange County, North Carolina
by Hope V. Sullivan

Sites in the southern portion of Orange County, North Carolina, particularly the Towns of Chapel Hill and Carrboro, are too expensive to accommodate affordable housing. The reasons for this are high land prices, due to a limited land supply, and proximity to services and amenities. In the northern portion of the county, zoning regulations and deed restrictions made this relatively cheap land too expensive to accommodate affordable housing.

This paper documents the need for affordable housing in Orange County; reviews current development regulations and policies related to building affordable housing; explains the concept of inclusionary zoning; and recommends how inclusionary zoning can be integrated into existing development regulations to allow affordable housing in the county.

A Tribute to Shirley Weiss

John Gliebe

On the evening of April 4, 1992, former colleagues and students of Shirley Weiss gathered at the Carolina Inn in Chapel Hill to pay her tribute. Part of the annual alumni weekend festivities, Shirley Weiss Day honored a woman who devoted more than thirty years of her life to city planning teaching and research, all of it at the University of North Carolina.

Shirley entered the Department of City and Regional Planning in 1956, becoming one of the first female students in the program. In 1942, she earned her BA in economics at Douglass College, Rutgers University, and that same year, she married Charles Weiss, her lifelong partner, travelling companion and patron of the arts. (Appropriately, Shirley and Charles celebrated their fiftieth wedding anniversary in Charleston, S.C., at their annual visit to the Spoleto Festival.)

Shirley's career in planning actually began when she accepted a position as an economist with the Maryland State Planning Commission in Baltimore. Later, she became Director of Research for the Commission, a position she left to enter the planning program at Carolina. While a graduate student in Chapel Hill, she became associated with Professor F. Stuart Chapin, Jr., as he was initiating the Urban Studies Program in the Institute for Research in Social Science. Funded by the Ford Foundation, the Program's landmark studies of urbanization in the Piedmont Crescent of North and South Carolina laid the groundwork for the strong research activity that was later to become the Center for Urban and Regional Studies. Throughout her career, Shirley maintained a close association with the Center as Research Associate, Principal Investigator, and Associate Research Director. It was during that same time that she completed her academic work, earning her Ph.D. in economics from Duke University in 1973.

In time, Shirley developed her own research agenda and became highly successful in attracting research grants to the University. A large grant from the National Science Foundation allowed her to undertake the definitive study of new towns in the United States, comparing large-scale, new communities with conventional suburban development.

Future DCRP students will not have the opportunity to work with Shirley Weiss; however, they will certainly benefit by what she accomplished. Through creative application of scientific inquiry, pragmatism, and a sensitivity toward people and places, she made a name for herself and for the department through her work in urban revitalization and new town planning. Her research was of such import to the national urban agenda that she routinely obtained six-figure research grants, including one for $1.28 million in 1971. This money brought not only prestige to the Chapel Hill program, but also enabled hosts of students to obtain a planning education.

On the night of the alumni celebration however, a more personal theme emerged from the testimony given by Shirley's friends. They spoke of a truly caring and devoted person, who inspired many through not only her work, but also through her behavior.

Department Chairman Michael Stegman framed this theme with his opening commentary: "By both word and deed, Jack Parker and our founding faculty let us know that teaching at DCRP was more a calling than it was a job. Jim Webb, Stu Chapin and Shirley Weiss made it clear that one doesn't come to Chapel Hill as a stepping stone to somewhere else. Rather, one comes to Chapel Hill to be a teacher and a scholar and to stay and help build the department's legacy of excellence that's proudly passed on from one generation of faculty and students to the next.... As those of us who have chosen the academy as our professional calling know so well, the coin of the realm in teaching is touching young people and affecting their development in important ways. And none had touched the people they had taught as had Shirley."

Mike Wilson ('78), wrote in an autograph to Shirley: "Thank you for your inspiration. You made us believe that as DCRP students we were special, that we could do great things. The confidence you gave us accounts for much of what we have accomplished."

Clearly, Shirley represented the type of professor that all students hope to encounter--one who bestows more than knowledge, one who nurtures and instills confidence. As long-time colleague Ray Burby ('66) remarked, "She truly is a gentle person who mentors all about her, tries to help them develop themselves to be the best people they can (be).

"Shirley's approach was not to overpower students with what she had to tell them, but to try to help them understand what was happening in cities and to develop their own cognitive ability and to solve problems and to grow as individuals," Professor Burby explained. "Students of Shirley's whom I've talked to look back to her classes as chances when they could really sink their teeth into urban problems and make a contribution, or feel they were making a contribution, to their solution."

Shirley prepared students to be professional planners, using whatever role and form of motivation seemed appropriate. As Earl Armiger ('66) wrote to her in a letter read by Professor Stegman to the crowd of celebrants: "...you were my boss, thesis advisor, mentor, cajoler and, for a time, you were my roadblock to graduation. But I did graduate and felt indebted to you ever since. I am fortunate to have received the kind

of education DCRP provided and even more appreciative of the friendships that were begun and continue to this day and of the nurturing faculty which you represented."

Shirley's passion for planning engendered enthusiasm among her students, stressing a mode of intellectual inquiry that would enable them to be innovators on their own. "The way that Shirley responded to questions and struck sparks and tangents got you mobilized and... encouraged follow up investigation," Jim Gildea ('69) commented. "To challenge curiosity, to grow into insight, to critically hone that and develop it.... Do the analysis, test the hypotheses, and lay out a set of expectations. Shirley modeled that in her professional life and drummed that into us."

Her professionalism was exemplary, as many of her former colleagues and students attested. They lauded the letter-perfect detail of Shirley's work and her persistence for timeliness. More importantly, though, her success and the respect she received in a male-dominated profession made her a role model and inspiration to women seeking to become planners.

Shirley was the only female faculty member when Nancy Grden ('75) came to DCRP in 1973. "It was a time when feminism was at its peak," Grden commented. "It was very fashionable to find fault, to find holes, to find problems in the male hierarchy. The thing that struck me about Shirley at that time was... she... took the position that she could be much more effective advancing the cause of women simply by doing a good job at her profession--by being a good teacher, by being a good researcher, by being a valued colleague...."

Another Shirley Weiss protege, Nancy L. Randall ('84) wrote in an autograph to Shirley: "You inspired me; you supported me; you made me believe that I, a 'girl', could compete and succeed with 'the men.' I thank you for making me look at cities." This captures Shirley's work with women students in the Department, and, for a time, as Acting Director of the University's Women's Studies Program.

Explicit in the comments of Shirley's former students and coworkers is her commitment to them. As Professor Ed Kaiser pointed out in naming some of Shirley's many attributes, it all comes down to *loyalty*: "She has it in super abundance for the people and the ideas and the institution that she stands for and believes in. She has very strong loyalty for the University... the Department of City and Regional Planning... to us alumni... and, most importantly, to her students. I think especially to women students and to black students, even before they become students, as applicants, Shirley is their advocate. There has never been to my knowledge a woman applicant or a black applicant who shouldn't get in this department and once in shouldn't graduate. Shirley would make her very own strong pitch. And that's to her credit and the students' credit and, ultimately, to the profession's credit, as well."

When Ray Burby finished his speech, Shirley took the podium to respond to the evenings accolades. Just as she touched the lives of so many, she too appeared to be touched by what was said. With reflection and humility, she replied: "I remember Jim, Jack, Maynard and Stu's retirements, and they seem remarkable to me. These are remarkable people. And then to hear you say these things about me is just overwhelming. I hope I really live up to them."

Epilogue

Demonstrating their commitment to their work and to the University, as they retired, Charles and Shirley Weiss have made major gifts to the University which will fund an "Urban Livability Program". The Program will be initiated in September, 1992, with an Urban Livability Annual Prize Competition, open to all students at the University. The first prize winners will be announced at the Urban Livability Colloquium in April, 1993. The Colloquium will also see announcement of the first fellowship holders, and the designation of the first Floyd B. McKissick Resident Scholar in Community Development at the Center for Urban and Regional Studies. Details of the Program will be released soon.

Dr. Shirley Weiss and colleagues, circa 1976, celebrating the release of New Communities USA. *Front row from left: Dr. Shirley Weiss, Barbara Rodgers, Dr. Thomas Donnelly, Mary Ellen McCalla. Back row from left: Dr. Edward Kaiser, Dr. Robert Zehner, Norman Loewenthal, David Lewis and Dr. Raymond Burby III.*

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