

Presenters: Michael Klepinger, MSU Extension; Pam Rubinoff, RI Sea Grant; Lynn Richards, EPA

Title: Framing the Elements of Waterfront Smart Growth

Objectives: To discuss waterfront access as an essential element of sustainable coastal development and improve the accuracy and relevance of a new list of "elements of waterfront smart growth." This is an effort to frame a national message about the "elements." Conferees will provide feedback on the study team draft. The result could be used by waterfront advocates in community goal setting, regulatory policy making, and grantmaking.

Working Waterways and Waterfronts Conference participants will critically review the "elements," from their unique perspective. We are interested in harvesting the wealth of experience of conference participants in an attempt to distill a list or matrix of essential elements of healthy waterfront development. Participants at the Smart Growth Conference in February 2007 provided the first nationwide feedback on the work of the study team posted online at http://seagrant.gso.uri.edu/ccd/coastal_elements.html

Are these correct? Are we missing any essential elements? How should they be stated for maximum impact with policy-makers and funders?

Process: A brief presentation of the draft "elements of waterfront smart growth," will be followed by a recorded feedback session.

WATERFRONT AND COASTAL SMART GROWTH ELEMENTS

Waterfront communities have historically been, and will remain, desirable places to live. These attractive places are changing rapidly and there are important public decisions that need to be made to accommodate development. Coastal counties in the United States cover less than 17 percent of land area of the country, but are home to 53 percent of the population. A study of coastal population trends predicts average increases of 3,600 people a day moving to coastal counties, reaching a total population of 165 million by 2015. In addition, nearly 180 million people visit the coast every year. Current research indicates that in 15 years, the population in coastal counties will grow by 27 percent. Furthermore, the top 20 largest coastal and Great Lakes metro areas will add 32 million people by 2025. These population increases in coastal and waterfront areas are having numerous and profound effects on coastal and waterfront ecosystems, which can extend throughout the watershed.

As coastal populations have grown so also has their vulnerability to coastal hazards – winds, waves, and floods generated by hurricanes and other major storms, as well as physical impacts caused by tsunamis, land subsidence, coastal erosion and long-term shoreline changes. All of these risks are compounded by projected sea level rise. The social and economic consequences of these events are dramatic. The environmental consequences of coastal development are however the most insidious. As a direct result of coastal development:

- More than 20,000 acres of vital, irreplaceable coastal habitat disappear each year,
- 60 percent of our coastal rivers and bays are degraded by nutrient runoff,
- Wastewater effluents exceeding 2.3 trillion gallons enter our coastal waters every day,
- Oil equivalent to the Exxon-Valdez spill enters our coastal waters every eight months.

It is estimated that by 2025, coastal watersheds will have an average of 25 percent of their area covered by impervious surfaces and the mid-Atlantic area will be covered 60 percent. Research suggests that ecosystem

health is impaired when the impervious area in a watershed reaches 10 percent. If current coastal growth trends continue, many healthy watersheds will cross the 10 percent threshold over the next 25 years.

Access to a community's coastal or waterfront areas can provide an economic advantage as many people and businesses want to be located near or adjacent to a waterbody. Yet while the waterfront provides the community with unique opportunities, so too does it have unique challenges. For example, not all land adjacent to a waterbody can be developed. Large portions of the waterfront may provide critical ecological functions that must be preserved, and most states require a significant buffer between the waterbody and development. The issue facing these communities then becomes one of balance: how to maximize the opportunities that waterfront development can provide to a community and at the same time meet the often significant challenges and regulations required of waterfront development.

Smart growth approaches provide one possible tool for these communities. In cities and older suburbs, smart growth approaches invest time, attention, and resources in restoring community and vitality. New development is generally more town-centered, transit and pedestrian oriented, and has a greater mix of homes, offices, shops, and other uses. Often too, more open space and other environmental amenities are preserved or enhanced. Communities using smart growth techniques to try to improve development's environmental, economic, social, public health, and fiscal effects.

Smart growth principles were developed in 1996 by the Smart Growth Network, which is a group of private, public, and non-governmental organizations working together to improve the quality of development in neighborhoods, communities, and regions across the United States.

The principles are based on the characteristics and experiences in existing communities that are often thought of as thriving, diverse, and successful. The principles have since been adopted by the 38 Smart Growth Network partners, 50 units of government, 40 non-governmental organizations, and 13 private-sector groups. These principles help guide growth and development in communities that have a vision of what they want their future to be and of what they value in their community. The smart growth principles serve as a national framework for community development, however, they do not directly address the unique challenges and opportunities faced by coastal and waterfront communities.

To help fill that gap, coastal smart growth elements were drafted by an EPA-NOAA-USDA collaborative team. These coastal elements were selected to meet multiple objectives, such as recognizing the water-dependency of certain land uses, protecting coastal community character and creating a more distinctive sense of place and protecting natural resources. Like the smart growth principles, these elements are intended for a community to consider incorporating into new development or as retrofits to existing development. Coastal and waterfront communities across the U.S. have found they achieve better economic, environmental, community, and public health outcomes by focusing on these elements.

The coastal smart growth elements are not intended to replace or replicate the ten smart growth principles. Rather, they are intended to distill the waterfront-related aspects of the smart growth principles to help communities address their unique waterfront characteristics. All of the following land uses are defined as "Waterfront Dependent-Uses."

- Swimming Beach
- Recreational Marina
- Launch Site
- Harbor of Refuge
- Commercial Port
- Dry Docking
- Aquaculture Site
- Estuarian Interpretive Center
- Fish Processing

Houseboat Village
Public Access Point

They are land uses that require direct access to the water to accomplish their primary function. Access is an essential element of coastal smart growth - it is arguably the most important element.

The target audience for this work on framing a message about coastal smart growth elements is the stakeholders involved in the planning and development process: local officials, town planners, architects, developers, business-owners and citizen groups. The coastal smart growth elements provide sample language for planning and development stakeholders to use in their work, supported by concrete examples from successful waterfront communities. These policy and plan implementation tools will help stakeholders to demand better economic, environmental, community, and public health outcomes from their coastal development. Higher expectations placed on all stakeholders may help communities create better waterfront development.

WATERFRONT AND COASTAL SMART GROWTH ELEMENTS

Helping communities maximize their coastal advantage

Working Draft

Smart Growth Principle	Waterfront and Coastal Element	Key Features	Field Examples
<i>As adopted by the national Smart Growth Network</i>	<i>Each element is intended to distill the waterfront-related aspects of a smart growth principle to help communities address their unique waterfront characteristics</i>	<i>Considerations for coastal planning, design policies and development practices</i>	<i>Illustrative examples of the coastal element - notable communities</i>
1. Mix land uses	<i>Encourage working waterfronts and water dependent uses that promote a stable, year-round waterfront community</i>	<ul style="list-style-type: none"> • Consider needs and opportunities of recreational, commercial and industrial ports and harbors • Ensure an appropriate balance of seasonal and year-round uses • Identify strategic investments for working waterfronts 	
2. Take advantage of compact building design	<i>Effectively use land to maximize waterfront and water-based activities in appropriate areas</i>	<ul style="list-style-type: none"> • Establish land and water use strategies that maximize the efficiencies of targeted areas • Setback the highest density developments to maintain access and views of the water • Design waterfront to balance the benefits of density with the community’s environmental, economic, public health, and social goals 	
3. Create a range of housing opportunities and choices	<i>Accommodate seasonal population fluxes while retaining the livability and affordability of the community</i>	<ul style="list-style-type: none"> • Plan for seasonal and year round living • Zone for a variety of housing types and sizes • Consider the advantages and disadvantages of house boats and “live aboards” to complement land-based housing 	
4. Create walkable communities	<i>Assure physical and visual access to and from the waterfront for the public</i>	<ul style="list-style-type: none"> • Develop linkages between land-based pedestrian access and marine uses • Link land and water through physical and visual access to the waterfront • Adopt site design criteria to protect, improve, and enhance access to the site and along the waterfront • Create blue trails to promote water-based recreational access 	

<p>5. Foster distinctive, attractive communities with a strong sense of place</p>	<p><i>Protect, preserve, and enhance coastal character while capturing local opportunities for growth</i></p>	<ul style="list-style-type: none"> • Ensure built environment is resilient, protecting public and private investments • Inventory views to the waterfront and consider protective measures • Protect unique historic buildings, piers, docks, bottomland features. • Consider a floating structures code • Consider the visceral nature of the waterfront; coastal smells and sounds • Consider the boater’s perspective: from the water to the shore 	
<p>6. Preserve open space, farmland, natural beauty, and critical environmental areas</p>	<p><i>Protect natural coastal features and processes by designing with respect for the sea and the land-sea interface</i></p>	<ul style="list-style-type: none"> • Understand and plan for dynamic coastal processes and changes over time (e.g. storms, sea level rise, erosion) • When appropriate, protect underwater/ bottomland, water habitats, and shore habitat systems • Consider buffers to improve hazard mitigation, habitat protection, and stormwater management 	
<p>7. Strengthen and direct development toward existing communities</p>	<p><i>Encourage revitalization of waterfronts</i></p>	<ul style="list-style-type: none"> • Preserve, upgrade, and adapt for re-use existing properties • Retrofit historic waterfront for new uses and maintain coastal heritage • Prioritize siting to take advantage of grey fields and existing infrastructure (e.g. waste water, bulkheads, channels and piers) 	
<p>8. Provide a variety of transportation choices</p>	<p><i>Encourage waterborne transportation options to compliment to land-based options</i></p>	<ul style="list-style-type: none"> • Consider a “park once” strategy for cars and for boats • Support convenient land-water connections: water taxi, ferry, marina shuttle, trolley, designated path, tour boats • Create continuous trails along shore—walking, biking, bird watching—that link to other forms of land or water transportation 	
<p>9. Make development decisions predictable, fair, and cost-effective</p>	<p><i>Facilitate state and federal waterfront permit processing at the local level</i></p>	<ul style="list-style-type: none"> • Conduct a consistency inventory of local, regional, state, and federal policies and management tools • Streamline permitting to promote consistency, clarity and timely decisions • Create outreach materials that clarify community vision, overlapping jurisdiction, policies and processes 	
<p>10. Encourage community and stakeholder collaboration in development decisions</p>	<p><i>Seek participation from a diversity of sectors to represent the values and legacy of the public trust of coastal waters</i></p>	<ul style="list-style-type: none"> • Collaborate with federal, state and local authorities who have jurisdiction over the public trust and coastal natural resources • Identify stakeholders to represent the diversity of livelihoods and natural heritage of land and water 	

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Presenter Biographies

Michael Klepinger is an Extension Specialist at the Michigan State University Land Policy Institute. His most recent work includes research on the efficacy of the MSU Citizen Planner Program; developing smart growth instructional materials for coastal officials; and outreach to improve the siting of wind energy facilities in Michigan. He served for 12 years as Extension Specialist at Michigan Sea Grant. Mike received his undergraduate and graduate degrees in K-12 and adult education from Michigan State University and has taught courses at MSU in Urban Planning and Coastal Zone Management.

Pam Rubinoff is Associate Coastal Manager at the Coastal Resources Center, University of Rhode Island. Pam works in both US-based Sea Grant initiatives and International Programs focusing on sustainable coastal community development through capacity building, policy creation, and technical assistance to government and non-government partners. Current efforts advance ecosystem-management by incorporating smart growth principles, hazard prevention, and leadership training. Pam has a bachelor's degree in Civil Engineering from the University of Delaware, Newark, with a concentration in environmental engineering and coastal processes. She earned her master's degree in Marine Affairs at University of Rhode Island in Kingston where her major paper was titled, "Sea Level Rise: Implications for Management Initiatives on the South Shore of Rhode Island."

Lynn Richards is a Senior Policy Analyst at the USEPA, Smart Growth Program in Washington, D.C. She is involved in all aspects of smart growth, including examining water impacts from different development patterns; developing models for measuring stormwater runoff and associated pollutants from different site designs; and analyzing the regulations and subsidies that support different development patterns. In 2006, she published "Protecting Water Resources with Higher Density Development," and in 2004, "Protecting Water Resources with Smart Growth." Richards holds a MS in Environmental Science and a Masters of Public Affairs from Indiana University.