

Sustainable Raritan River Mini-Conference – Summary

Duke Farms, Coach Barn, Hillsborough

Thursday, December 5, 2013

Getting Close to the Raritan: Public Access

Raritan River Public Access Overview

Bill Schultz, founder of the Raritan Riverkeeper Program, outlined many of the current barriers to public access to the Raritan River. Among the issues presented were:

- A lack of public knowledge of access points, coupled with the lack of available information regarding access points, especially along the Lower Raritan River
- Negative public perceptions of the River, regarding its cleanliness and safety
- The presence of physical and geographic barriers, such as railroads and private property, along the waterfront

The importance of citizen engagement in overcoming these issues was stressed. Citizen-led river cleanup efforts, the increased use of the river by recreation groups, and the removal of three dams in three years are all signs of positive change. This type of engagement can create a positive feedback cycle. If the recreational use of the river continues to increase, then there will be more of a demand for cleanup efforts, which will in turn enhance the recreational experience. Having a proper access points is imperative as well. A proper access point will:

- Provide land access to the water
- Not have a prohibitive land use designation
- Offer picturesque vistas of the water

Current Issues in Public Access

Debbie Mans, Executive Director of New York/New Jersey Baykeeper, discussed some the means by which public river access improvements can be achieved in New Jersey, as well as the implications of recent changes in state legislation. The importance of public-private partnerships in garnering waterfront access was emphasized. Under the previous NJDEP Public Access Rule, private developers were required to provide public access as a component of a waterfront development project. As of November 2012, the law was amended to make the public access component voluntary. In light of this change, it is recommended that municipalities seek grant funding for waterfront access projects. Sandy Recovery Planning Grants could be one source of funding for waterfront communities.

Funding for Public Access in the Raritan Region

Patricia Ruby, Executive Director of the Hunterdon Land Trust, detailed the various environmental, social and economic benefits of land preservation, in addition to discussing funding strategies. Some of the environmental benefits include:

- Improvements in water and air quality
- Reduced flooding
- Soil conservation

Economic and social benefits include:

- Decreased infrastructure costs
- Increased property values
- Increased tourism
- Opportunities for community gardens, scenic vistas and recreation

Municipalities can secure lands for preservation by purchasing land, securing a donation of land, or by convincing a property owner to place a conservation easement or public-right-of-way easement on their land. Public funding sources for these efforts include:

- New Jersey Green Acres Program
- New Jersey Blue Acres Program
- New Jersey Farmland Preservation Program
- Open space taxes

Private funding sources include

- Open space/land preservation foundations
- Individual donations of money or land
- Loans

It is in the favor of municipalities to have an open space tax and plan. In addition to the revenue generated, municipalities with an open space tax and plan are eligible for a 50 percent grant toward land preservation projects from the Green Acres Program. That figure drops to 25 percent if no such tax and plan are in place. Municipalities must be prepared for land acquisition projects to last up to two years. They must also be prepared to manage funding from multiple sources.

What's the Long-Range Forecast for the Raritan Region?

Climate Projections

Anthony Broccoli, Co-Director of the Rutgers Climate Institute, discussed current climate projections and the implications for New Jersey and the Raritan Basin. New Jersey's climate trends are mirroring the observed global changes thus far. Over the next 50 years, it is projected that 70 percent of the summers will be warmer than the current warmest summer on record. Projecting precipitation trends is more difficult, as there has been significant variation from decade to decade. However, there is some evidence that heavy, concentrated periods of rainfall are occurring more frequently. This is a serious implication for the Raritan Basin. The relative percentage of impervious surfaces in the Basin continues to increase from development, meaning there will be increased discharge into the river. More frequent storms and increased runoff could mean an increased likelihood of flooding events. Additionally, continued sea level rise could exacerbate the flood damage from coastal storms. This sea level rise can impact non-coastal communities in the Raritan Basin. Additionally, New Jersey is seeing a faster sea level rise than many parts of the world, due to coastal land subsistence. If the current climate projections are realized, coastal flooding comparable to Hurricane Sandy could occur every ten years.

Tools for Assessing Risk and Planning for Resiliency

Richard Lathrop, Director of the Grant F. Walton Center for Remote Sensing & Spatial Analysis at Rutgers University, discussed a four step approach for risk management and planning for resiliency in the face of climate change.

- *Step 1: Understand the Issues.* Dr. Lathrop stressed the importance of quality and accessible information regarding climate change and sea level rise projections for governing bodies. The availability of this information will help shape future policies regarding land use planning, floodplain management, and emergency management with respect to climate change and sea level rise. LiDAR mapping projects conducted in 2008 and 2010 will be one of the primary sources of this information.
- *Step 2: Assess Risk and Vulnerability.* The design and implementation of decision support tools will allow policy makers to easily understand the implications of sea level rise for their jurisdictions.
 - New Jersey FloodMapper: policy makers can use this information to make necessary improvements to infrastructure and protect key environmental areas, such as tidal marshes.
 - New Jersey Inland Flooding Exposure: this program has the goal of providing real time forecasts regarding river levels during severe weather events. This project will also incorporate census figures to map New Jersey's most vulnerable populations. Additionally, it will seek to identify potential coast marsh rehabilitation sites and areas in need of infrastructure overhauls.
 - Getting to Resilience: a tool that allows municipalities to assess their needs in regards to sea level rise adaptation and mitigation. This tool can be used by municipalities to achieve higher ratings from programs such as FEMA's Community Rating System.
- *Step 3: Planning for the Future.* Using the above tools and more, municipalities will have the resources to make informed decisions regarding sea level rise projections. In addition to the protection of their residents and resources, communities can benefit from lower flood insurance rates and higher ratings from organizations like FEMA and Sustainable Jersey.
- *Step 4: Implement and Adapt.*

Climate Resiliency and Communities

Jeanne Herb, Associate Director of the Environmental Analysis and Communications Group at the Edward J. Bloustein School of Planning and Public Policy at Rutgers University, discussed the operations of the New Jersey Climate Adaptation Alliance (NJCAA). The NJCAA is a network of government officials, academics, public and private sector practitioners, business leaders, and NGO's with the goal of helping New Jersey communities prepare for climate change impacts. Such impacts include heavy rain events, sea level rise, storm surges, increased temperature, droughts and heat waves. She identified a list of vulnerable sectors in New Jersey:

- Built infrastructure
- Water resources
- Public health and safety
- Agriculture
- Coastal communities and economies
- The natural environment

She also emphasized that there are particularly vulnerable populations in New Jersey. Many of the projected impacts will have a greater effect on the elderly. Populations in low-lying and coastal areas are

also more vulnerable. The NJCAA has worked to identify and map these areas and populations of high vulnerability.

The NJCAA has a strategic work plan through which it guides communities.

1. Develop recommendations for policy.
2. Assess vulnerability and preparedness options for target business sectors.
3. Conduct communications and education.
4. Facilitate demonstration, pilot and other projects.

Essential to this process is the management of public perceptions regarding climate change. Public acceptance of climate change projections lags well behind that of the scientific community. The NJCAA addresses this through several means:

- Having scientific research and findings to support climate change policies and recommendations.
- Having a diverse supporting cast of scientists, academics and policy makers.
- Using surveys to determine which types of policies the public is more accepting of. Surveys done by the NJCAA indicate that the public is much more accepting of land use regulation than it is of increased taxation.

Preserving Priority Habitats: From Planning to Project Implementation

Comprehensive Conservation Planning

Anne Heasley, Vice President of Conservation Resources and Coordinator for the Raritan Piedmont Wildlife Habitat Partnership (RPWHP), and James Waltman, Executive Director of the Stony Brook-Millstone Watershed Association, discussed the creation of the RPWHP Comprehensive Conservation Plan. This plan was produced by a collaboration of numerous environmental organizations. A main point of emphasis was the “spatially explicit” nature of the plan. It identifies specific parcels of land to be acquired, preserved or restored. These parcels were identified by a combination of existing GIS data on land use and habitat and on-site data collection. The plan identified several primary environmental threats in the target area:

- Increasing fragmentation of habitats
- Invasive species
- Climate change

The plan also identified target species to be protected, and identified strategies for planning for climate adaptation:

- Identify best and most suitable habitats
- Restoration: determine how to best improve the function and quality of a habitat
- Protect and improve habitat connectivity
- Supply proper context for a habitat area in order to understand its regional function

Within the conservation plan exists three focal areas, based on habitat type. Each of these focal areas identifies specific parcels and areas to be addressed.

- Grassland Habitat Focal Areas
- Forest Habitat Focal Areas
- Riparian Priority Corridors

The riparian section of the plan also identifies habitat and water quality impairments to major water bodies in the region, including dams and stormwater outfalls. These have been identified in the field and located with GPS for further action.

This plan will be implemented by three primary strategies:

- Community outreach and stewardship for conservation of private lands
- Stewardship of existing public lands
- Strategically acquiring important habitat parcels.

Restoration, Stormwater

William Kibler, Director of Policy and Science for the Raritan Headwaters Association, discussed the impacts of stormwater in the Raritan Basin, as well as stormwater management policies. Excessive runoff has led to the muddying and pollution of the Raritan River. Climate change trends could lead to increased precipitation in the future, resulting in more runoff. The decade from 2000 to 2010 saw an eight inch increase in annual precipitation. This equals an additional 99 billion gallons of water in the Raritan Basin. Additionally, the continued development of the Raritan Basin has increased the relative percentage of impervious surfaces in the Basin, causing additional runoff. This deprives groundwater stores, as the water cannot percolate into the ground. It also contributes to flooding, water pollution, and erosion.

Stormwater management can be addressed regionally and locally. Managing the relative percentage of impervious surfaces in the Raritan Basin is imperative. Municipalities can mitigate and adapt to these effects by establishing floodplain commissions and implementing rain barrel and rain garden programs. These programs can be funded by Farm Bill programs and grants, grants from the EPA and stormwater utility fees. However, there is no single “silver bullet” for stormwater management, and flooding will likely get worse in the Raritan Basin despite these efforts.

Thom Almendinger, Director of Stewardship for Duke Farms, discussed an ongoing floodplain wetlands restoration project at Duke Farms. The land in question was placed under a floodplain easement, with all uses except passive recreation restricted. Several buildings were subsequently removed from the floodplain. The ultimate goal of the project is to restore a wetlands habitat to the floodplain. Currently, the targeted area slopes slightly down towards the river, and still bears a relatively smooth surface from many years of agricultural activity. The restoration effort will regrade the land so that floodwaters are captured in the wetland, and will not runoff directly back into the river. Additionally, the surface will be “roughed up” and ponds will be dug out in an effort to reduce runoff. Restoration projects such as this one can reduce the likelihood of damage from flooding events by capturing floodwaters.

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Sustainable Raritan River Initiative

About the Sustainable Raritan River Initiative

The Sustainable Raritan River Initiative is an independently funded program of the Environmental Analysis and Communications Group at the E.J. Bloustein School of Planning and Public Policy at Rutgers, the State University of New Jersey that brings together the broader university with key leaders from across the region and state. The Initiative supports and facilitates the Sustainable Raritan River Collaborative, which is a network of organizations and agencies in the Raritan River region working together to promote the integration of sound planning and a vision

for the Raritan Basin that balances social, economic and environmental objectives. For more information, visit www.raritan.rutgers.edu or call 848.932.2711.