

# Institutional Barriers to Wetlands Protection at the Local Level

*A lack of coordination between land use planning, watershed planning, and natural resource protection at the county and city level is preventing better wetlands protection. The author looks at how to build local capacity and help decisionmakers understand the value of green infrastructure.*

By Christine Olsenius

**R**egional watershed planning has the potential to support wetlands protection, particularly, when integrated with land use planning. While some states and counties have done an excellent job of aligning natural resource protection and land use planning, it is far less common than you may think.

In much of the Southeast, one of the fastest growing regions in the country with an historic reluctance for land use controls, we have observed several barriers to wetlands protection and natural resource management at the local level. These barriers help illustrate why more progress in wetlands protection is NOT being made at the local level to the extent it is needed.

We have found a lack of coordination of comprehensive land use planning with natural resource protection at the county level. Counties mandated to update their comprehensive land use plans do not often give priority to protecting water resources, wetlands, or habitat. The long-range comprehensive plans are geared more around transportation needs, growth projections, and infrastructure services than they are around shaping growth where it will have the least environmental impact. So, a major opportunity to integrate protection of key areas, like wetlands into 10-20-year comprehensive land use plans, is often lost.

In many areas, there is a lack of integration among watershed planning efforts with local land use planning efforts. There are some states that clearly have a strong track record of

good coordination between watershed and land use planning, but in many local communities we find that the watershed planning process was done by a different set of stakeholders at a different jurisdictional level without the active participation of local city and county planners. Therefore, the chance that the watershed plan or its best practices might be integrated into any land use planning effort is greatly reduced. Watershed protection strategies need to be built into county land use plans, as an incentive for developing ordinances, zoning, or site-design regulations that ensure best management practices are implemented.

There is a basic lack of understanding of the economic, environmental, and social benefits of green infrastructure—the forests, farms, wetlands, riparian buffers, and green space that help sustain the hydrology of our watersheds, protect our communities from flooding and erosion, reduce stormwater costs, and add to local quality of life.<sup>1</sup> The role of natural resources like wetlands in saving communities operation and maintenance costs for stormwater runoff is undervalued, and finding economic statistics or case studies to showcase their cost savings can be challenging. But showcasing the economic value of natural resources, or providing incentives for their conservation, can be a critical element in shaping wiser land use change at the local, county, and community level.

One important economic incentive that has been helpful to encourage communities to better protect coastal and near-coastal wetlands has been the Federal Emergency Management Agency's (FEMA's) Community Rating Service (CRS). Cities or counties agree to implement floodplain protection measures

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that can include wetlands protection, development of riparian buffers, maintenance of vegetative cover, preservation of open spaces, and other best practices. Community policyholders can save 10-25 percent on their flood insurance premiums, depending on the level of best practices and floodplain planning their city or county implements. Promoting wetlands and the conservation of other green infrastructure as a key vehicle for mitigating storm damage and sustaining healthy coastal communities has become a big part of our training efforts with the National Estuarine Research Reserves and Association of State Floodplain Managers. But FEMA's CRS program benefits inland communities as well, offering policyholders reduced flood insurance premiums if their communities implement wiser floodplain management practices. It is a win-win policy for the community and the environment.

The community training and workshops offered by the Southeast Watershed Forum are geared to bring a variety of local stakeholders together with land use planners and city/county commissioners, the people who influence land use decisions in a community. We use geographic information systems-based maps, projected housing density build-outs, and other resources to better visualize the location of prime natural resources and to showcase the role wetlands, forests, and riparian buffers play in potentially reducing flooding and erosion from changing land use patterns. The U.S. Environmental Protection Agency (EPA) has issued new Stormwater Phase II guidelines<sup>2</sup> that now encourage the use of green infrastructure and low-impact development strategies in local land use planning to achieve better results than in the past. We hope this new emphasis will encourage communities to better preserve natural areas and land features, like wetlands, as an important tool for watershed protection.

We strive for measurable outcomes in our community work, but in many areas we are still waiting to see more specific results, especially like we saw in Darien, Georgia. Darien overcame the three barriers to resource protection identified above. It was not an easy process, but their story provides an example of an integrated approach to land use and natural resource planning in an area surrounded by freshwater and estuarine wetlands.

Darien, Georgia, is a coastal community of vintage homes and graceful live oaks, located where the Altamaha River meets the Sapelo Island National Estuarine Research Reserve (SINERR), approximately 50 miles south of Savannah. The area is a perfect destination for bird watching, boating and fishing, as well as a designated bioserve. Shrimp boats still wind their way to sea through watery corridors lined with tall marsh grass. It is a quiet place of exceptional beauty, and Darien residents wanted to keep it that way.

When the inevitable development pressure first arrived, it caught the city unprepared. In the course of three short years, from 2001 to 2004, the number of building permits increased exponentially. City staffers were overwhelmed with zoning requests. The first developers got projects approved

with very little oversight and virtually no city guidelines for construction standards. One of the first controversial developments to be permitted was a condominium adjacent to the coastal marshes.

A key city election in late 2005 ushered in a new mayor and a new set of players on the city council, and by early 2006, the city had hired a full-time manager. But there was a great deal of confusion over the variety of planning initiatives that were ongoing at the county and community levels. The new city council wanted to know how these planning efforts related to one another.

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The Southeast Watershed Forum worked with the SINERR, the Georgia Department of Natural Resources, and Georgia Tech's Center for Quality Growth and Regional Development to tailor a workshop that would clarify the role of various planning processes, while explaining that good land use planning would be critical to conserving the community's unique natural resources. How would Darien be able to preserve its coastal wetlands? Did they have plans in place to protect water quality and water supplies, preserve community character, and maintain local quality of life in the years to come?

#### **Outcomes**

After the workshop, Darien's leaders took their future in their own hands and began working on a Water Resources Protection Ordinance, which included provisions for illicit discharge prohibitions, wetlands protection, and a river corridor protection plan. A design manual for managing stormwater runoff was also developed. The city was demonstrating a commitment to land use practices that would protect its natural resources.

With basic provisions for water resource protection in place, the city went a step further to protect its wetlands. Earlier in the year, the city had reached an agreement to tentatively annex some protected wetland areas previously managed by the state of Georgia. Developing an ordinance was key to finalizing the annexation. The city met with various interested stakeholders in 2007 to see what each party wanted to achieve with a wetland ordinance. This meeting proved critical to clarifying what was needed in a prospective new ordinance while building support for it.

Instead of developing a wetlands protection ordinance per se, the city developed two Conservation Preservation Ordi-

nances, zoning categories that function in a similar fashion to overlay districts. The regulations are called conservation preservation because the zoning categories can be utilized to protect any important natural or historical resource. They also protect more than just the immediate wetlands; they protect upland habitat and the contributing drainage area to wetlands.<sup>3</sup>

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On a summer evening in August 2007, by unanimous vote, the Darien City Council passed the two landmark ordinances: a Conservation Preservation Ordinance for their Public Zone and a Conservation Preservation Ordinance for their Residential Zone.

Darien is a prime example of the adage that there is no substitute for strong local leadership. But building partnerships and collaboration was still integral to success. While the mayor and city council led the new ordinance initiative, other key stakeholders were vital to building community support for the effort. They included the Georgia Department of Natural Resources (Coastal Resources Division), Fish and Wildlife Service, local civic groups, and The Nature Conservancy. All of these groups were in favor of developing the new ordinances and helped to influence public opinion.

But it still didn't take long for someone to challenge the ordinances. In 2009, a developer was found guilty of violating Darien's Soil Erosion and Sedimentation Control Ordinance by destroying the required 25-foot buffer between their development and the inlet of Cathead Creek. They were also operating without a permit! The Municipal Court judge imposed a fine payable to the city of Darien. While developing an ordinance is one hurdle, they are still only as good as the community resolve to enforce them.

Our hope is that as development opportunities come to Darien, city leaders will continue to enforce their ordinances to shape future growth in ways that will enhance, not detract, from their unique position near the marshes and waterways of the Altamaha Bioserve—designated by The Nature Conservancy as one of the World's 75 Last Great Places.

### Summary

What worked in Darien that is not working in many other communities: a social infrastructure that supported the process of land use change.

#### 1. Local Leadership

There is no substitute for local leadership. A mayor or

county commissioner interested in pursuing wetlands protection can motivate change and build local support for its implementation.

#### 2. Integrating Wetlands Conservation Into Local Planning

Darien knew what amazing resources they stood to lose by inappropriate development, especially along their coastal wetlands. If those would be lost to poorly planned growth, they could not be reclaimed. Once the multiple planning processes at the county and city level were better understood, the community made a conscious effort to integrate resource conservation and best management practices into all levels of planning to ensure consistency across programs and departments.

#### 3. Understanding of the Economic/Environmental Costs

Darien knew that their unique location amid freshwater rivers and saltwater marshes provided opportunities for recreation and tourism that could provide long-term sustainable development. Their natural resources and local charm were economic assets to build on for the future.

It is ironic that in searching for better watershed protection, it has been so difficult to preserve the wetlands that are so critical to maintaining watershed functions. And while non-profits and universities continue to assist communities with land use planning and watershed protection at a local level, greater integration of planning is needed at the state and federal levels. EPA needs to tie federal water quality funding to a state's ability to integrate wetlands and watershed protection into comprehensive land use plans. In addition, state planning agencies need to better understand the important economic and environmental benefits of integrating natural resource protection with land use planning.

As planners begin to understand the relationship of stormwater, flooding, declining water quality, and supplies to changes in land use, we hope they will begin to value the important role that wetlands and other green infrastructure play in maintaining the hydrology and the health of our watersheds. After all, the natural resources that protect the health of our watersheds protect the health of our communities. ■

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#### ENDNOTES

1. TIFFANY WRIGHT ET AL., DIRECT AND INDIRECT IMPACTS OF URBANIZATION ON WETLAND QUALITY, ARTICLE 1, CENTER FOR WATERSHED PROTECTION (2006), at 2-11.

2. Managing Wet Weather With Green Infrastructure, U.S. Environmental Protection Agency website, at [http://cfpub.epa.gov/npdes/home.cfm?program\\_id=298](http://cfpub.epa.gov/npdes/home.cfm?program_id=298).

3. WRIGHT, *supra* note 1, at 21-24.

*Example codes and ordinances in the Southeast and additional resources can be found on page 19, following the National Wetlands Awards program.*

## Example Codes and Ordinances in the Southeast

The following code and ordinance examples can be found at the Municode Library by going to [www.municode.com/Library/library.aspx](http://www.municode.com/Library/library.aspx).

### Florida

Belle Isle, Florida—Sec. 48-52—Wetland Buffer Requirements

Wetland buffers shall be required around the perimeter of all conservation areas in order to protect the water quality, water quantity, and wildlife habitat of wetlands and to prevent soil sedimentation.

- Class I conservation areas—average of 25 feet in width with a minimum width of 20 feet.
- Class II conservation areas—average of 15 feet in width with a minimum width of 10 feet.

### Georgia

Darien, Georgia—Sec. 20-2513—Vegetated Buffers

An undisturbed natural vegetative buffer shall be maintained along all coastal marshlands, measured horizontally from the landward edge of the coastal marshlands, as established by the Georgia Department of Natural Resources and along all wetlands, as measured from the inland edge of the wetland, as established by the Army Corp of Engineers. The buffer shall be a variable width buffer with an average width of at least 75 feet, and a minimum width of 50 feet. All land disturbing activity is prohibited within the 75 foot buffer unless a variance is granted in accordance with City of Darien Code.

Darien, Georgia—Sec. 20-2513—Wetland Buffer Guidelines in Residential Developments

An undisturbed natural vegetative buffer shall be maintained along all coastal marshlands, measured horizontally from the landward edge of the coastal marshlands, as established by the Georgia Department of Natural Resources and along all wetlands, as measured from the inland edge of the wetland, as established by the Army Corp of Engineers. The buffer shall be a variable width buffer with an average width of at least 75 feet, and a minimum width of 50 feet. All land disturbing activity is prohibited within the 75 foot buffer unless a variance is granted in accordance with City of Darien Code.

### North Carolina

Greensboro, North Carolina—Sec. 30-7-1.8—Stream Buffer Requirements

Stream buffer widths were established in the Upper and Lower Randleman Lake Watersheds. A 0-30 ft. buffer and a 30-50 foot buffer zone were established with limits on disturbance and development for each zone. The 0-30 foot is to remain undisturbed and limited activities are allowed in the 30-50 foot zone such as utility lines and passive recreation.

### Tennessee

Knox County, Tennessee—Sec. 26-193—Floodplain Development Requirements

A floodplain development permit is required for any development or alteration to the natural drainage system within the 500-year floodplain in the county. The director shall approve said permit based on the requirements herein and the required engineering calculations stipulated by the director. All activities that take place within the 500-year floodplain must conform to the regulations set forth in the county flood damage prevention ordinance.

### Virginia

Permitting Code of Virginia—Ch. 13 of Title 28.2

Any activity that would disturb a tidal wetland area is regulated and permits from the Virginia Marine Resources Commission and the local Wetlands Board are required. According to Virginia's Wetlands Guidelines, tidal wetlands regulatory jurisdiction extends to the mean high tide line where no emergent vegetation exists, and to 1.5 times the mean tide range where marsh is present and were revised in 1982 to include beaches, tidal mudflats, and shallow water habitats along with vegetated wetlands as protected areas.

## Resources

*Additional resources to learn more about wetland protection at the local level, include:*

*Southeast Watershed Forum Wetland Factsheets, [www.watershed-assistance.net/resources/item.asp?id=1511](http://www.watershed-assistance.net/resources/item.asp?id=1511);*

*Darien, Georgia, Conservation Preservation Ordinance for Residential Zones, [www.watershed-assistance.net/resources/item.asp?id=1589](http://www.watershed-assistance.net/resources/item.asp?id=1589);*

*Community Resource Mapper (Southeast United States), [www.watershed-assistance.net/mapper](http://www.watershed-assistance.net/mapper);*

*Southeast Watershed Assistance Network for Wetlands, Watersheds, and Stormwater Management Resources, [www.watershed-assistance.net/resources/categories.asp?catid=65](http://www.watershed-assistance.net/resources/categories.asp?catid=65).*