



RHODE ISLAND RIVERS COUNCIL

Findings and Recommendations

Establishment of Riparian and Shoreline Buffers and the Taxation of Property Included in Buffers

**A Report to the Governor, President of the Senate and Speaker of the
House**

January 15, 2005



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Charge to the Rivers Council (R.I.G.L. § 46-28-9 (c))

The council shall, in cooperation with the department of environmental management, the coastal resources management council, and the department of administration, report to the speaker of the house, the president of the senate, and the Governor not later than January 15, 2005, its findings and recommendations with regard to the establishment of riparian and shoreline buffers and the taxation of property included in buffers and shall address the question of whether the valuation of areas included in buffers should be reduced for purposes of taxation.

EXECUTIVE SUMMARY

Riparian buffers, the area of land along streams, rivers and coastal waters, protect water quality and provide valuable wildlife habitat. Rhode Island has programs in place to protect riparian buffers through the Coastal Resource Management Council (CRMC)¹ and the Department of Environmental Management's (DEM) Wetlands programs. However, inadequate staffing and lack of other resources have reduced the effectiveness of these laws and the rules promulgated to protect riparian buffers.

The Clean Water Act goal that all waters should be fishable and swimmable² is not achievable in Rhode Island's waters without the careful protection of riparian buffers. With the current focus on watershed management and protection, Rhode Island has an opportunity to enhance and expand programs, policies and other initiatives to protect and restore riparian buffers in all Rhode Island waters.

The Rhode Island Rivers Council Buffer Working Group recommends the following actions to protect riparian and shoreline buffers along all of Rhode Island's waterways:

- 1. Strengthen the enforcement of current laws** which are implemented by CRMC and DEM.
- 2. The RI Bays, Rivers and Watersheds Coordination Team should develop comprehensive policies, regulations and incentives for buffer protection and restoration.** These should include: 1) buffer monitoring and assessment; 2) buffer protection, restoration and conservation; 3) tax incentives to encourage protection of buffer areas and 4) public education.

DEFINITIONS

Riparian: Relating to the zone along rivers and streams. For the purposes of this report, riparian includes the zone along rivers and streams, lakes, ponds and coastal areas.

Riparian buffers: The area of land along streams, rivers, coastal waters and other open water bodies. Riparian buffers are essential to the ecology of aquatic systems. Riparian vegetation protects streams from erosion and scouring, provides valuable wildlife habitat and protects water quality by removing sediment and nutrients from rain runoff and groundwater draining lands adjacent to the waterway.

¹ CRMC Section 150, Special Area Management Plans (SAMP) and wetlands programs.

² Federal Water Pollution Control Act, Declaration of Goals and Policies Sec. 101 (a) (2) "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983."

RECOMMENDATIONS

1. **Strengthen enforcement of existing laws.** The single most important step in assuring that riparian buffer areas are protected now and into the future is to strengthen enforcement of existing laws. Current protections are not adequate in part because DEM and CRMC do not have the staff and resources to perform follow-up compliance inspections on all issued permits. Therefore more staff are needed at DEM and CRMC to enforce buffer protection regulations.
2. **Develop a comprehensive program for buffer protection.** Rhode Island's environmental agencies should continue to work cooperatively through the RI Bays, Rivers and Watersheds Coordination Team³ on a comprehensive program for buffer protection. This program should include the essential elements listed below. DEM should establish a program dedicated to preserving and restoring riparian buffers in coordination with federal, state and local partners.
 - A. **Buffer assessment:** Identify and assess coastal and inland riparian buffer conditions statewide using aerial photos and field reconnaissance (DEM has begun this assessment in Greenwich Bay and Buckeye Brook). A high priority should be given to identifying and mapping small headwater streams and their riparian buffers. These areas can be more effectively protected by state and community regulations once they are identified. The assessment can be used to develop priority areas for buffer restoration and protection. It may also be used to assess compliance with current regulations. The statewide assessment should be incorporated into the state monitoring strategy⁴ and be repeated periodically to measure the cumulative impacts of development and to assess trends.
 - B. **Protection, restoration and conservation of critical areas:** Private land owners, watershed councils, land trusts and municipalities will be encouraged to protect critical riparian areas through the following programs:
 - B1. **Land conservation and acquisition.** Local, state and federal programs should be used to protect and acquire high priority buffer lands. The Natural Resource Conservation Service (NRCS), the lead Federal agency for conservation on private land, provides technical assistance and funding for land conservation projects. The USDA Farm Service Agency's Conservation Reserve Enhancement Program (CREP)⁵ can partner with

³ In the spring of 2004, the Rhode Island General Assembly mandated the creation of the Rhode Island Bays, Rivers and Watersheds Coordination Team – an interagency body that would aim to coordinate the State's regulations and programs relating to Narragansett Bay and its watersheds.

⁴ Rhode Island's Environmental Monitoring Collaborative was established by the Comprehensive Marine Monitoring Act of 2004. The Collaborative is charged with developing and implementing a state monitoring strategy.

⁵ The following states have CREP agreements with USDA – MD, MN, IL, NY, OR, WA, NC, DE, VA, PA, OH, MI, MO, ND, CA.

states to provide financial incentives, lease agreements, and other services to encourage farmers to enroll targeted lands to establish riparian buffers, and other conservation practices. DEM administers state open space money that may be used to purchase critical buffer areas.

- B2. **Flexible urban development standards.** In urban areas, existing development often encroaches directly on the waterfront, leaving little or no vegetated buffer. Incentives and flexible alternatives should be developed to encourage restoration of riparian vegetation during the redevelopment of urban parcels. As this redevelopment occurs, requirements to restore the riparian buffers may be coupled with tax incentives and flexible regulations to ensure that productive use of the land is not restricted. The various state and federal partners actively working on riparian buffer restoration should continue to work together to provide consistent buffer restoration guidance for projects in urban areas (Natural Resource Conservation Service, Environmental Protection Agency, DEM, CRMC).
 - B3. **High quality waters and headwater stream protection.** DEM should investigate NJ's mandatory 300-foot buffer for high quality river segments and consider adopting similar regulations.
 - B4. **Conservation development strategy promotion.** Municipalities should be encouraged to guide growth away from riparian areas. Conservation development allows a landowner the flexibility to attain the same number of house lots while keeping development as far away as possible from riparian corridors and other sensitive natural areas and is a very promising technique to preserve riparian buffers in perpetuity. The DEM Sustainable Watersheds Office should continue to assist communities in adopting and implementing conservation development.
 - B5. **Establish goal of continuous riparian buffers for state:** DEM, Statewide Planning and CRMC should establish goals, policies and regulations which will result in continuous riparian buffers for all RI waters where possible. In those instances where existing permanent structures preclude a vegetated buffer, guidelines and alternative measures to mitigate stormwater runoff and improve habitat should be established.
- C. **Provide tax incentives to encourage protection of buffer areas.** Tax incentives can be used for either temporary or permanent buffer protection. Tax incentives should only be applied after landowners have documented the boundaries of the riparian zone and developed a management plan for the land. Permanent protection would require that the landowner agree to a perpetual conservation easement for the riparian lands.

- C1. **Use the Farm, Forest, and Open Space Act (FFOS) to provide temporary buffer protection.** The FFOS is a temporary protection program that provides open space tax incentives for parcels of land greater than 10 acres. The program allows municipal government the option of offering land owners property tax incentives (i.e. a lower tax assessment) on parcels of land enrolled in the program. Property owners must demonstrate proper management of the land, and will be encouraged to adopt permanent land protections for the buffer areas.

The Farm, Forest and Open Space Act (FFOS) can be utilized to provide tax incentives for parcels of land less than 10 acres if the land is designated as open space in the community comprehensive plan. The Rivers Council intends to recommend that riparian buffers be designated as open space in State Guide Plan Element 162, Rhode Island Rivers Policy and Classification Plan (currently being updated). While not binding, it is hoped that municipalities will proceed to designate riparian buffer corridors as open space land in their community comprehensive plans. This will allow landowners to enroll the parcels under the FFOS act and have the land taxed at its current use value. It will also allow the community to be eligible for open space acquisition grants and make it clear where new growth should not occur. In urban areas, many rivers and streams are lined with industrial uses/zones and alternative taxing rates or tax exemption opportunities should be considered to promote buffer restoration.

- C2. **Develop a permanent protection program.** The FFOS is a temporary protection program in that landowners must periodically renew their open space designation and may withdraw from the program at any time. A permanent protection program is preferable. There are already some tax incentives for permanently protecting land, but these incentives are not widely known or publicized. A tax incentive program for permanent buffer protection could include:

a) **Encourage donations of riparian buffer lands.** Publicize income tax benefits for donating conservation easements on riparian buffer lands to land trusts, watershed councils, non-profit conservation organizations, or state and municipal governments.

b) **Create a new local property tax program.** Enable local governments to provide land owners with a total property tax exemption for placing a conservation easement on qualified riparian lands. Land owners would be required to develop, implement and regularly update management plans improving or maintaining the buffer. The exemption would apply to the portion of the property in the riparian buffer.

- D. **Promote education and enforcement of existing regulations.** The Rivers Council and watershed councils can help educate citizens about the importance of undeveloped buffers and conduct assessments of buffer conditions within the watershed.
- E. **Use state bond monies to protect buffers.** DEM is establishing priorities for the use of state bond funds for riparian buffer restoration. These state funds should be leveraged with applicable Federal, local and private sector funds to achieve Governor Carcieri's charge to the Governor's Narragansett Bay and Watershed Planning Commission⁶ to restore 100 acres of riparian buffers by 2008 and 200 acres by 2015.

FINDINGS AND ANALYSIS

Significance of Riparian Buffers

Riparian zones, due to their location between surface waters and adjacent land areas, provide a range of important functions:

- Trapping/removing sediment, phosphorus, nitrogen, and other nutrients from runoff. These pollutants lead to eutrophication of aquatic ecosystems;
- Trapping/removing other contaminants, such as pesticides;
- Providing habitat and contiguous travel corridors for wildlife;
- Stabilizing stream banks and reducing channel erosion;
- Storing flood waters, thereby decreasing damage to property;
- Maintaining habitat for fish and other aquatic organisms by moderating water temperatures and providing woody debris;
- Improving the aesthetics of stream corridors (which can increase property values);
- Offering recreational and educational opportunities.

Because they provide all of these functions, riparian buffers can be thought of as a **“conservation bargain”**. Preserving a relatively narrow strip of land along streams and rivers – land that is frequently unsuitable for other uses – can help maintain good water quality, provide habitat for wildlife, protect people and buildings against flood waters, and extend the life of reservoirs. **The preservation and restoration of natural riparian buffers is considered to be the single most important management practice to protect water resources.**

Scientific research suggests that headwater streams comprise between 75% and 90% of total stream and river mileage. The importance of protecting and restoring these headwaters cannot be overstated. A recent paper, entitled *Where Rivers are Born: The Scientific Imperative for Defending Small Streams and Wetland* (Meyer et. al. 2003),

⁶ Executive Order, October 22, 2003

stated that "...if we are to continue to make progress toward clean water goals, we must continue to protect these small but crucial waters." In fact the paper goes on to state that the **fishable swimmable goals of the Clean Water Act⁷ are not achievable without the careful protection of headwater stream systems.** Moreover, the **failure to protect small headwater streams can undermine expensive efforts to restore water quality down stream.** The environmental quality of our rivers, salt ponds and Narragansett Bay is dependent upon the condition of the smaller tributaries that feed them. Riparian buffers are needed to maintain a steady source of clean water for our headwater streams.

Condition of Rhode Island's Riparian Buffers

Riparian zones exist along the shores of Rhode Island's 1,498 miles of rivers, 20,917 acres of lakes, 156.29 square miles of estuarine waters, 127,721 acres of wetland and deep water habitat (freshwater and marine) (numbers from DEM 2002 305(b) report and are based on 1:24,000 scale USGS map).

During the past year, the DEM Office of Sustainable Watersheds assessed the riparian buffers of the Greenwich Bay and Buckeye Brook Watersheds, Ninigret and Green Hill Ponds, and portions of the Woonasquatucket and Blackstone Rivers. This preliminary work has shown that:

- Coastal waters are the most threatened with significant areas having no buffer between developed land and the water.
- Stream and pond buffers are in better condition, with up to 70 percent of streams in the Greenwich Bay watershed having some form of buffer. However, since many small headwater streams are not mapped their condition could not be assessed. It should also be stressed that even small openings or disturbances in vegetated areas can significantly reduce the functions and values of riparian buffers.

DEM is seeking funding to expand this assessment statewide and identify and map small headwater streams so they can be more effectively protected.

How is Rhode Island protecting riparian buffers? How well is it working?

In coastal areas, riparian areas are protected by CRMC regulations, Section 150 - Coastal Buffer Zones. CRMC policy is to require coastal buffer zones for new residential development, commercial and industrial development. The vegetation in the buffer must be retained in a natural, undisturbed condition, or properly managed. For residential developments, the width of the buffer ranges from 15 feet to 200 feet and depends on the adjacent water use type and size of the residential lot. Variances can be granted by the

⁷ These goals were incorporated by Governor Carciari in his charge to the Governor's Narragansett Bay and Watershed Planning Commission Established by Executive Order October 22, 2003, they were addressed by the Senate Committees on Government Oversight and Environment and Agriculture in "A Proposal for Habitat-Based Management for Rhode Island's Marine Environment", and by the House Bay Trust Study Commission. The fishable swimmable goals are now part of the mandate for the Rhode Island Bays, Rivers and Watersheds Coordination Team.

Coastal Council to reduce the width of the buffer for residential development. For commercial development, buffer requirements are determined on a case-by-case basis by the Coastal Council.

CRMC does not have the staff and resources to perform follow-up compliance inspections on all issued permits. Their experience has shown that in the absence of a strong compliance and enforcement presence, people clear all the way to the water and resist leaving the vegetation in a natural and undisturbed condition.

The RI Freshwater Wetlands Act which passed in 1971 is the first inland wetland law in the nation to include a ‘buffer’ or upland area adjacent to the wetland (including rivers and streams) and to regulate it as part of the wetland. Through this law, DEM regulates a 50 foot perimeter wetland, or buffer zone around swamps, marshes, bogs, ponds; and 100- and 200-foot riverbank wetlands adjacent to rivers and streams depending on the width of the watercourse. Permits are required for many activities in the buffer wetland. The goal of the program is to ensure that wetlands are preserved, protected and restored. However, since many headwater streams are not mapped and may only flow seasonally, landowners may not apply for the required wetland permits. In addition, under § 2-1-22(i)(1) of the Freshwater Wetlands Act⁸, normal farming activities (i.e. land clearing) are provided broad exemptions that may result in alterations to the buffers by farmers. This work must be for agricultural purposes only and in accordance with best management practices which minimize adverse effects.

The DEM Wetlands Program framework does not protect riparian buffers around all wetlands. Some weaknesses in the current regulatory program are:

- DEM is not able to protect riparian buffers around all wetland systems. Special aquatic sites (vernal pools), small ponds less than one-quarter acre in size and small forested/shrub wetlands less than three acres in size do not have regulated buffer zones.
- Authors of the wetland act had the foresight to protect adjacent buffer areas, however the science regarding the importance of buffers has grown in the last 30 years and we know that current buffer zones regulated by law are often not large enough. (The buffer zone width should consider sensitivity of wetland type and the land use that is proposed in both urban and suburban settings, as well as other factors.)
- Cumulative impacts to buffer zones may result in significant losses and should be more closely considered during DEM’s permitting review process. Even small buffer losses or degradation can severely impact riparian buffer functions and values.

⁸ § 2-1-22(i)(1) “Normal farming activities shall be considered insignificant alterations and, as normal farming activities, shall be exempted from the provisions of this chapter in accordance with the following procedures:”

- There are numerous unauthorized alterations of buffers. In last 3 years (2001-2003) there was an average of approximately 10 acres per year of unauthorized alteration (clearing, grubbing, filling, etc.) according to complaints filed with DEM. Due to a lack of staffing, DEM is unable to conduct a systematic review of aerial photos to document buffer zone condition over time.
- For redevelopment projects, DEM only requires maintenance of the current condition, and does not require restoration if the new development will not result in further impacts to the buffer zone. If the new development will result in greater impacts, then DEM can require mitigation in the form of restoration to offset the new impacts. Otherwise, restoration is voluntary.

How does the Farm, Forest and Open Space Act protect riparian buffers? What other incentives are available to protect buffer areas?

The Farm, Forest and Open Space Act (RIGL 44-27) provides tax incentives to encourage private landowners to maintain their land in an undeveloped state. The Act allows properties to be assessed based on their current use, instead of their value for development. These current use assessment categories are established by a Farm, Forest and Open Space Land Value Subcommittee (RIGS 2-4-3.1). DEM regulates the farm and forestland enrolled in the program. The local community administers the open space enrolled in the program. Property owners must apply for designation under the program.

- To be eligible for the forestland assessment, parcels must be ten acres or more, bearing a dense growth of trees and actively managed in accordance with a written forest stewardship plan that is reviewed and approved by DEM.
- To be eligible for the farmland assessment, parcels must be covered by a current USDA conservation plan, part of a farm unit (land owned by a farmer, including woodland and wetlands at least 5 acres actively devoted to agriculture and horticultural use and which produce a gross income from the sale of its farm products of at least \$2500 in one of the last two years) OR land owned by a subsistence farmer OR land that meets requirements for a government set aside.
- To be eligible for the open space assessment, parcels must be ten acres or more OR tracts of any size that are designated as open space land in the comprehensive community plan, or tracts of any size that have conservation restrictions or easements in full force.

The Farm, Forest, and Open Space Act (FFOS) can protect large buffers on tracts of land (10 acres or more) that are forested or are open space tracts that are listed in the community comprehensive plan, but only if land owners know about the law and request the designation. The Act does NOT provide incentives for buffer protection in developed areas where there are houses or buildings on the lots. Nor does the act provide long-term protection of riparian buffers.

Different types of tax incentives are used in other states to promote buffer protection including income tax credit for the restoration of wetlands and riparian zones (Arkansas) and complete property tax exemptions for improving or maintaining qualified riparian lands up to 100 feet from a stream if a management plan is in place (Oregon).

On February 2, 2004, the New Jersey Department of Environmental Protection (NJDEP) adopted new stormwater regulations which protect a 300 foot buffer around all of the state's 6,093 miles of Category One (C1) waterbodies. C1 protection is the highest form of water quality protection in the state. The buffers will significantly protect critical drinking water and sensitive ecological resources from degradation by additional pollutants.

Issues of concern for buffer protection in Rhode Island

1. Rhode Island has programs in place to protect riparian buffers through CRMC and the DEM Wetlands programs. Failure to enforce compliance with these existing regulations due to staffing and other constraints has been identified as a major obstacle for buffer protection.
2. Existing programs do not restore buffers in already built and urban areas except under specific redevelopment criteria or proactive restoration initiatives. Urban parcels rarely meet the 10 acre threshold for the FFOS Act and riparian corridors are not listed as open space tracts in many community comprehensive plans.
3. Buffer protection under the FFOS act is only temporary. Landowners must periodically renew their open space designation and may withdraw from the program at any time. When the property is sold, new owners can choose whether to enroll or not.
4. Invasive species alter native species diversity in riparian zones and can affect hydrological regimes and the functioning of ecological communities. Stream shading, increased erosion and flooding, alterations in nutrient cycling, declines in amphibian and bird populations, and overall loss of native biological diversity are among the documented effects of non-native invasive species on riparian habitats.

Invasive species known to invade riparian areas and wetlands in our region include: Norway Maple (*Acer platanoides*), Japanese Barberry (*Berberis thunbergii*), Yellow Flag (*Iris pseudacorus*), Purple Loosestrife (*Lythrum salicaria*), Common Reed (*Phragmites australis*), Japanese Knotweed (*Fallopia japonica*), Lesser Celandine (*Ranunculus ficaria*), and Multiflora Rose (*Rosa multiflora*).

APPENDIX A

Buffer Working Group

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The working group met on September 13, 2004 and on October 25, 2004 to discuss buffer protection in Rhode Island. A draft report was completed on November 26, 2004 and distributed to the committee for review and comment. The Rivers Council considered the draft report at the December 8, 2004 meeting and the Rivers Council Policy Committee reviewed and approved the report on January 6, 2004. The Rivers Council approved the recommendations at the January 12, 2005 meeting and forwarded the report to the speaker of the house, president of the senate, and the Governor.