

**Rhode Island
Coastal Resources Management Council**

**Resources for Land Management in
Coastal Areas**

Land and Water Summit 2008

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www.crmc.ri.gov



Programmatic Goals

It shall be the policy of the state to preserve, protect, develop, and where possible, restore the **coastal resources** of the state...

...Preservation and restoration of **ecological systems** shall be the guiding principle upon which decisions are made.

Regulatory Challenges

- Balancing ecological preservation and restoration with other uses (e.g. recreation)
- Maintaining predictability in the permitting process
- Creating reasonable, enforceable regulations



CRMC Jurisdiction

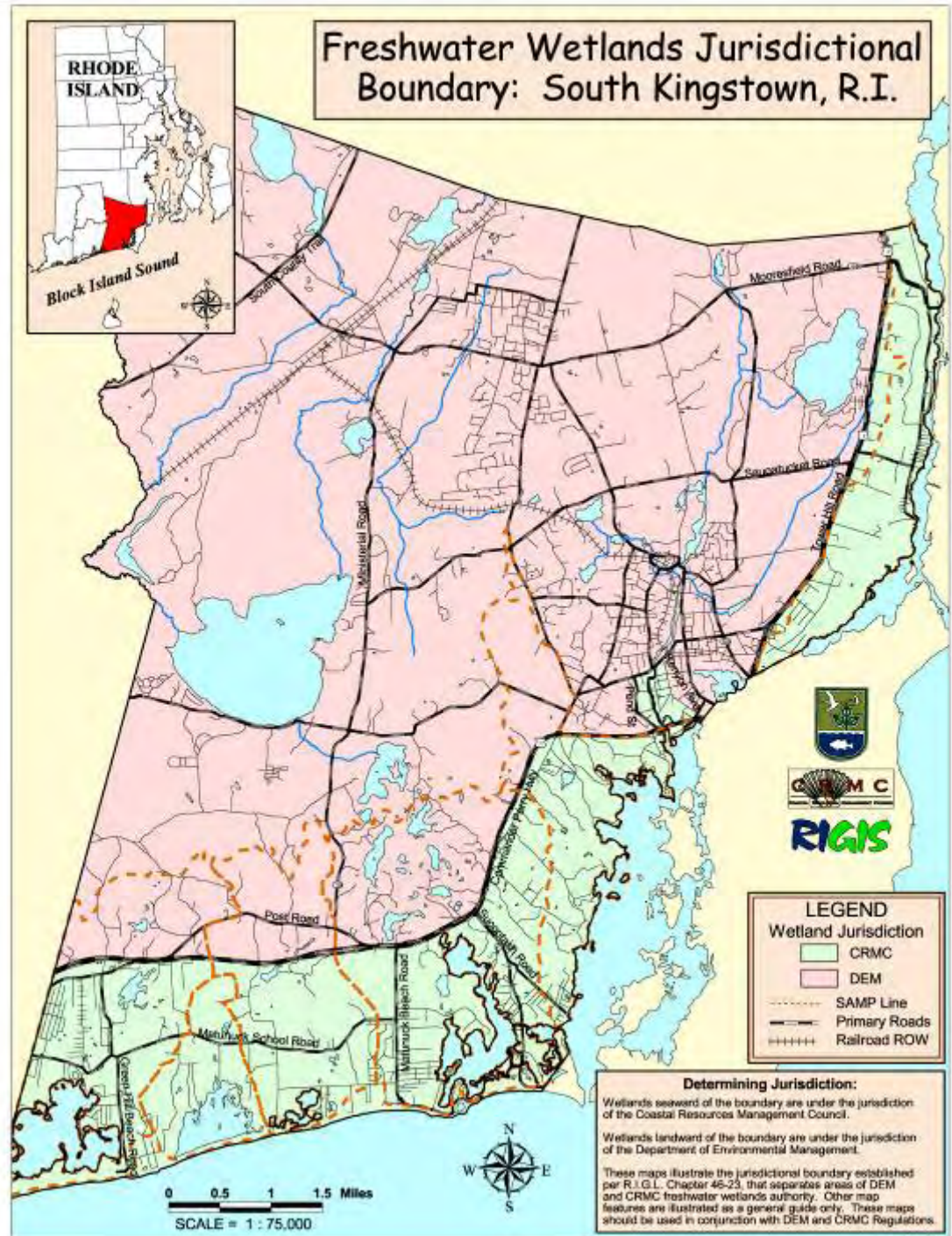
- Tidal waters
- Shoreline Features
- Areas contiguous to shoreline features
 - 200ft. from inland edge



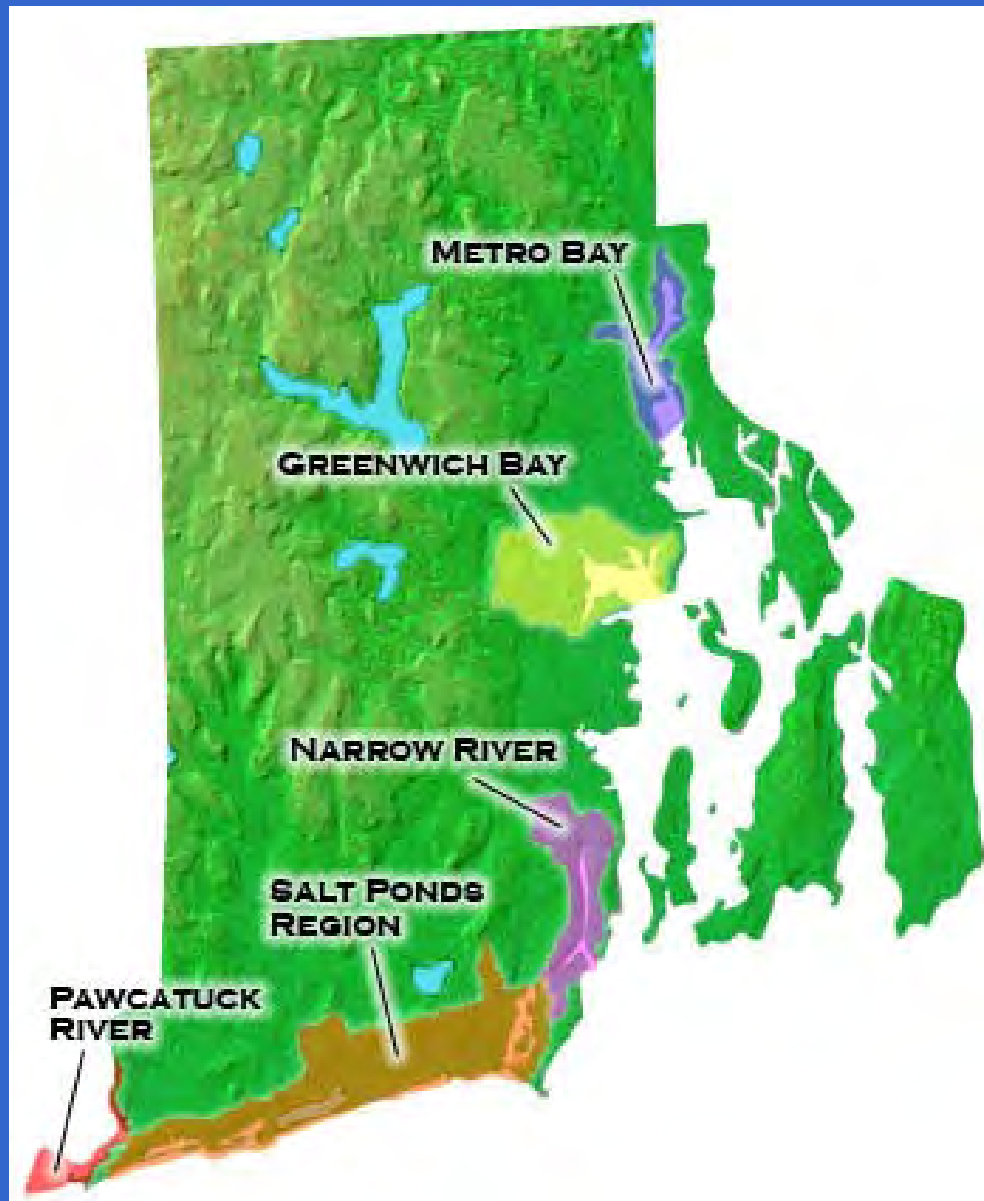
Coastal Features



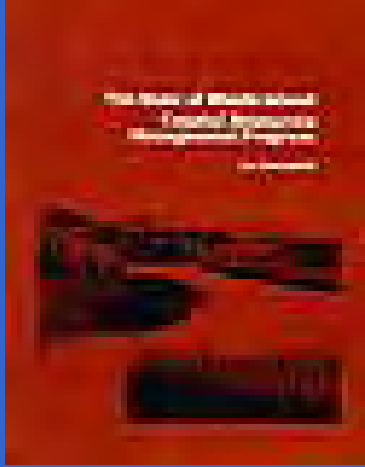
Freshwater Wetlands in the Vicinity of the Coast



SAMP Watersheds



Coastal Buffer Zone Regulations



Section 150 of the Coastal Resources Management Program (the “Red Book”)



Specific sections of each **Special Area Management Plan**

www.crmc.ri.gov/regulations

What is a Coastal Buffer?

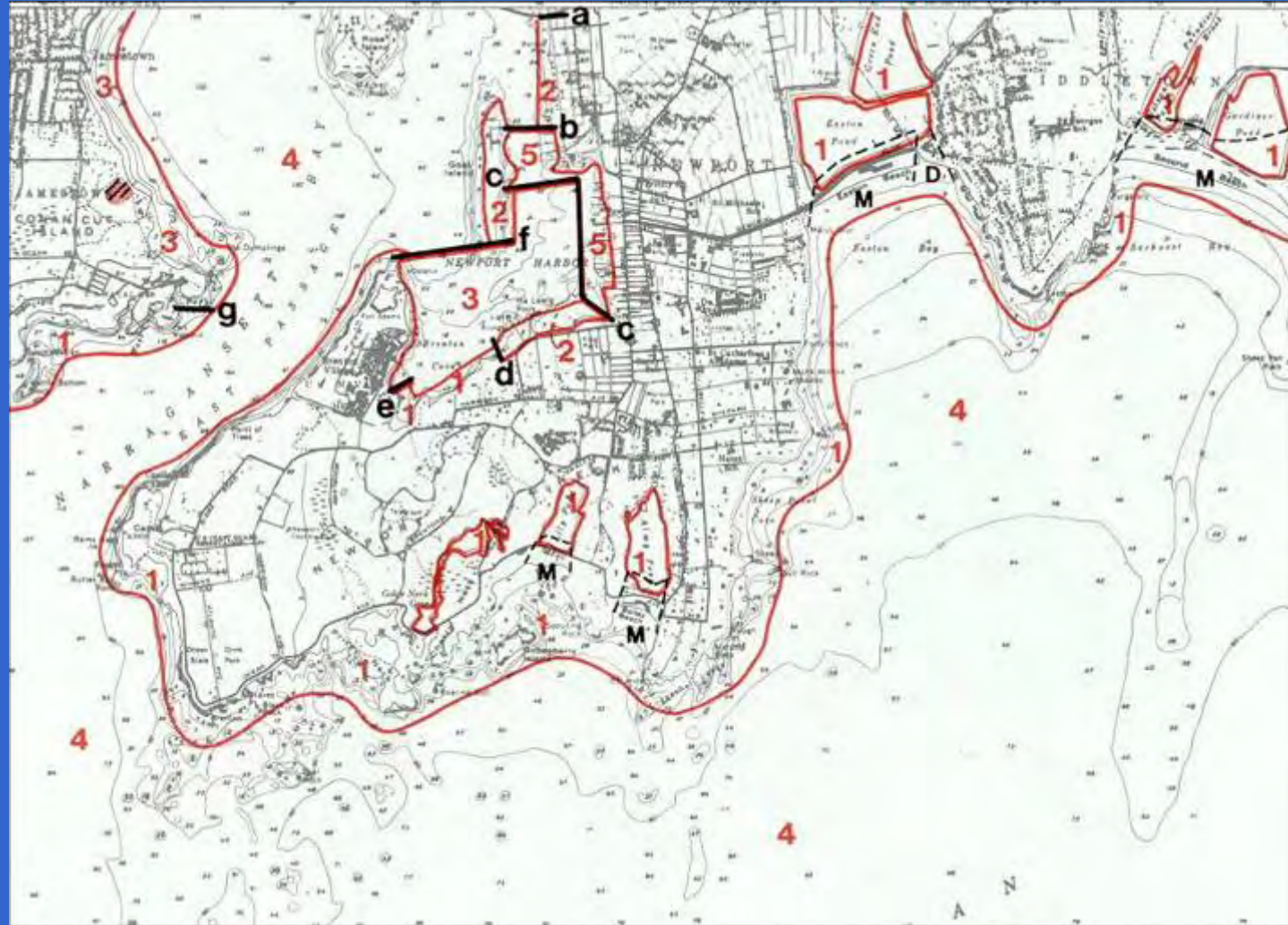
Land area adjacent to a shoreline feature that is vegetated with native plants and which provides a natural transition zone between the coast and adjacent upland development.

Why are Coastal Buffers Important?

1. Protection of Water Quality
2. Protection of Coastal Habitat
3. Provide Scenic and Aesthetic Qualities
4. Provide Erosion Control
5. Flood Control
6. Historic and Archaeological Resource Protection

CRMC Water Types

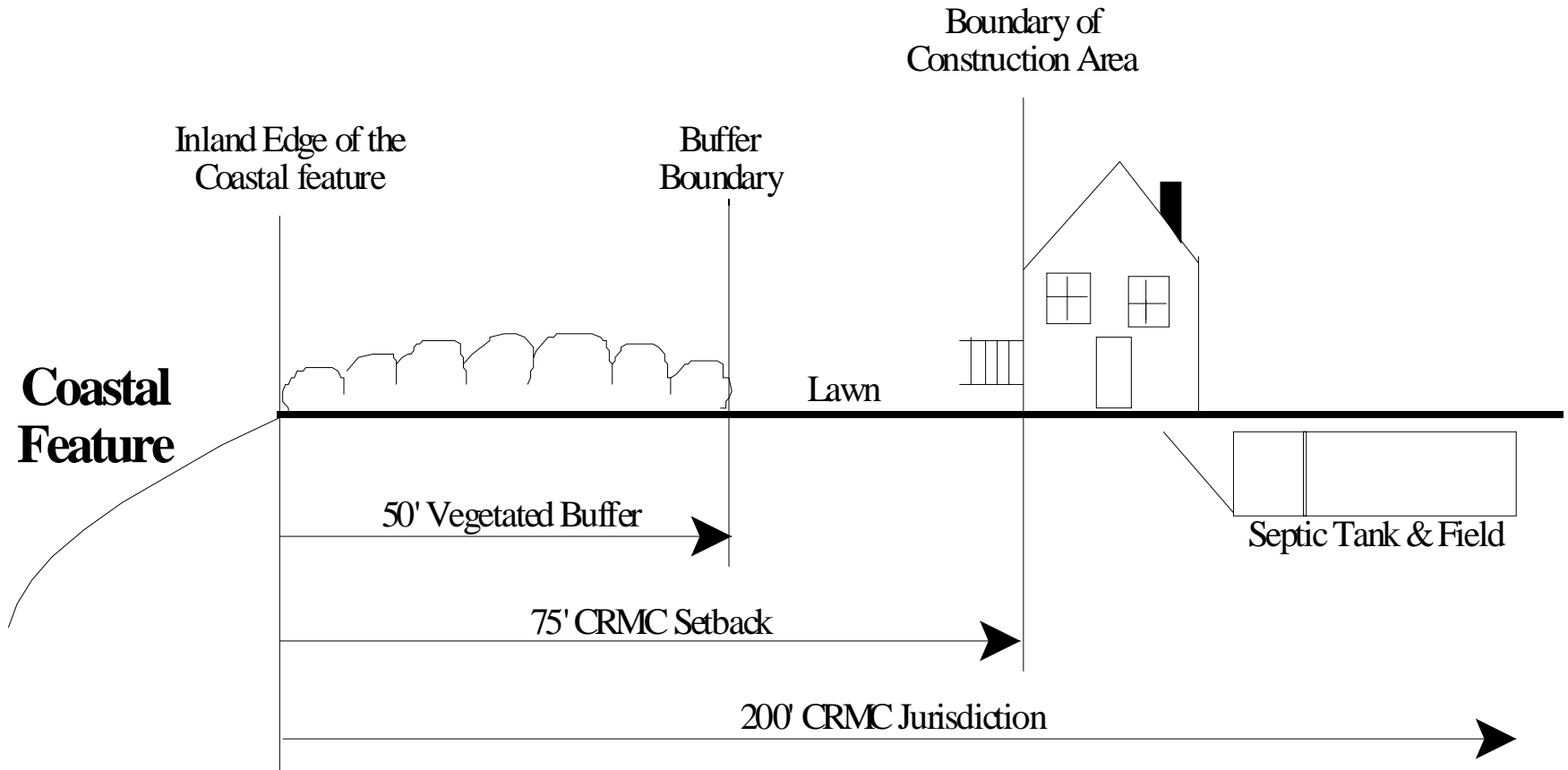
- Type 1
- Type 2
- Type 3
- Type 4
- Type 5
- Type 6



Coastal Buffer Zone Designations for Residential Development

Residential Lot Size (Sq. ft)	Water Use Category	
	Type 3, 4, 5 & 6	Type 1 & 2
	Required Buffer (ft)	
<10,000	15	25
10,000 – 20,000	25	50
20,001 – 40,000	50	75
40,001 – 60,000	75	100
60,001 – 80,000	100	125
80,001 – 200,000	125	150
>200,000	150	200

CRMP Section 150: Coastal Buffers



A permit is required for any and all alterations within a CRMC designated buffer zone and other naturally vegetated areas bordering the RI coast.

Application for Buffer Zone Management

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
 COASTAL RESOURCES MANAGEMENT COUNCIL
 4808 TOWER HILL ROAD, SUITE 3, WAKEFIELD, RI 02879
 (401) 783-3370

Application for State Assent to perform work regulated by the provisions of Chapter 279 of the Public Laws of 1971 Amended.

APPLICATION FOR BUFFER ZONE MANAGEMENT

		File No.
Location No.	Street	City/Town
Owner's Name	Plat No.	
Mailing Address _____		Res. Tel. # _____
City/Town _____	State _____	Zip Code _____
Contractor RI Lic. #	Address	Tel. No.
Designer	Address	Tel. No.
Name of Waterway _____	Est. Project Cost \$ _____	Fee/Costs \$ _____

Have you or any previous owner filed an application for and/or received an assent for any activity on this property? YES NO
 Please Note File Number(s): _____

IS THIS APPLICATION BEING SUBMITTED IN RESPONSE TO A COASTAL VIOLATION?
 YES NO NOV OR C&D NUMBER: _____

FEES:
 For areas less than 1/2 acre \$ 50.00
 For areas between 1/2 and 1 acre \$100.00
 For areas between 1+ acres and 5 acres \$250.00
 For areas greater than 5 acres \$500.00

Describe accurately the work proposed. (Use additional sheets of paper if necessary and attach this form.)

Owner's Signature: _____ Date _____

NOTE: The applicant acknowledges by evidence of their signature that they have reviewed the Rhode Island Coastal Resources Management Program, and have, where possible, adhered to the policies and standards of the program. Where variances or special exceptions are requested by the applicant, the applicant will be prepared to meet and present testimony on the criteria and burden of proof for each of these relief provisions. The applicant also acknowledges by evidence of their signature that to the best of their knowledge the information contained in the application is true and valid. The filing of false information can result in the Coastal Resources Management Council revoking state assent. Applicant requires that as a condition to the granting of this assent, members of the CRMC or its staff shall have access to the applicants property to make on-site inspections to insure compliance with the assent. This application is made under oath and subject to the penalties of perjury.

Rev. 100

PLEASE REVIEW REVERSE SIDE OF APPLICATION FORM

CRMC COASTAL BUFFER ZONE MANAGEMENT GUIDANCE

A. GUIDELINES FOR PREPARING AN APPLICATION FOR COASTAL BUFFER ZONE MANAGEMENT:

1. All proposals for buffer zone management must be designed with respect to one or more of the "Management Options" identified in Section "B" of these guidelines and must utilize appropriate techniques for managing vegetation as defined in Section "C" and "D".
2. Photographs and site plans must be submitted, and all applications must be complete, clear and concise. Applications which are unclear or imprecise will be deemed incomplete.
3. Applications which meet the guidelines contained herein will be processed as a "Category "A" and receive administrative approval. In cases where CRMC staff determines that the application is inappropriate for administrative approval, a recommendation will be made to the Executive Director that the application be processed as a Category "B" review requiring final decision by the full Coastal Council.
4. All proposals for Coastal Buffer Zone management should involve minor alterations which do not depreciate the values and functions of Coastal Buffer Zones as defined by Section 150 of the RICRMP. No more than 25% of the total buffer zone area shall be affected by the management options in Section B. Areas to remain unaltered should be clearly identified on the proposed plans. An exception to this requirement is allowed for "Suburban Coastal Buffer Zones" - see Section D.6 of this Guidance material.
5. Invasive plant management for habitat restoration - Management of invasive plants may be allowed for up to 50% of the total buffer zone area, provided it is done in accordance with Section D of this document
6. Where appropriate, Coastal Buffer Zone management may be applied to Coastal Banks. However, the CRMC may impose greater restrictions on alterations affecting coastal banks.
7. Shoreline access pathways are prohibited on coastal wetlands and where inappropriate on coastal features.

B. MANAGEMENT OPTIONS WITHIN COASTAL BUFFER ZONES:

1. Shoreline Access Paths - Pathways which provide access to the shoreline are normally considered appropriate. Pathways may be up to 6' wide and follow a winding, but direct path that does not promote erosion. Shoreline access paths must be designed to minimize disturbance and may be prohibited in sensitive habitat areas. Pathways may be vegetated with grasses and mowed or may be surfaced with crushed stone or mulch. Fertilizers may only be allowed for the initial establishment of grassed pathways. Proper site plans must be

CRMC Guidance

25% Rule of Thumb

Prohibited with Few Exceptions

- Mowing
- Clearing
- Grading



Don't Do This in the Coastal Buffer!

Buffer Zone Management Options



- Shoreline Access Paths
- View Corridors
- Safety and Welfare
- Shoreline Recreation
- **Habitat Management**

Permitted Activities

- **NEW!** Invasive Plant Management for Habitat Restoration
- Buffer Zone management guidance has been updated to include invasive plant management for habitat restoration

Things to remember

- Invasive plant management will only be permitted if the conditions for native plant and wildlife species will be improved
- An invasive plant management plan must be submitted to CRMC
- All management activities will be subject to regular inspection by CRMC staff

Invasive Plant Management

- How much area can be managed?
 - If not done by a certified **Invasives Manager**, up to **25% of the total buffer zone area**
 - If done by a certified **Invasives Manager**, up to **50% of the total buffer zone area**
 - Area must be contiguous and clearly defined on submitted plans

Invasive Plant Management Steps

- Site assessment
- Management plan
- Invasives removal and disposal
- Revegetation
- Monitoring and maintenance



Photo courtesy of Hope Leeson RIWPS

What to Submit

- Application for Buffer Zone Management
- Description of project, including monitoring schedule
- Site plan showing area of invasives to be managed, plant species to be removed
- Site plan showing restorative planting, species to be planted, planting densities
- Photographs of existing conditions

Refer to checklist in Coastal Buffer Zone Management
/ Invasive Plant Management Guidance

Checklist for Invasive Plant Management

CRMC Coastal Buffer Zone Management Guidance
Revised 01/15/08

Coastal Resources Management Council

Supplemental Check List for Invasive Plant Management Projects

The following information must be provided by applicants seeking a CRMC permit for invasive plant management projects. Applications that do not include this information may be deemed incomplete and processing will not continue until the required information is submitted for review.

- A concise and detailed narrative that describes how the project is designed to meet the requirements contained in Section D of the CRMC Coastal Buffer Zone Management Guidance document. The narrative must list the invasive species that will be removed along with the proposed methods for removal and any new species to be planted for restoration. Additionally, please reference any previous CRMC permits applicable to the subject property.
- An accurate site plan with dimensions to scale that clearly delineates the extent of invasive vegetation must be included with the application. The site plan must clearly show the water's edge, coastal shoreline feature, any existing CRMC-required buffer zones, dwelling, and any other structures on site. In addition, the area of invasive plant removal must be clearly marked on the site plan with the total square feet of the managed area in relation to the remaining portion of coastal buffer zone.
- A separate plan that clearly demarcates all restorative planting components for the project. All new plants shall be selected from the Council's Coastal Plant list available online at: <http://www.crmc.nj.gov/pubs/index.html>
- Photographs of the entire coastal buffer zone showing the area of proposed invasive species removal. These photographs may include any markings or other notations to help explain the project scope.
- Site plans shall be sized appropriately for the scale of the property, but in no case shall be smaller than a 1:20 scale. Standard site plans are required for restorative planting details.
- Site plans must include all management notes and details as specified in the application narrative.

To obtain a copy of the CRMC Buffer Zone Management Policy and other resources, please visit the CRMC website at: <http://www.crmc.nj.gov/pubs/index.html>

IM Certification

- Offered annually
- IM responsible for
 - submitting plan(s)
 - performing / supervising work
 - maintenance activities
 - Submitting photos to CRMC
- Violations may result in revocation

NEW! Invasive Plant Management Portal

Center Links

[Center Home](#)

[Program Areas](#)

[About the Center](#)

[Event Calendar](#)

[Contact the Center](#)

CELS Outreach Center

Invasive Plant Management Certification Program Information Portal

[Certification Program Material](#)

[Program Goal](#)

Train green industry professionals to provide invasive plant management services for coastal landscapes including site assessment and inventory, management plan development, control measure selection, invasive plant removal, native/sustainable plant revegetation, monitoring and ongoing maintenance.

[Resumes](#)

General Information

[Certified TM Directory](#)

[Upcoming Trainings](#)



Coastal Landscapes Program

CL Program Links

[Managed Landscapes Training](#)

[Invasive Management Certification Program](#)

[Interactive and Searchable Sustainable Coastal Plant Database](#)

Program Areas

[Master Gardener Program](#)

[The GreenShare Program](#)

[URI Energy Center](#)

[Youth Programs](#)

[Master Composter & Recycler Program](#)

[Coastal Landscapes Program](#)

[Pesticide Applicator Training Program](#)

[RWP Botanical Center](#)

[Plant Protection Clinic](#)

[Plant Pro](#)

[Gardening & Environmental Hotline](#)

www.uri.edu/cels/ceoc/

A Note on *Phragmites Australis*

- Management of *Phragmites* is considered wetland restoration under our program
- Requires a wetland restoration permit
- Usually not permitted for individual residential lots



Buffer Zone Restoration

Example: Explore the Bay Center, Providence



Initial planting – May 2005



Post-planting - June 2006

Photos courtesy of Save The Bay

Why require restorative planting?

- “Let it grow” method ineffective at restoring lost buffer zone functions
- Disturbed areas conducive to invasives growth
- Need “visual marker” for buffer zone edge
- Harder to mow down trees!

Plant Selection

- What native vegetation currently exists?
- What native vegetation might have grown previously?
- Which native plant communities would be appropriate for your site conditions?
- Which species of wildlife are present / would you like to attract?



RHODE ISLAND COASTAL PLANT GUIDE (DRAFT)



50 of 231 Species

Page 1 of 5

[Clear Filter](#)

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[Enter all or part of name above to filter list]

[Select from dropdown list to filter plant list by attributes]

Species	Common Name	Zone	Plant Type	Native to RI	Full Sun	Shade Tolerant	Drought Tolerant	Wet Sites	Wind Tolerant	Na:Spray Tolerant	Na:Soil Tolerant	Acid Tolerant	pH Adapt	Rain Gardens	Dune Plant	Height	Width	Availability
<i>Abies concolor</i>	White fir	2	Tree	+	+	-	+	-	-	-	-	+	+	-	-	>10'	15-30'	8,10,2
<i>Achillea sp.</i>	Yarrow	2	Per.	-	+	-	+	-	+	-	+	-	-	-	-	2-5'	-	28,10,
<i>Aesculus flava (A. octandra)</i>	Yellow Buckeye	2	Tree	-	+	+	-	-	-	-	-	-	-	-	-	>10'	-	10,6,7
<i>Aesculus glabra</i>	Ohio Buckeye	2	Tree	-	-	-	-	-	-	-	-	-	-	-	-	>10'	20-40'	10,6,7,
<i>Aesculus x carnea</i>	Red Horsechestnut	2	Tree	-	-	-	-	-	-	-	-	-	-	-	-	>10'	-	10,6,7,
<i>Alnus incana ssp. rugosa</i>	Speckled Alder	1	Shrub	+	+	+	+	+	+	+	-	+	-	-	-	>10'	6-12'	10,7,4
<i>Alnus serrulata</i>	Common Alder	1	Shrub	+	+	+	+	+	+	+	-	+	-	-	-	>10'	6-12'	
<i>Amelanchier arborea</i>	Serviceberry	1	Tree	+	+	+	+	-	+	+	-	+	-	+	-	>10'	15-25'	10,6,7,
<i>Amelanchier canadensis !</i>	Shadbush	1	Shrub	+	+	+	+	+	+	+	+	+	+	+	+	>10'	variable	8,10,2
<i>Amelanchier laevis</i>	Allegheny Serviceberry	1	Tree	+	+	+	+	-	+	+	+	+	+	+	-	>10'	15-25'	8,10,6
<i>Amelanchier stolonifera</i>	Running Serviceberry	1	Shrub	+	+	+	+	+	+	+	+	+	+	-	-	6-10'	variable	22,6,7
<i>Ammophila breviligulata</i>	American Beach Grass	1	Grass	+	+	-	+	-	+	+	+	-	-	-	+	2-5'	-	10,22,
<i>Andropogon gerardii</i>	Big Bluestem	1	Grass	+	+	-	+	-	+	+	+	-	-	-	-	6-10'	2'	10,12,
<i>Andropogon glomeratus</i>	Bushy Bluestem	2	Grass	+	+	-	+	+	-	-	-	-	-	-	-	<2'	-	8,10,3
<i>Andropogon</i>	Split-beard	2	Grass	+	+	-	+	+	-	-	-	-	-	-	-	2-5'	2-3'	6,7

Coastal Plant List

- List of plants suited to coastal areas
- Database searchable by:
 - Common name
 - Latin name
 - Type (tree, shrub, etc.)
 - Native / non-native
 - Requirements (moisture, soil pH, sun, shade, etc.)
 - Size
- Other Information:
 - Habitat value
 - Local retail and wholesale suppliers

NEW! Coastal Buffer Planting Guide

- Guidelines for restorative planting
- Plant community lists
- Minimum requirements for
 - Diversity
 - Planting density
 - Planting size

General Considerations

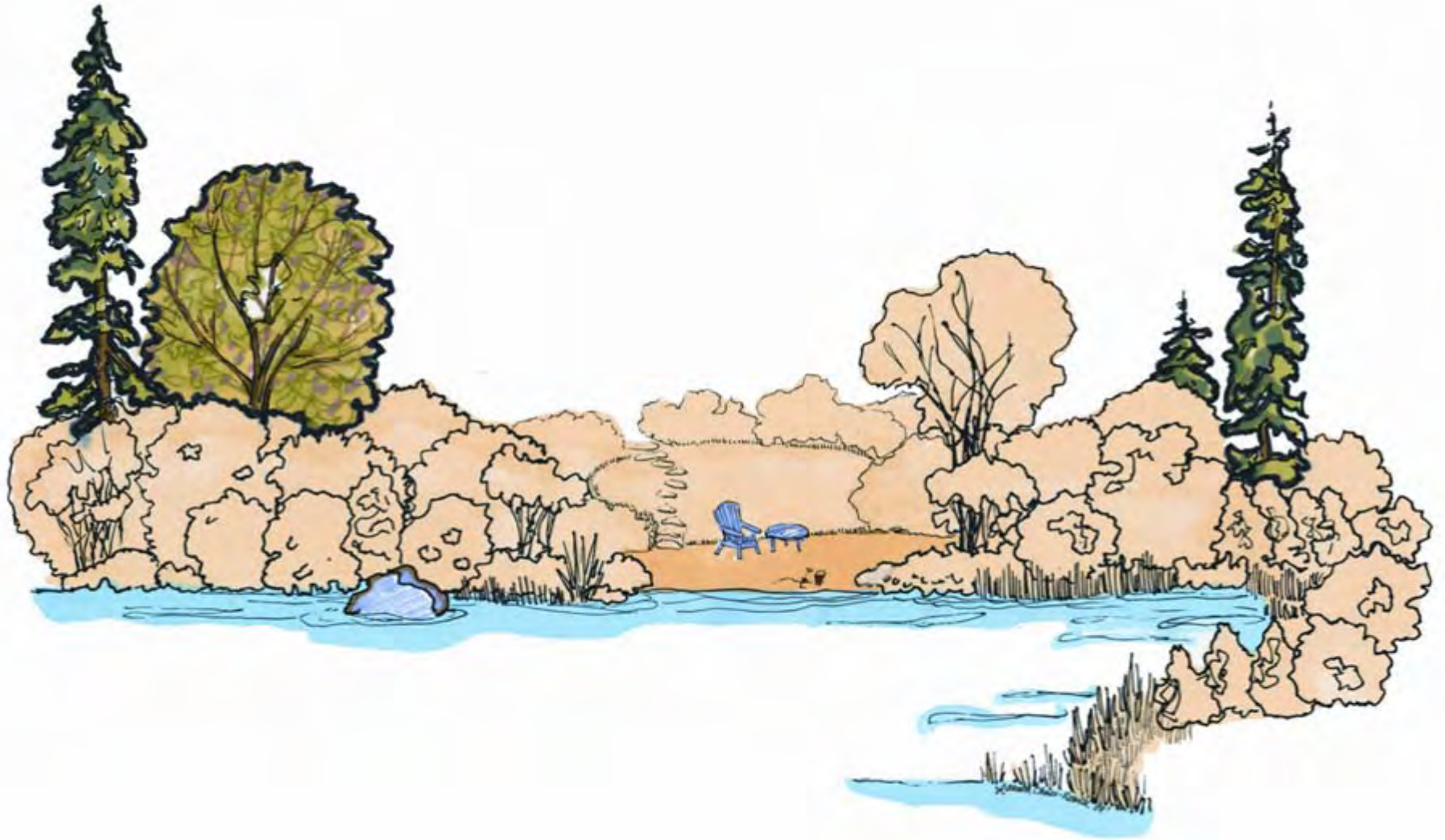
- Preserve existing native plants
- Plant natives
- Choose the right plant for the right spot
- Layer plant types to mimic nature
- Plant in clusters
- Create diversity
- Preserve leaf litter layer
- Use a buffer transition zone

Include Multiple Vegetation Layers

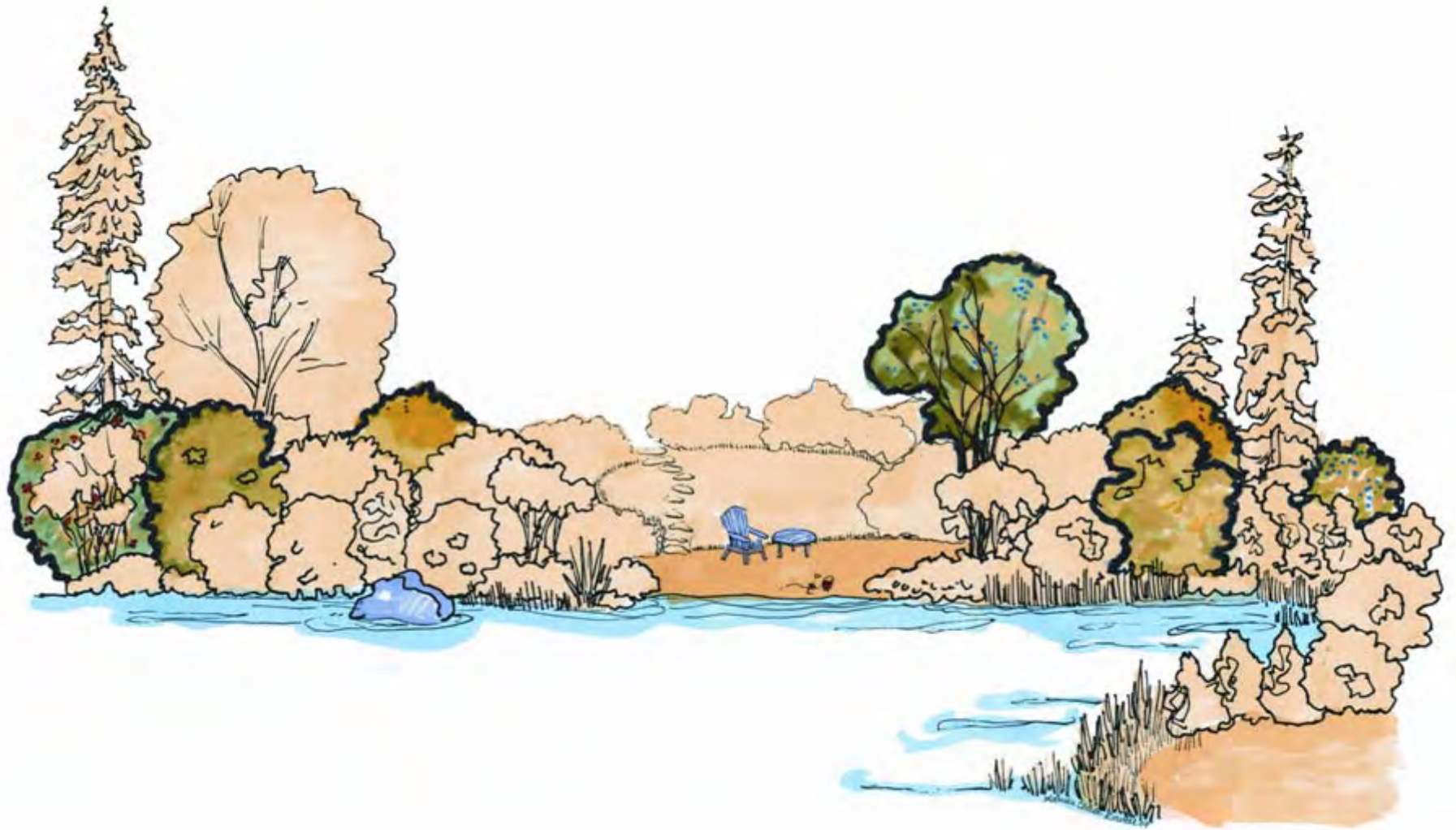
- Canopy (overstory) trees
- Understory trees
- Shrubs
- Herbaceous plants
- Groundcovers
- Litter layer



Tall / Canopy Trees



Understory Trees



Shrubs, Herbaceous Plants, Groundcovers



Litter Layer



Design restorative plantings to mimic nature

- Replace large trees and shrubs at **1:1 ratio**
- Plant in dense clusters rather than rows
- Use diversity of species (2 tree species and 3 shrub species minimum)
- Plant areas beneath trees and shrubs with groundcovers
- Cover areas between clusters with a one-time application of mature shredded (non-dyed!) hardwood mulch

Choose the right plant for the right spot for the right function

- Use URI / CRMC Coastal Plant List to select plants that will tolerate site conditions
 - Soil moisture
 - Soil pH
 - Soil salinity
 - Wind
 - Salt spray
 - Sun vs. shade
- Design plantings to create windbreaks, intercept stormwater flows, etc.

Maintenance

- Minimize inputs (water, fertilizer, herbicides, pesticides)
- Allow leaf litter layer to develop over time
- Don't remove dead woody material



- Minimize disturbance

Additional Resources

Natural Communities of Rhode Island



December 2006

Richard W. Enser, Rhode Island Natural Heritage Program
Department of Environmental Management

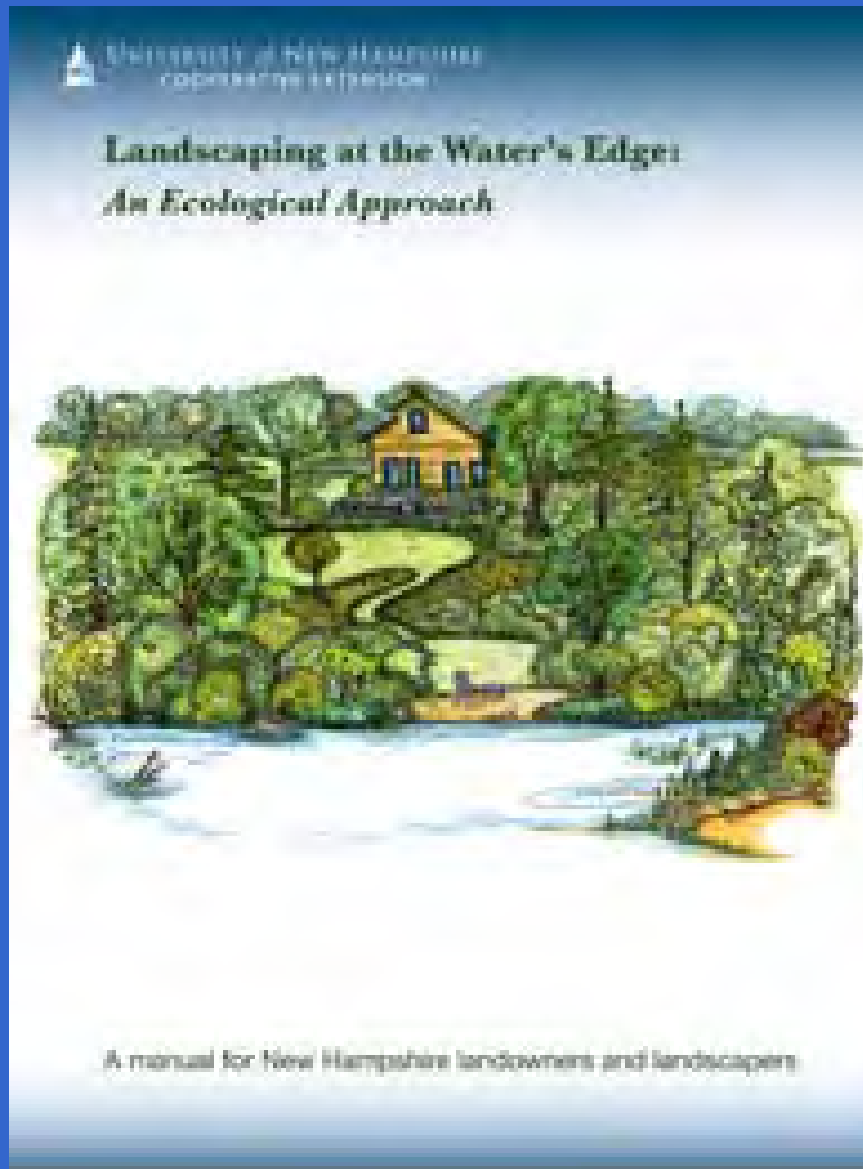
and

Julie A. Lundgren
The Nature Conservancy of Rhode Island



- Gives descriptions of typical plant communities found in RI
- Includes species lists for each community type

Additional Resources



- UNH Cooperative Extension Publication
- Geared towards shoreline property owners

<http://extension.unh.edu/Pubs/Pubs.htm>

Additional Resources



- Available online
- Geared towards coastal homeowners
- Includes self-evaluation checklists

www.savebay.info/backyardbay/index.htm

Questions?

Special thanks to:

URI CELS Outreach Center

RI Natural History Survey

CRMC Permit Staff

cchaffee@crmc.ri.gov

401-783-3370