

5TH ANNUAL CAPE COASTAL CONFERENCE

Enhancing Community Resilience by Restoring Degraded Ecosystems: Restoration Needs and Opportunities on the Cape

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Overview

- ▶ What is Restoration
- ▶ Why Restoration is Important
- ▶ Need on Cape Cod
- ▶ Restoration Coordination Center
- ▶ Three Example Projects

What is Restoration?

Ecological Restoration:

the process of assisting the recovery of an ecosystem that has been degraded, damaged or restored



Threats to Natural Resources

- ▶ Development
- ▶ Pollution
- ▶ Invasive Species
- ▶ Erosion
- ▶ Human Use and Hardening of the Shoreline
- ▶ Natural Dynamics of the Coast



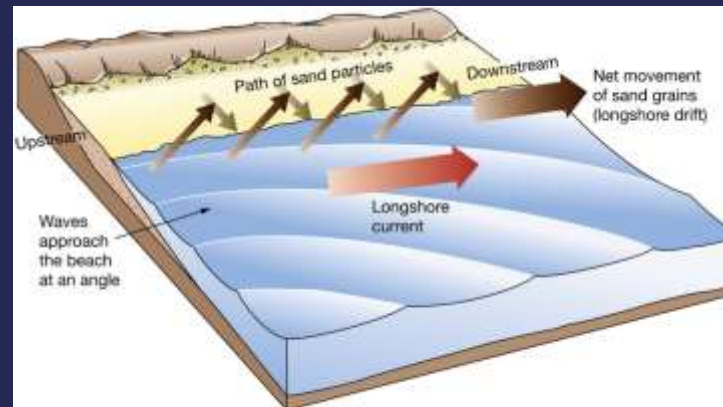
Credit: Barnstable Clean Water Coalition

Source: Robert Hill, VLMP, 2007



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(b)

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What are we restoring?



... and more



Benefits of Restoration

- ▶ Ecological Value
- ▶ Human Use Value
- ▶ Ecosystem Services



**Salt marshes provide the nurse
habitat for more than 75% of
commercial fishery species!**

Benefits of Restoration

- ▶ Ecological Value
- ▶ **Human Use Value**
- ▶ Ecosystem Services



Benefits of Restoration

- ▶ Ecological Value
- ▶ Human Use Value
- ▶ Ecosystem Services



Coastal Wetlands in the northeast prevented \$625 million in property damages from flooding during Hurricane Sandy



APCC's Restoration Coordination Center

- ▶ Established in 2015
- ▶ To assist towns and community groups with implementation of ecological restoration projects by providing coordination, project management and technical assistance



Restoration Need

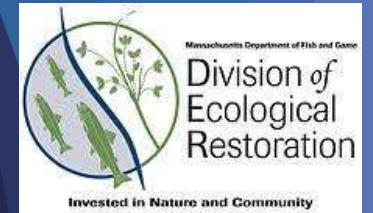
170+ Projects Identified in RCC Inventory



www.apcc.org/RCC

What Are We Doing?

- ▶ Maintaining an up to date inventory of restoration projects
- ▶ Prioritizing projects for implementation
- ▶ Working with partners to coordinate efforts across the Cape
- ▶ Developing a set of resources to assist with restoration planning and implementation
- ▶ Providing outreach on the benefits of restoration
- ▶ Assisting towns and communities with planning and implementation



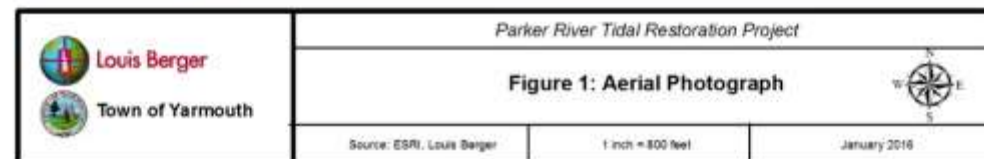
How Are We Doing It?

- ▶ Letters of Support
- ▶ Technical Assistance
- ▶ Training and Workshops
- ▶ Outreach and Education
- ▶ Grant Writing
- ▶ Project Management

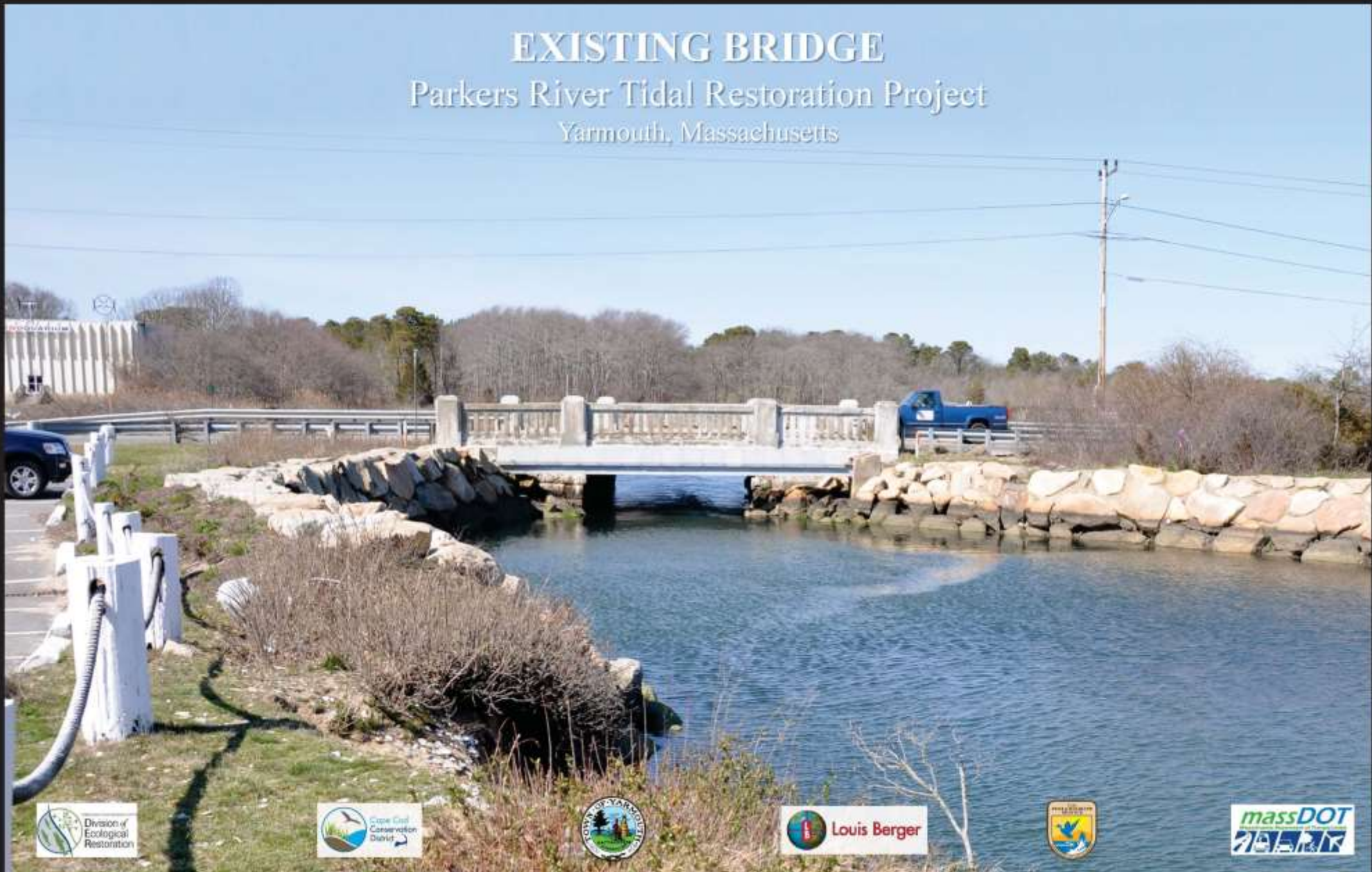


Parkers River Restoration

- ▶ Tidal Restoration
- ▶ Replace degraded and undersized bridge over Route 28 restricting flow to upstream salt marsh and pond.



Parkers River Bridge - Existing



Parkers River Bridge - Proposed

REPLACEMENT BRIDGE Parkers River Tidal Restoration Project Yarmouth, Massachusetts



Parkers River Restoration

Project Goals:

- ▶ Enhance Storm Resiliency - Allow Floodwater to Retreat More Quickly
- ▶ Enhance Salt Marsh Health
- ▶ Provide Improved Habitat for Birds
- ▶ Improving Fish Access to Spawning and Nursery Habitat
- ▶ Improving Water Quality
- ▶ Enhance Shellfish Resources
- ▶ Provide Recreational Opportunities
- ▶ Provide a Safer Structure



Parkers River Restoration

APCC's Contribution



Cleaning Up The Bays

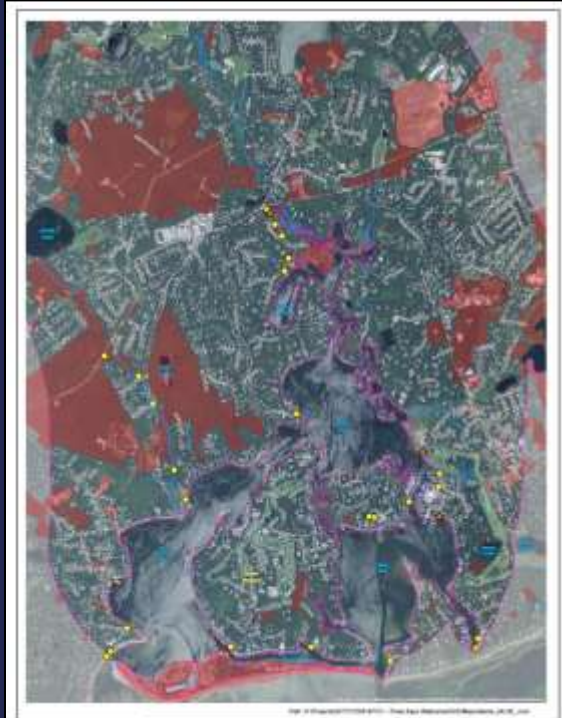
Managing Stormwater in the Three Bays



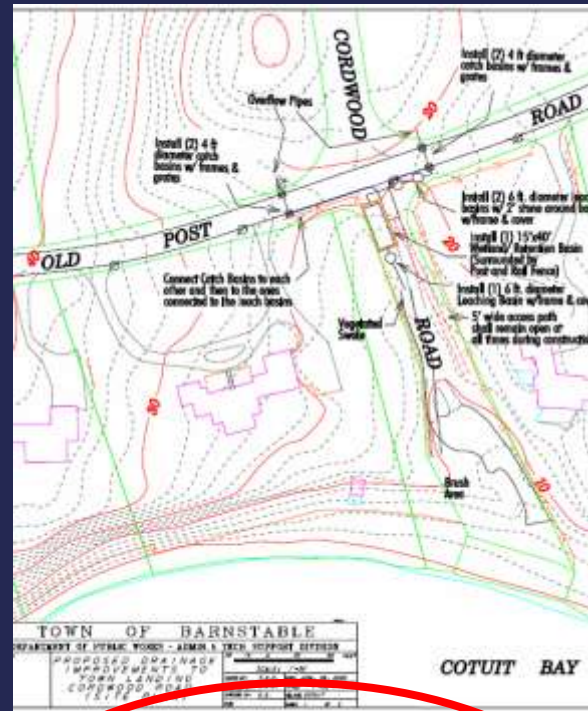
APCC
Association to
Preserve Cape Cod



Approach



Assessment and
Prioritization
March - August 2017



Design and
Permitting
2017 - 2018



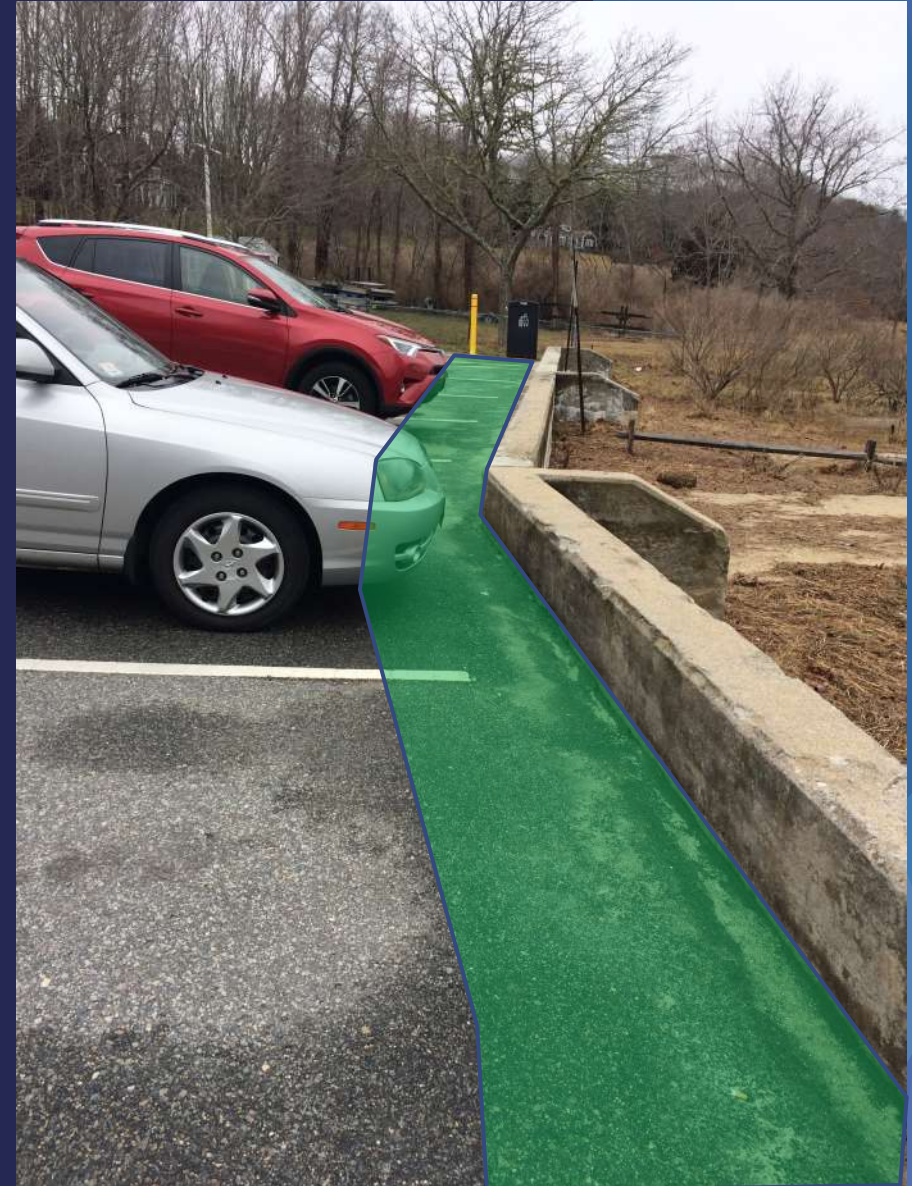
Installation
September - December
2018



Prioritization of Sites

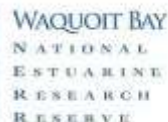
- ▶ Pollution Removals
- ▶ Cost
- ▶ Ease of Implementation
- ▶ Additional Benefits:
 - ▶ Public Education
 - ▶ Direct benefits to the key resources? (shellfish beds, beaches, fish, etc.)

Design and Permitting



Upper Childs River Restoration

- ▶ Remove Barriers to Fish Passage
- ▶ Create and Restore Coldwater Habitat
- ▶ Restore River Channel and Riparian Habitat
- ▶ Return Bogs to Natural Wetland System



Dam, Impoundment and Failed Fish Ladder

Carriage Shop Road



Farley and Garner Bogs



Farley Bog/Child's River GPR investigation

Field work 4/2/2015
1 foot contours derived in Surfer
maximum depth of survey - 14 feet

Created: 4/7/2015
By: Maggie Payne, Resource Soil Scientist
USDA Natural Resources Conservation Service

