


# Weir Creek Tidal Restoration

April Wobst, Restoration Manager  
Association to Preserve Cape Cod

Enter your Name and Email in  
the Chatbox to Sign Up for  
Future Project Meeting  
Updates



# Meeting Purpose and Overview

- Meeting Purpose: Updates, Comments & Qs
  - Project Overview (April Wobst, APCC)
  - Modeling (Arden Herrin, Woods Hole Group)
  - Design (Eric Ohanian, Tighe & Bond)
  - Question and Answers (20-30 minutes)
  - Wrap Up and Next Steps
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# Legend

— Project Site Boundary

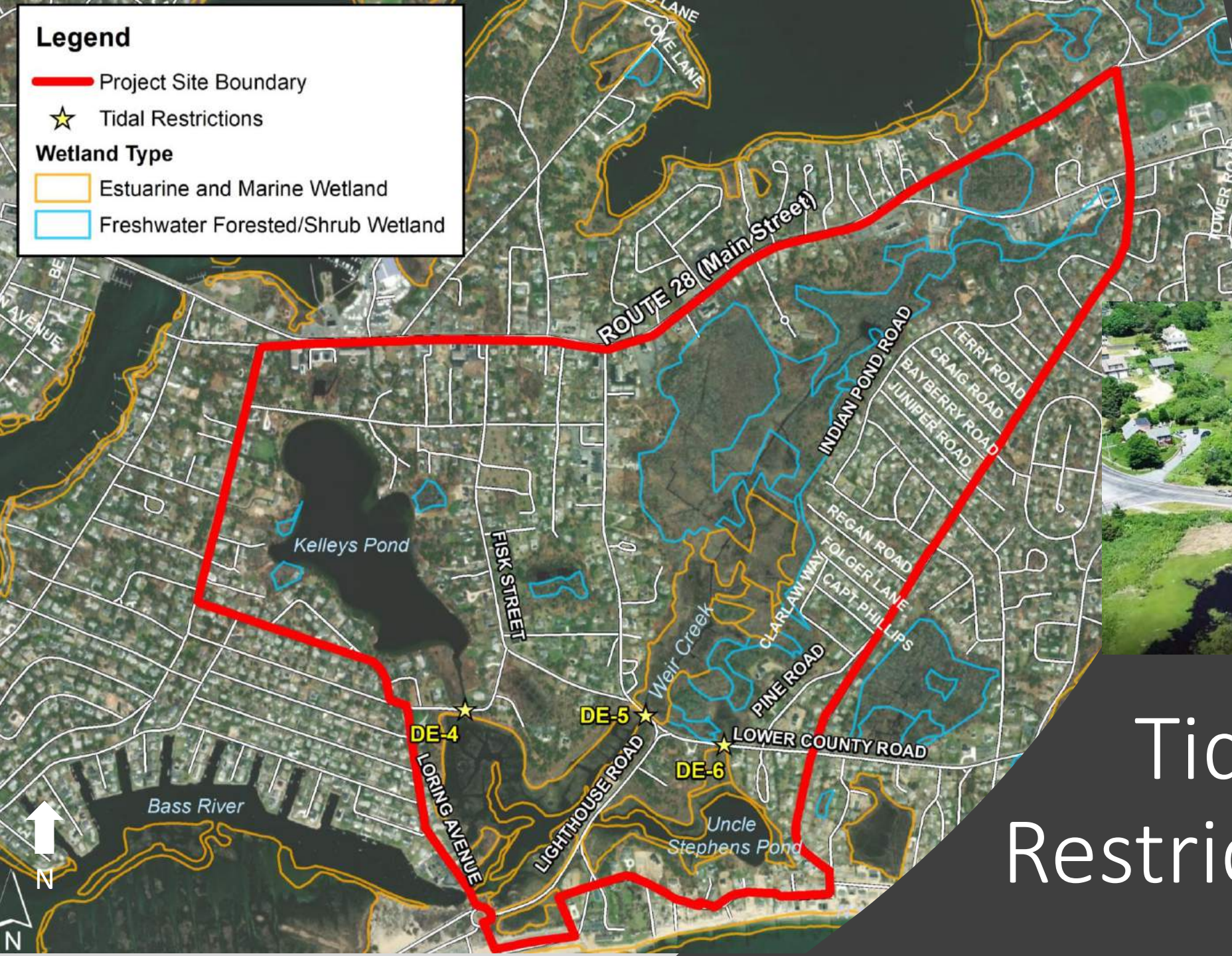
★ Tidal Restrictions

## Wetland Type

— Estuarine and Marine Wetland

— Freshwater Forested/Shrub Wetland

# Project Area



# Tidal Restrictions





# Benefits of Restoration

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- Ecological Value
- Human Use Value
- Ecosystem Services

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



# Enhancing Community Resilience to Climate Change by Restoring Degraded Ecosystems



# Weir Creek Project Summary

- Identified Priority by Town, APCC, Regional and Federal Partners (CCWRRP)
- APCC Applied for and was Awarded Two Grants for Planning and Design (2023-2024)
- Scope: Feasibility Study, Culvert Design Alternatives, Outreach and Community Engagement and 30/60% Design



# Weir Creek Tidal Restoration Goals

## Short-term Goals:

- Understand Current Condition and Flooding Impacts to Community
  - *Series of Stakeholder Engagement Meetings*
- Determine Feasibility of Tidal Restoration
  - *H&H Study and Alternatives Analysis*
- Develop 30/60% Design Plans with Cost Estimates for Next Phase

## Long-term Goals:

- Restore Tidal Flow to the Salt Marsh
- Improve Health and Habitat within Weir Creek and Bass River Watersheds
- Increase Resilience of System and Community to Impacts of Climate Change

# Project Team

Association to Preserve Cape Cod

Town of Dennis

Tighe & Bond with Woods Hole Group

USDA Natural Resources Conservation Service

Cape Cod Conservation District

Friends of Bass River

Dennis Conservation Land Trust

Cape Cod Mosquito Control

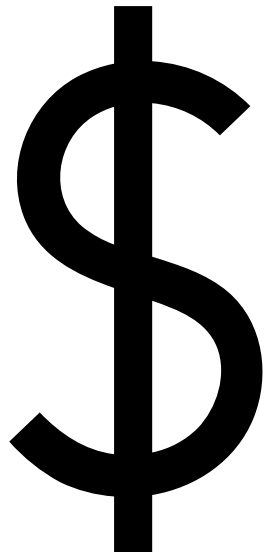
Cape Cod Commission

*MA Division of Ecological Restoration*



# Project Funding

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EPA SNEP and NFWF Grants: \$417,888 for Current Scope

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In-Kind Contributions (Match): \$73,292 for Current Scope

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NOAA Grant Applications (Pending): \$4-4.5 million for project completion over the next 3 years (2025-2027)

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NFWF Grant Application (In Progress): permitting and final design

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Cape Cod Water Resource Restoration Project (CCWRRP): NRCS and CCCD Funding

# Project Scope and Timeline

## Project Kick Off

- Project Planning and Development (Winter – Spring 2023)
- Public Meeting One – June 15, 2023

## Tidal Evaluation, Modeling and Culvert Alternatives

- Field Data Collection (Summer 2023)
- Hydrodynamic Modeling and Culvert Alternatives Analysis (Fall/Winter 2023)
- **Public Meeting Two (March 2024)**

## Culvert Design and Planning

- 30% Conceptual Designs (Spring 2024)
- 60% Permit-Ready Designs (Summer-Fall 2024)
  - Low-lying Infrastructure Survey
- Pre-Restoration Monitoring (Summer 2024)
- Public Meeting Three (Fall 2024)



**LEGEND**

- Woods Hole Group Loggers
- WQ Sampling Stations
- ▲ Salinity Loggers
- Vegetation Monitoring
- Fresh/Brackish Upstream
- Reference
- Restricted

# Proposed APCC 2024 Pre-Restoration Monitoring

1. Vegetation
2. Water Quality

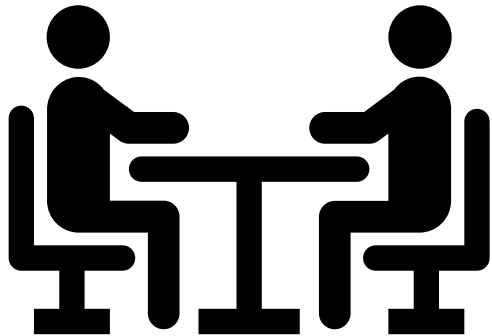
**Funding for Monitoring:**



Private Foundation Funding

# Public Meeting Goals

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- Share Plans for Project
- Understand What Community Values
- Inform Study and Data Collection
- **Listen to and Address Concerns and Questions**
- Gather Support for Project

What the  
community  
values



# Community Concerns

A word cloud on a dark blue background. The words are in various shades of pink and orange. The largest words are 'mosquitoes', 'flooding', and 'excess vegetation'. Other prominent words include 'property impacts', 'sedimentation', 'project stalling', 'inaccessibility', and 'rising water levels'. Smaller words include 'stagnant water', 'odor', 'communication issues', 'phragmites', 'pollution', 'mold', 'coyotes', 'erosion', 'septic issues', 'restricted marsh', 'fishkill', 'storm surge', and 'flood zone'.

rising water levels  
increased water velocity  
inaccessibility  
degraded freshwater system  
mosquitoes  
stagnant water odor communication issues  
flooding  
phragmites  
pollution  
mold  
property impacts coyotes  
erosion sedimentation  
septic issues  
excess vegetation  
restricted marsh fishkill  
project stalling  
storm surge  
flood zone

# Meeting Registration Feedback

## Summary of Key Questions

1. Any proposed activity at South Main and Fisk Street? Or at the culvert that connects Weir Creek to Kelley's Pond?
2. How many sensors were used to monitor salinity? Was salinity monitored at Indian Pond? What do salinity models show for the upper reaches of the system?
3. How will the project change flooding on private properties? On Lighthouse Inn Road?
4. Affect on local groundwater levels during high tides and storm events?

## Summary of Key Public Concerns

- Flooding of Lighthouse Inn Road
- Need for dredging
- Insufficient tidal flow upstream to maintain a healthy salt marsh ecosystem.
- Preserving the natural marsh and wildlife
- Water quality



# WEIR CREEK TIDAL RESTORATION MODELING AND DESIGN

Arden Herrin, Woods Hole Group  
Eric Ohanian, PE, Tighe & Bond



# Questions

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# Next Steps

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- Write Up and Consolidate Comments and Questions from this Meeting
- Planning and Design (April-Oct)
- Monitoring of Vegetation and Water Quality (Summer)
- **Public Meeting 3 – Fall 2024**



# Thank You for Coming

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Sign In – Name and Email

For More Information and  
Project Updates Go To:

[www.apcc.org/weir-creek](http://www.apcc.org/weir-creek)

