

HERRING RIVER

TIDAL RESTORATION PROJECT

An Ecological Restoration *LIMITED PROJECT*

Case Study

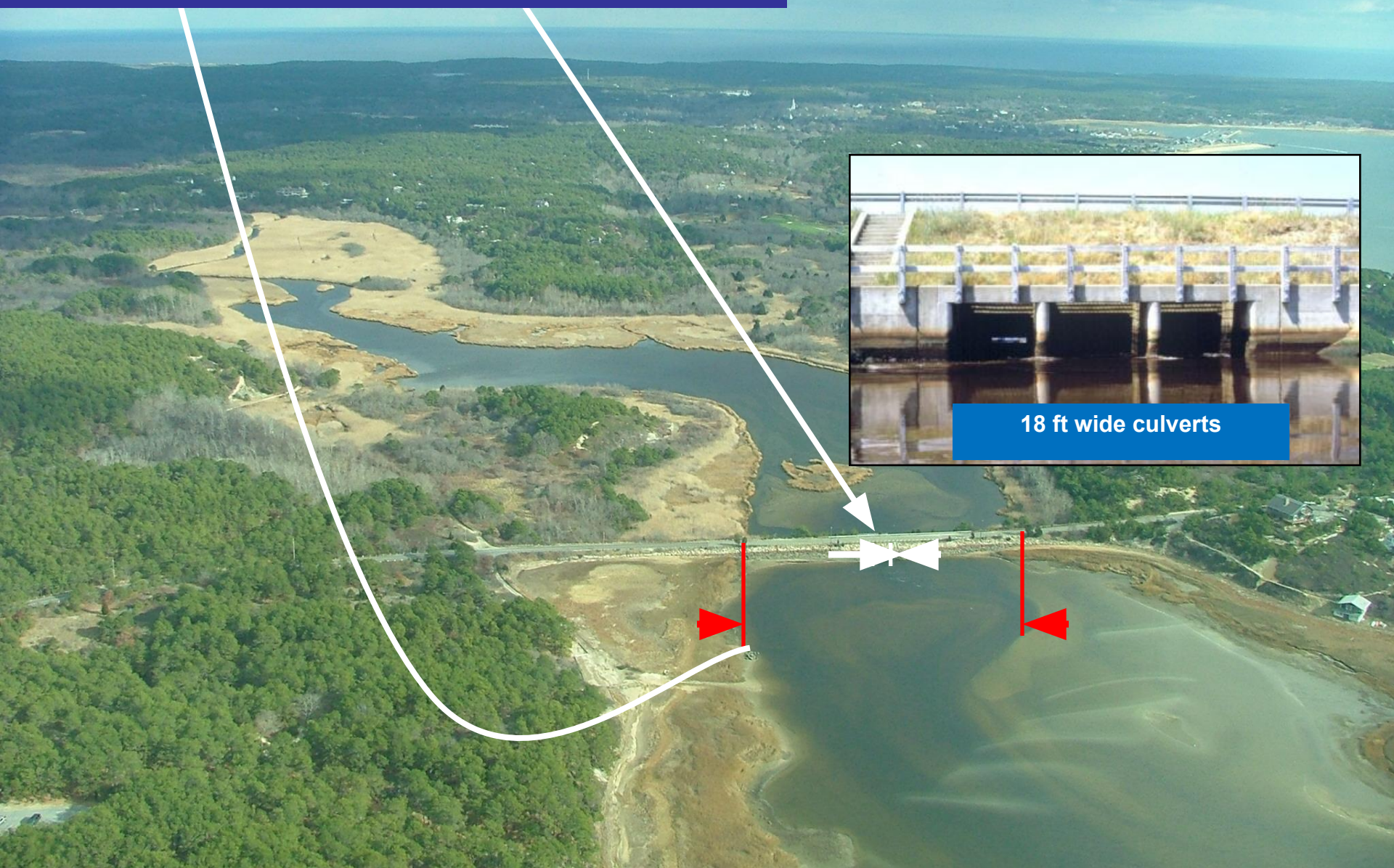


Soil & Water Conservation Society
Southern New England Chapter
2024 Winter Conference
February 16th | Warwick, RI

Christine Odiaga
Friends of Herring River,
Wellfleet/Truro, Inc.
www.herringriver.org



Original vs. current opening



18 ft wide culverts

Historic Marsh vs. Today



CONTRACTOR AND CONSULTANT TEAM



PROJECT PARTNER LEADERSHIP TEAM



HERRING RIVER RESTORATION PROJECT

Chequessett Neck Bridge and Water Access Facility Improvements Construction

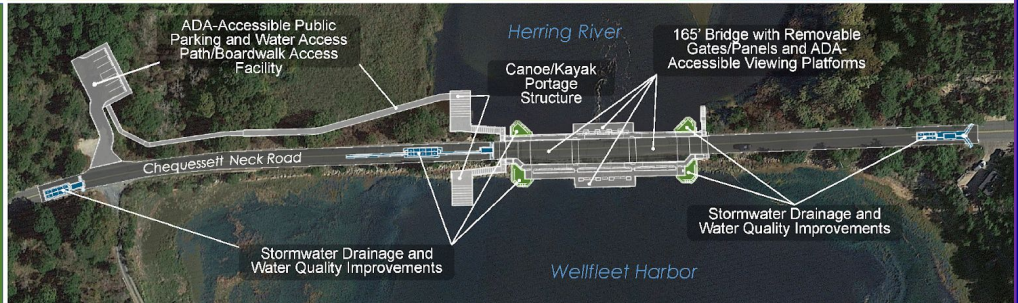


The Chequessett Neck Bridge is the first and largest infrastructure component of the Herring River Restoration Project. The goal of the Restoration Project is to re-establish a healthy, functioning tidal marsh throughout the Herring River flood plain.

The Bridge will include sluice gates to allow managed increases in tidal flow into the river basin. Sluice gates will be opened incrementally over time to increase tidal exchange to achieve desired conditions for native estuarine habitats. This bridge is expected to be completed in 2025.

Other tidal restrictions in the flood plain will be removed or modified and other project elements will be implemented to protect structures on public and private property.

Go to www.HerringRiver.org or use this QR code for more information about the Herring River Restoration Project and updates on the status of construction.



DONATE 



FRIENDS OF HERRING RIVER



[Home](#) [About FHR](#) [Project Governance](#) [Restoration Project Updates](#) [Herring River Ecosystem](#) [News](#) [Events](#) [Contact](#)

FRIENDS OF HERRING RIVER

Mission: To inspire and accelerate restoration of estuaries and ecosystems for the benefit of nature and all people.

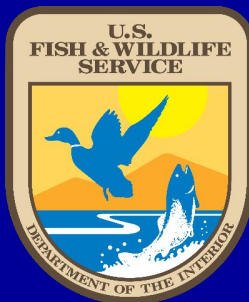
Friends of Herring River was incorporated in 2009 as a 501c3 nonprofit organization.

The vast majority of the information on these slides can be found on our website, www.herringriver.org

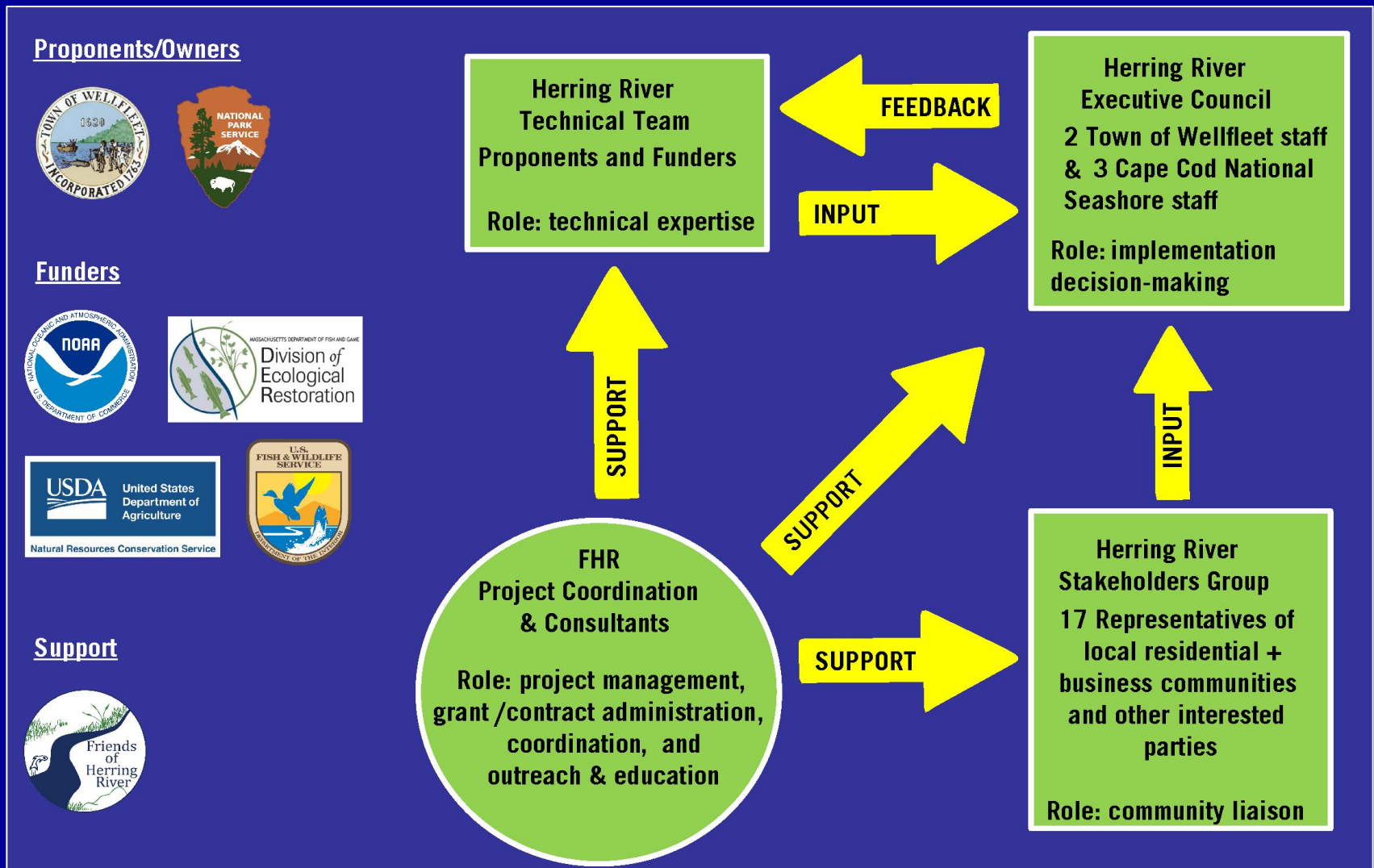




Project Partners



Herring River Restoration Project Team



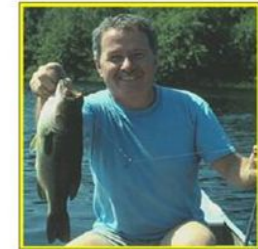
Herring River Restoration Project | Phase 1 Permits and Approvals (rev 12 January 2024)

Agency/Regulatory Authority	Permit/Approval	Status	Link to Project permit or approval	General Permit, amendment, other
Federal				
U.S. Department of the Interior – National Park Service	National Environmental Policy Act (NEPA) Review	NEPA Record of Decision published June 21, 2016	NEPA Record-of-Decision 2016-09-15.pdf	
U.S. Environmental Protection Agency	National Pollutant Discharge Elimination System Construction General Permit pursuant to Clean Water Act §402	NPDES Notices of Intent to be filed by each Construction Contractor(s) CNR NOI submitted Feb 10, 2023		NPDES 2022 Construction General Permit
U.S. Army Corps of Engineers	General Permit pursuant to Clean Water Act §404	2018 GP PCN approved October 27, 2021; reauthorization under 2023 GPs in progress	Sec404 NAE-2008-00759 GP-14 GP-23.pdf	Massachusetts General Permits - April 2018
U.S. Department of the Interior - National Park Service	Review under §106 of the National Historic Preservation Act	Programmatic Agreement with SHPO expired		
U.S. Fish and Wildlife Service	Review under §7 of the Federal Endangered Species Act	ESA Sec 7 concurrence of No Adverse Effect issued Nov 4, 2021 and for Vegetation clearing on Jan 23, 2023	USFWS ESA 2021-11-04.pdf	USFWS 2023-01-23 Veg-Clearing.pdf
NOAA National Marine Fisheries Service	Essential Fish Habitat Review - Magnuson-Stevens Fishery Conservation & Management Act and Fish & Wildlife Coordination Act	NMFS Essential Fish Habitat conservation recommendations issued December 10, 2020. Responses submitted to and accepted by NMFS on November 22, 2022.	NMFS EFH 2020-12-10.pdf	NMFS 2022-11-22 EFH Response letter.pdf
Federal Consistency Review	Review under Coastal Zone Management Act of 1972	Completed through Joint Agency review of §404 General Permit		
U.S. Coast Guard	Section 9 of the Rivers and Harbors Appropriations Act and Coast Guard Authorization Act (33 U.S.C. 530)	Determination of Advance Approval Waterway for Coast Guard Bridge Program issued June 4, 2021	USCG AA NV-1097-CNR Bridge over HR.pdf	
State				
Executive Office of Energy and Environmental Affairs	Massachusetts Environmental Policy Act (MEPA) (MGL C. 30, §61-62H) Review	MEPA Certificate issued July 15, 2016	MEPA FEIR Certificate 2016-07-15.pdf	
Massachusetts Department of Environmental Protection - Wetlands and Waterways	Clean Water Act §401 Water Quality Certification for Dredging and for Fill/Excavation	Combined Permit and WQC for Dredging and Fill/Excavation issued on September 29, 2021; amended March 30, 2022. Recertification request submitted November 2023.	Sec401 WQC X287602-X287603.pdf	Sec401 WQC X287602-X287603 Amend#1.pdf
Massachusetts Department of Environmental Protection - Wetlands and Waterways	Chapter 91 Waterways Licensing (314 CMR 9.09 (4))	License applications submitted March 29, 2021. License for for CNR Bridge recorded October 7, 2022; other licenses pending completion of final design.	Ch91 License CNR Recorded.pdf	
Massachusetts Historical Commission	State Historic Register Review	PNF filed. Programmatic Agreement expired.		
Massachusetts Department of Transportation	Bridge Permit for Chequessett Neck Road Bridge	To be filed		
Massachusetts Natural Heritage and Endangered Species Program	Review of Habitat Restoration Plan pursuant to MA Endangered Species Act (MGL Ch 131A §5) and 321 CMR 10.14 (15)	Per MEPA Certificate and NHESP determination, Project qualifies for MESA Habitat Management Exemption. Habitat Restoration and Monitoring Plan approved by NHESP March 28, 2021	NHESP #04-15126 2022-03-28.pdf	Habitat Restoration and Monitoring Plan (Feb 2022)
Regional				
Cape Cod Commission	Development of Regional Impact (DRI) Review pursuant to Cape Cod Commission Act	DRI approval decision issued June 11, 2020	DRI Decision #08009.pdf	
Local - Wellfleet				
Wellfleet Conservation Commission	MA Wetlands Protection Act (MGL C 131, §40 and 40A) and Wellfleet Environmental Protection Bylaw – Order of Conditions (OOC)	OOC approval as an Ecological Restoration Limited Project issued May 31, 2022	WPA OOC Wellfleet SE#077-1602.pdf	
Local - Truro				
Truro Conservation Commission	MA Wetlands Protection Act (MGL C 131, §40 and 40A) and Truro Conservation Bylaw – Order of Conditions (OOC)	OOC approval as an Ecological Restoration Limited Project issued June 24, 2022	WPA OOC Truro SE#75-1144.pdf	

PUBLIC INTERESTS of the Commonwealth served by the **Wetlands Protection Act**

PROTECTS

- **PUBLIC & PRIVATE WATER SUPPLY**
- **GROUND WATER SUPPLY**
- **LAND CONTAINING SHELLFISH**
- **FISHERIES**
- **WILDLIFE HABITAT**



PREVENTS

- **STORM DAMAGE**
- **POLLUTION**



CONTROLS

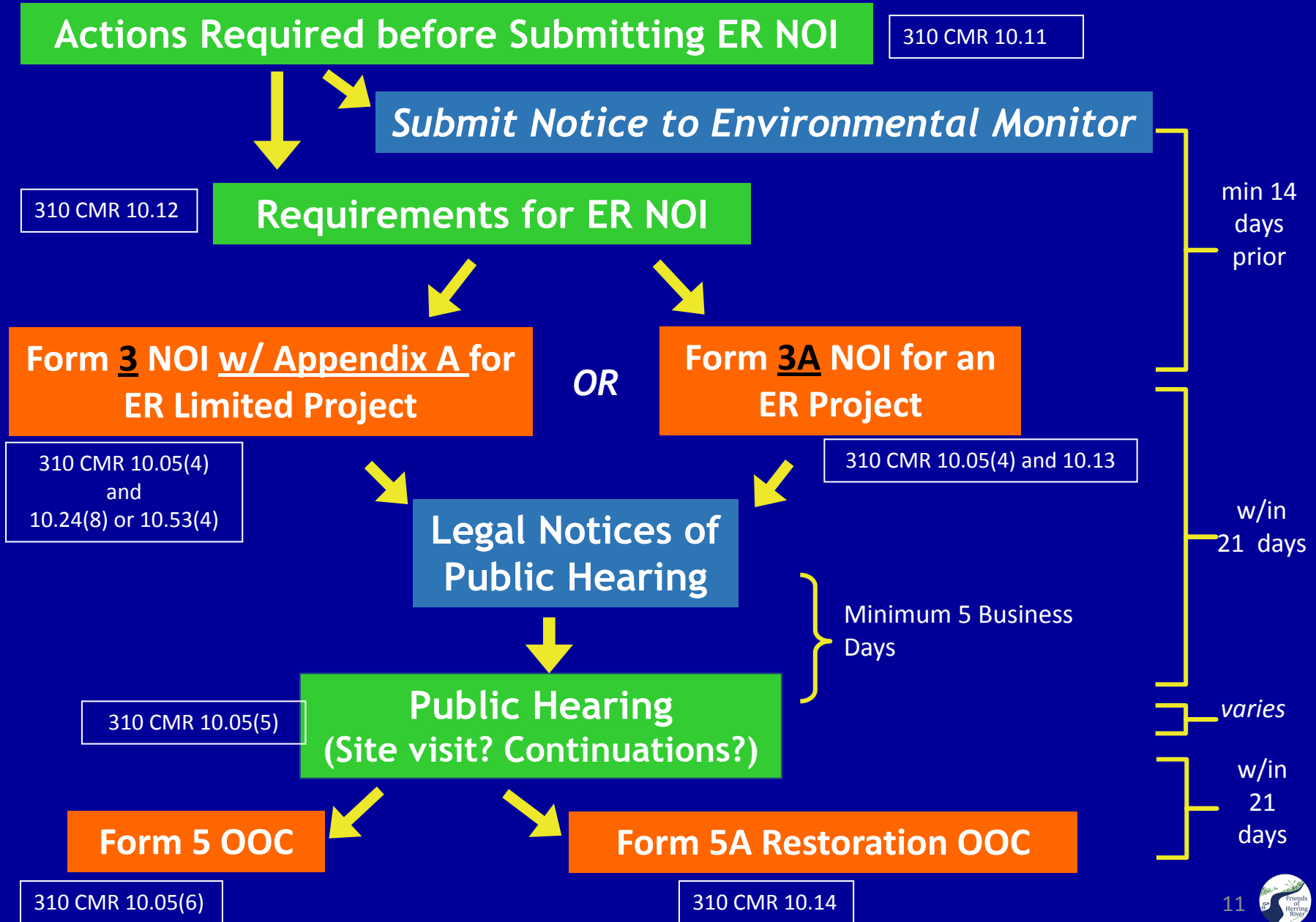
- **FLOODS**



New Regulations for All Wetlands

- 10.11 Actions Required Before Submitting a Notice of Intent for an **Ecological Restoration Project**
- 10.12 Notice of Intent for an **Ecological Restoration Project**
- 10.13 Eligibility Criteria for **Restoration Order of Conditions**
- 10.14 **Restoration Order of Conditions**

Ecological Restoration (ER) NOI Process



Wetlands Protection Act Regulatory Reform 10-24-2014

Regulatory Additions *for* Ecological Restoration Projects

- Is Project an Ecological Restoration?
- ER Project Types
- ER Project Permitting Process



- Funded in part by a Federal Clean Water Act Wetland Program Development Grant (WPDG) 104(b)(3) from U.S. EPA.

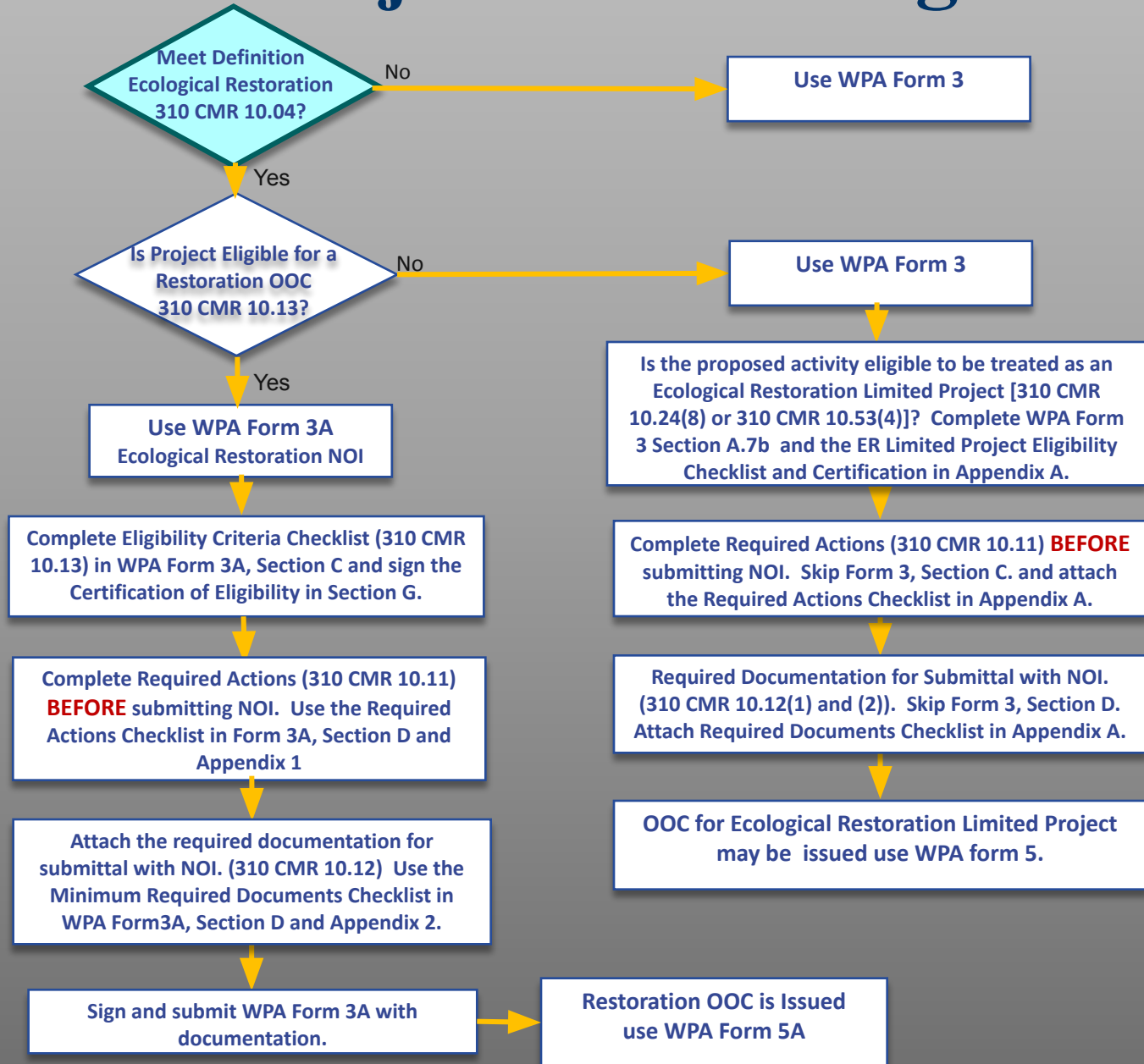


Regulatory Additions *for* Ecological Restoration

- ▣ **Definitions: 310 CMR 10.04**
- ▣ **Permitting Process: 310 CMR 10.11 thru 310 CMR 10.14**
- ▣ **Coastal Limited Projects: 310 CMR 10.24(8)**
- ▣ **Inland Limited Projects: 310 CMR 10.53(4)**



Restoration Project Permitting Process



Regulatory Additions *for* Ecological Restoration

A project whose primary purpose is to restore or otherwise improve the natural capacity of a Resource Area(s) to protect and sustain the interests identified in M.G.L. c. 131, § 40, when such interests have been degraded or destroyed by anthropogenic influences. (310 CMR 10.04)

Regulatory Additions for Ecological Restoration

First Shovelfull on the new dyke, Aug. 7/08. Wellfleet, Mass.



Regulatory Additions *for* Ecological Restoration

1970's – Dike Reconstruction



ER Limited Project Checklists

Complete and Attach Appendix A Checklists to WPA Form 3



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Eligibility Checklist

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Wellfleet / Truro
City/Town

This Ecological Restoration Limited Project Eligibility Checklist guides the applicant in determining if their project is eligible to file as an Inland or Coastal Ecological Restoration Limited Project (310 CMR 10.53(4) or 310 CMR 10.24(8) respectively). These criteria must be met when submitting the Ecological Restoration Limited Project Notice of Intent to ensure that the restoration and improvement of the natural capacity of a Resource Area(s) to protect and sustain the interests identified in the WPA is **necessary** to achieve the project's ecological restoration goals.



ERLP Eligibility Checklists



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Eligibility Criteria - Coastal Ecological Restoration Limited Projects (310 CMR 10.24(8))

Complete this Eligibility Criteria Checklist **before** filling out a Notice of Intent Application to determine if your project qualifies as a Coastal Ecological Restoration Limited Project. (310 CMR 10.24(8)) Sign the Eligibility Certification at the end of Appendix A, and attach the checklist with supporting documentation and the Eligibility Certification to your Notice of Intent Application.

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Wellfleet / Truro

City/Town

Eligibility Criteria - Inland Ecological Restoration Limited Project (310 CMR 10.53(4))



ERLP Required Actions Checklist



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Required Actions (310 CMR 10.11)

Complete the Required Actions before submitting a Notice of Intent Application for an Ecological Restoration Project and submit a completed copy of this Checklist with the Notice of Intent.

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

City/Town



ERLP Required Documents Checklist

Minimum Required Documents (310 CMR 10.12)

Complete the Required Documents Checklist below and provide supporting materials before submitting a Notice of Intent Application for an Ecological Restoration Project.

- This Notice of Intent meets all applicable requirements outlined in for Ecological Restoration Projects in 310 CMR 10.12. Use the checklist below to ensure that all documentation is included with the NOI.

At a minimum, a Notice of Intent for an Ecological Restoration Project shall include the following:



Certify that Eligibility Criteria is Met

Sign the ER Limited Project Certification in Appendix A



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

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City/Town

Certification that the Ecological Restoration Project Meets the Eligibility Criteria

I hereby certify under penalties of perjury that the Ecological Restoration Project Notice of Intent application does not meet the Eligibility criteria for an Ecological Restoration Order of Conditions set forth in 310 CMR 10.13, but does meet the Eligibility Criteria for a Ecological Restoration Limited Project set forth in 10.24(8) or 10.53(4) whichever is applicable. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities.

Signature of Applicant or Authorized Agent

Printed Name of Applicant or Authorized Agent

Date





Herring River Restoration Project, Phase 1

Wetlands Protection Act Notice of Intent

SUBMITTED TO:

**Wellfleet Conservation Commission and
Truro Conservation Commission**

SUBMITTED BY:

Town of Wellfleet
300 Main Street
Wellfleet, MA 02667



U.S. National Park Service
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667



March 2022



Herring River Phase 1

Wetlands Protect

SUBMITTED TO:
Wellfleet Conserv
Truro Conservati

SUBMITTED BY:
Town of Wellfleet
300 Main Street
Wellfleet, MA 02667

U.S. National Park Service
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

March 2022



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent Appendix A: Ecological Restoration Limited Project Checklists Massachusetts Wetlands Protection Act M.G.L. c. 131, §40 Eligibility Checklist

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Wellfleet / Truro
City/Town

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Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

Regulatory Features of All Coastal and Inland Ecological Restoration Limited Projects

- (a) May result in the temporary or permanent loss of or conversion of Resource Area: An Ecological Restoration Limited Project that meets the requirements of 310 CMR 10.24(8) may result in the temporary or permanent loss of Resource Areas and/or the conversion of one Resource Area to another when such loss is necessary to the achievement of the project's ecological restoration goals.
- (b) Exemption from wildlife habitat evaluation: A NOI for an Ecological Restoration Limited Project that meets the minimum requirements for Ecological Restoration Projects and for a MassDEP Combined Application outlined in 310 CMR 10.12(1) and (2) is exempt from providing a wildlife habitat evaluation (310 CMR 10.60).
- (c) The following are considerations for applicants filing an Ecological Restoration Limited Project NOI and for the issuing authority approving a project as an Ecological Restoration Limited Project:
 - The condition of existing and historic Resource Areas proposed for restoration.
 - Evidence of the extent and severity of the impairment(s) that reduce the capacity of the Resource Areas to protect and sustain the interests identified in M.G.L. c. 131, § 40.
 - The magnitude and significance of the benefits of the Ecological Restoration Project in improving the capacity of the affected Resource Areas to protect and sustain the other interests identified in M.G.L. c. 131, § 40.
 - The magnitude and significance of the impacts of the Ecological Restoration Project on existing Resource Areas that may be modified, converted and/or lost and the interests for which said Resource Areas are presumed significant in 310 CMR 10.00, and the extent to which the project will:
 - a. avoid adverse impacts to Resource Areas and the interests identified in M.G.L. c. 131, § 40, that can be avoided without impeding the achievement of the project's ecological restoration goals.
 - b. minimize adverse impacts to Resource Areas and the interests identified in M.G.L. c. 131, § 40, that are necessary to the achievement of the project's ecological restoration goals.
 - c. utilize best management practices such as erosion and siltation controls and proper construction sequencing to avoid and minimize adverse construction impacts to resource areas and the interests identified in M.G.L. c. 131, § 40.

ERLP Eligibility Checklists

for Coastal and Inland Limited Projects



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Eligibility Checklist

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Wellfleet / Truro
City/Town

This Ecological Restoration Limited Project Eligibility Checklist guides the applicant in determining if their project is eligible to file as an Inland or Coastal Ecological Restoration Limited Project (310 CMR 10.53(4) or 310 CMR 10.24(8) respectively). These criteria must be met when submitting the Ecological Restoration Limited Project Notice of Intent to ensure that the restoration and improvement of the natural capacity of a Resource Area(s) to protect and sustain the interests identified in the WPA is **necessary** to achieve the project's ecological restoration goals.

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

Regulatory Features of All Coastal and Inland Ecological Restoration Limited Projects

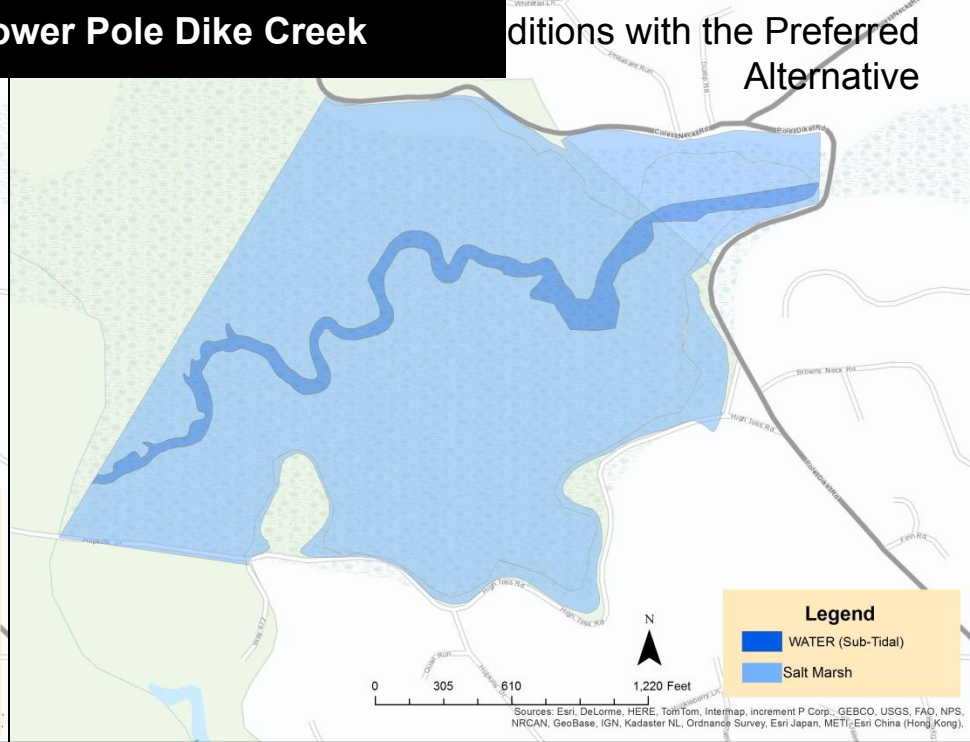
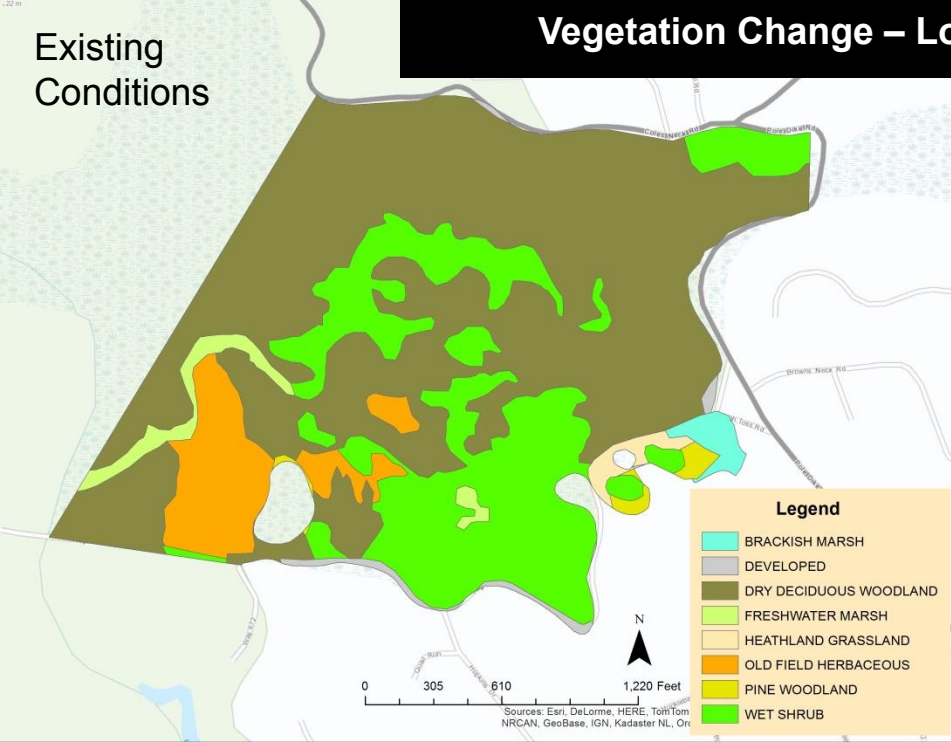
- (a) May result in the temporary or permanent loss of/or conversion of Resource Area: An Ecological Restoration Limited Project that meets the requirements of 310 CMR 10.24(8) may result in the temporary or permanent loss of Resource Areas and/or the conversion of one Resource Area to another when such loss is necessary to the achievement of the project's ecological restoration goals.



Existing Conditions

Vegetation Change – Lower Pole Dike Creek

Conditions with the Preferred Alternative



Existing (Acres)	Cover Types	Pref. Alt. (Acres)
1	BRACKISH MARSH	
1	DEVELOPED	
69	DRY DECIDUOUS WOODLAND	
2	FRESHWATER MARSH	
1	HEATHLAND GRASSLAND	
8	OLD FIELD HERBACEOUS	
1	PINE WOODLAND	
29	WET SHRUB	
	SALT MARSH	98
	WATER	8
	MISC. NON-TIDAL	6
112	TOTAL	112

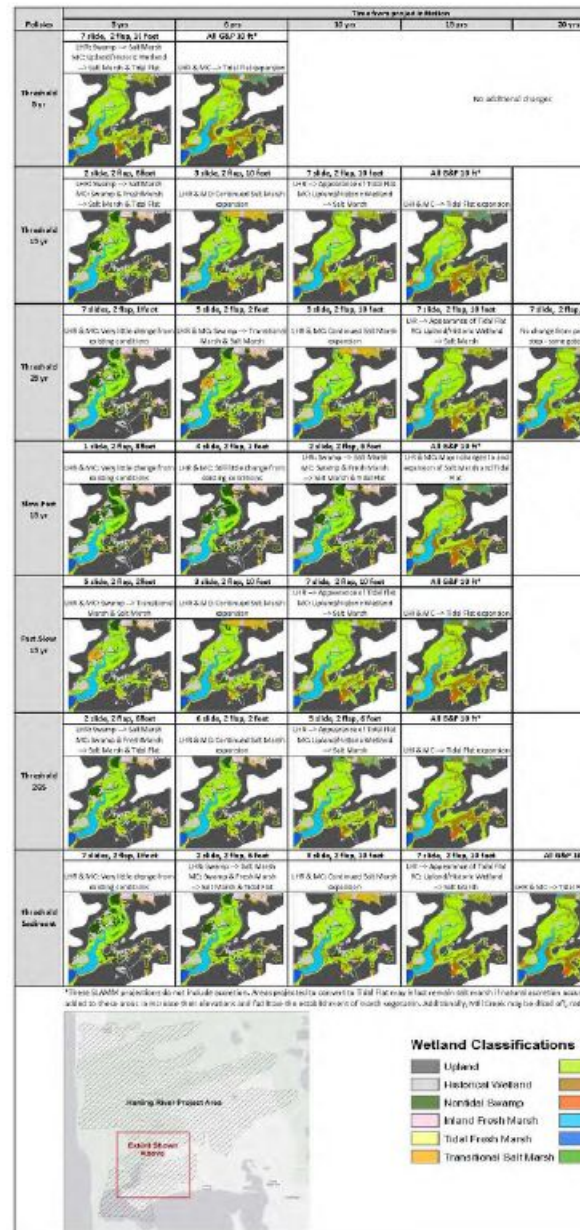


Figure C-8. Comparison of vegetation change during interim time-steps (tide gate configuration) for different restoration policies for the Lower Herring River (LHR) and Mill Creek (MC) sub

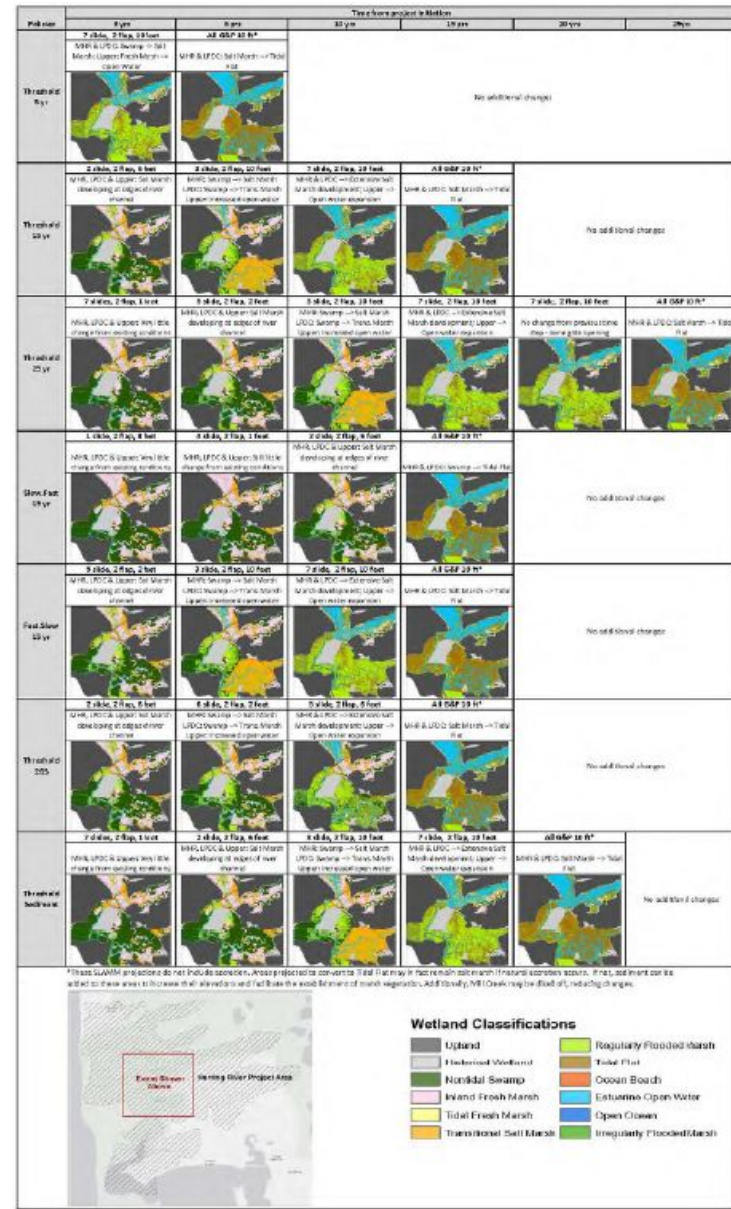


Figure C-9. Comparison of vegetation change during interim time-steps (tide gate configurations) for different restoration policies for the Mid Herring River (MHR), Lower Pole Dihe Creek (LPDC), and some upstream sub-basins.

ERLP Eligibility Checklists for Coastal and Inland Limited Projects

General Eligibility Criteria for All Coastal Ecological Restoration Limited Projects

Notwithstanding the requirements of 310 CMR 10.25 through 10.35, 310 CMR 10.54 through 10.58, and the Wildlife Habitat evaluations in 310 CMR 10.60, the Issuing Authority may issue an Order of Conditions permitting an Ecological Restoration Project listed in 310 CMR 10.24(8)(e) as an Ecological Restoration Limited Project and impose such conditions as will contribute to the interests identified in the WPA M.G.L. provided that the project meets all the requirements in 310 CMR 10.24 (8).

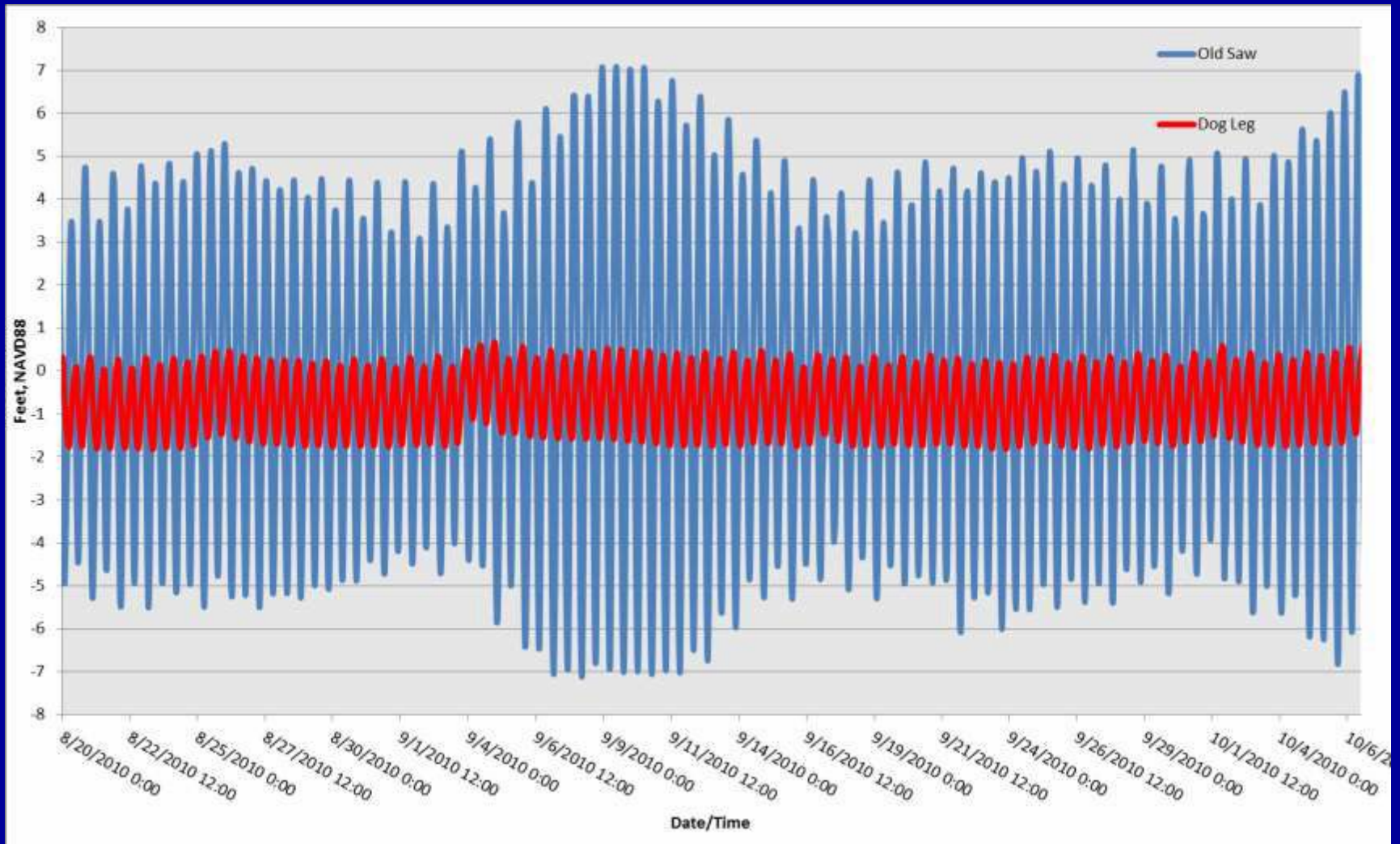
- The project is an Ecological Restoration Project as defined in 310 CMR 10.04 and is a project type listed below [310 CMR 10.24(8)(e)].
- Tidal Restoration.

ER Limited Project Checklists

- (c) The following are considerations for applicants filing an Ecological Restoration Limited Project NOI and for the issuing authority approving a project as an Ecological Restoration Limited Project:
- ☒ The condition of existing and historic Resource Areas proposed for restoration.
 - ☒ Evidence of the extent and severity of the impairment(s) that reduce the capacity of the Resource Areas to protect and sustain the interests identified in M.G.L. c. 131, § 40.
 - ☒ The magnitude and significance of the benefits of the Ecological Restoration Project in improving the capacity of the affected Resource Areas to protect and sustain the other interests identified in M.G.L. c. 131, § 40.
 - ☒ The magnitude and significance of the impacts of the Ecological Restoration Project on existing Resource Areas that may be modified, converted and/or lost and the interests for which said Resource Areas are presumed significant in 310 CMR 10.00, and the extent to which the project will:

Current Conditions of Herring River

Restricted Tide Range: Lower Basin Tides, Aug-Sept. 2010



ERLP Eligibility Checklists

- The project will further at least one of the WPA (M.G.L. c. 131, § 40) interests identified below.
 - Protection of public or private water supply.
 - Protection of ground water supply.
 - Flood control.
 - Storm damage prevention.
 - Prevention of pollution.
 - Protection of land containing shellfish.
 - Protection of fisheries.
 - Protection of wildlife habitat.

- If the project will impact an area located within estimated habitat which is indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetlands, a NHESP preliminary written determination is attached to the NOI submittal that the project will not have any adverse long-term and short-term effects on specified habitat sites of Rare Species or the project will be carried out in accordance with an approved NHESP habitat management plan.

See email from
J. Leddick found
in Appendix C

Herring River Restoration Project



Habitat Restoration and Monitoring Plan

Version 1.5, February 2022

ERLP Eligibility Checklists

Additional Eligibility Criteria for Specific Coastal Ecological Restoration Limited Project Types

These additional criteria must be met to qualify as an Ecological Restoration Limited Project to ensure that the restoration and improvement of the natural capacity of a Resource Area to protect and sustain the interests identified in the WPA is **necessary** to achieve the project's ecological restoration goals.

- This Ecological Restoration Limited Project application meets the eligibility criteria for Ecological Restoration Limited Project [310 CMR 10.24(8)(a) through (d) and as proposed, furthers at least one of the WPA interests is for the project type identified below.

Tidal Restoration Projects

- A project to restore tidal flow that will not significantly increase flooding or storm damage impacts to the built environment, including without limitation, buildings, wells, septic systems, roads or other man-made structures or infrastructure.

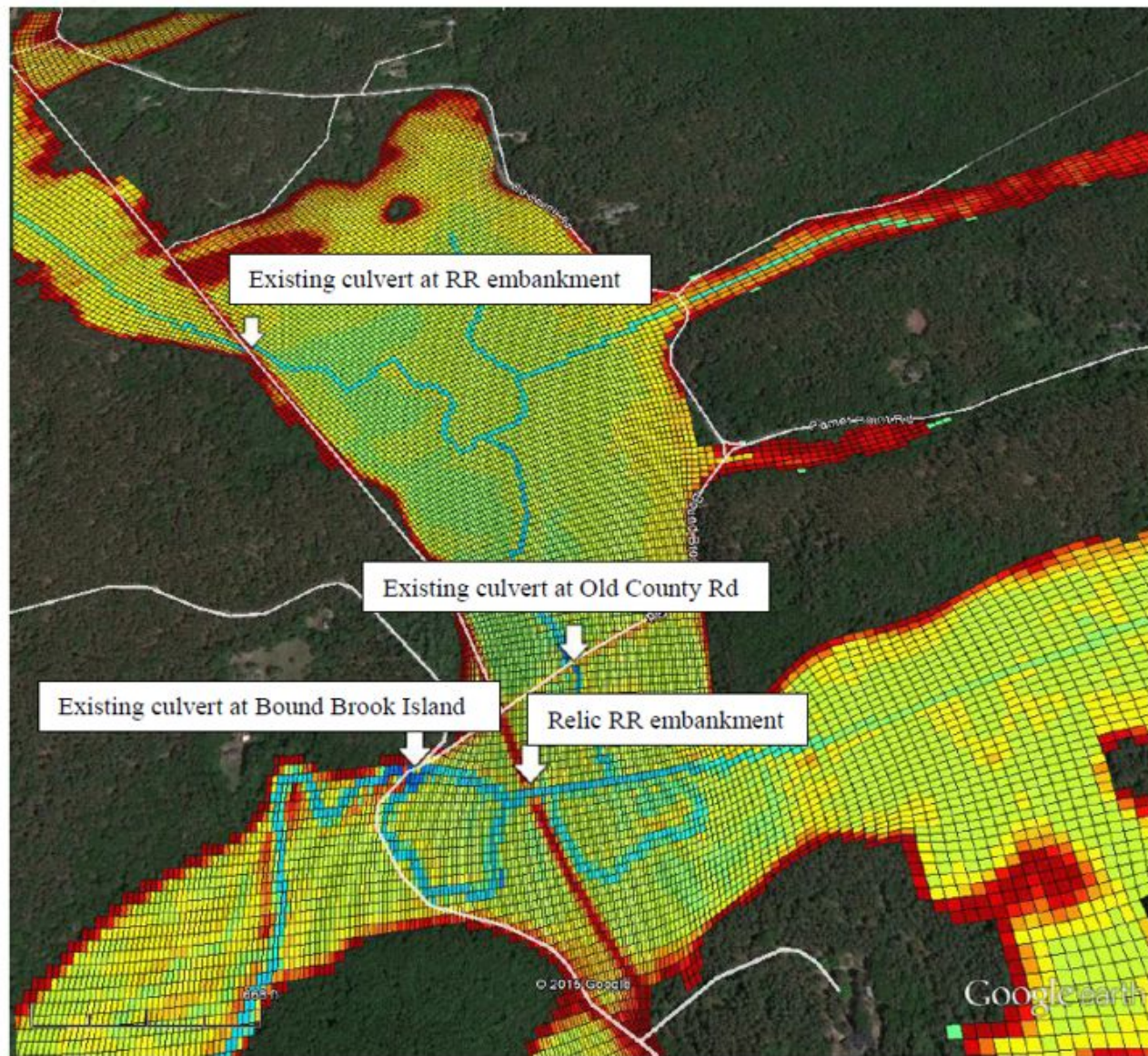


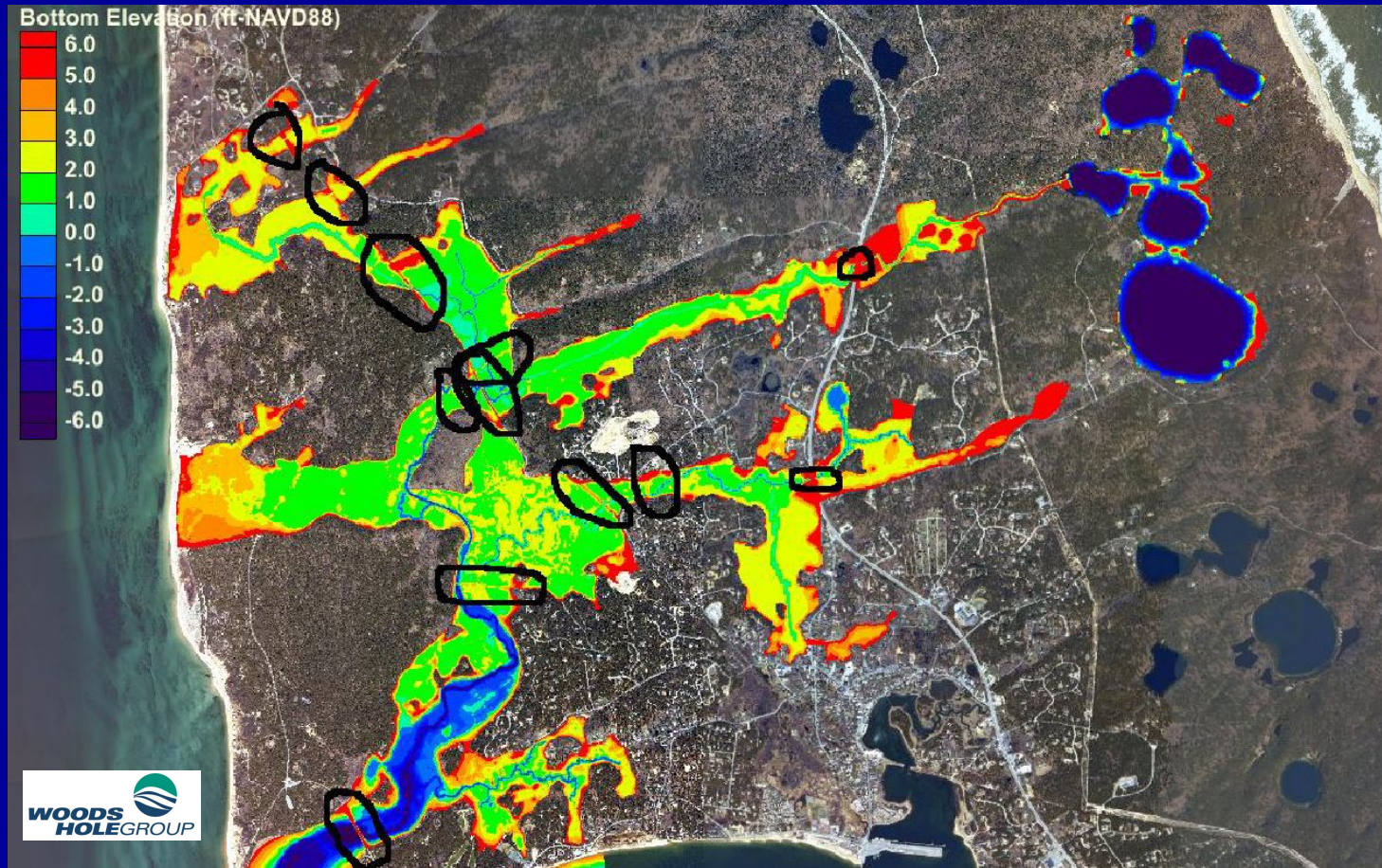
Figure 2. Locations of restrictions within the Herring River model mesh.

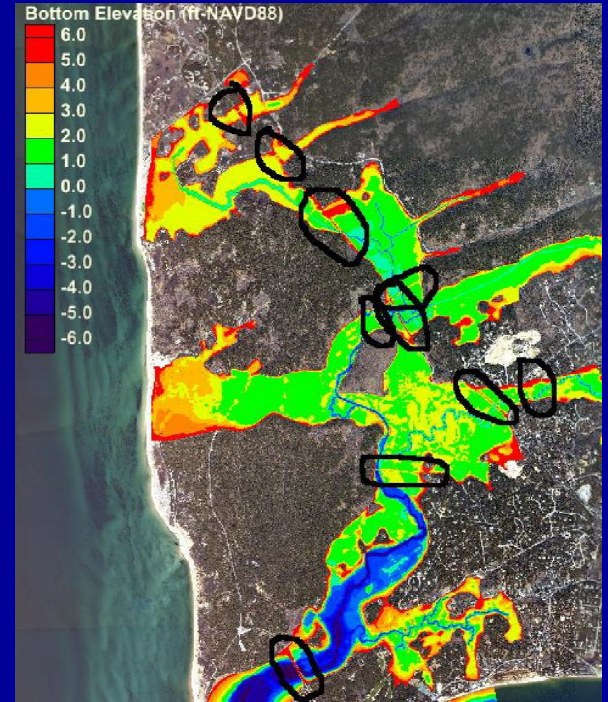
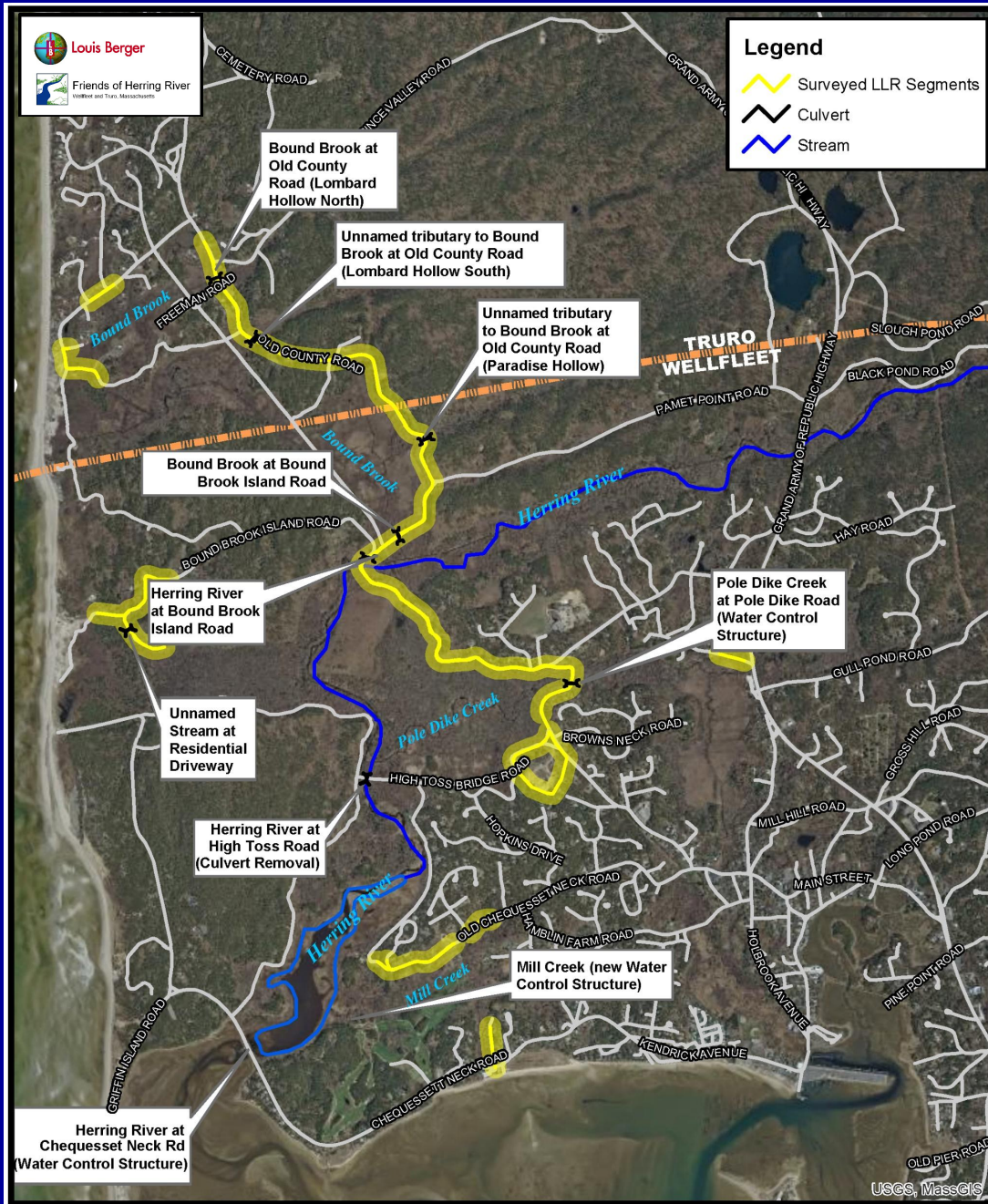
Lower Pole Dike Creek Sub Basin (elevations in NAVD88, feet) (salinity in psu)	Chequesset Neck New Dike Opening (165' Opening)												
	Increase Sluice/Gate Opening Height(s) ----->												
	Wellfleet Harbor	Existing Conditions	Fully Open	1/3 Gates 1' open	1/3 Gates 2' open	2/3 Gates 1' open	1' opening	3' opening (Infrastructure removed)	3' opening (Infrastructure in place)	5' opening	7' opening	10' opening (Infrastructure removed)	10' opening (Infrastructure in place)
Mean Low Water	-5.47	Non-tidal	2.56	Non-tidal	Non-tidal	Non-tidal	1.55	<u>2.45</u>	2.37	2.43	2.46	<u>2.50</u>	2.45
Mean Tide Level	-0.32	0.00	3.16	0.00	0.00	0.00	1.72	<u>2.80</u>	2.70	2.90	2.96	<u>2.99</u>	2.95
Mean High Water	4.84	Non-tidal	3.76	Non-tidal	Non-tidal	Non-tidal	1.88	<u>3.15</u>	3.02	3.36	3.46	<u>3.47</u>	3.44
Tide Range	10.31	0.00	1.20	0.00	0.00	0.00	0.33	<u>0.70</u>	0.65	0.93	1.00	<u>0.97</u>	0.99
Mean High Water Spring	6.22	Non-tidal	5.30	Non-tidal	1.86	1.87	2.50	<u>4.13</u>	4.17	4.55	4.73	<u>4.78</u>	4.81
Annual High Water	7.07	Non-tidal	5.86	1.79	2.15	2.26	3.16	<u>4.49</u>	4.60	5.03	5.24	<u>5.27</u>	5.37
100-year Storm Event	9.31	Non-tidal	7.81	1.98	3.25	3.32	4.03	<u>5.39</u>	5.52	6.26	6.67	<u>6.90</u>	6.99
MHW, Low SLR Projection (50 years)	5.28	Non-tidal	3.92	Sim.+	Sim.+	Sim.+	Sim.+	<u>Sim.+</u>	Sim.+	Sim.+	Sim.+	<u>Sim.+</u>	Sim.+
MHW, Mid SLR Projection (50 years)	5.65	Non-tidal	4.04	Sim.+	Sim.+	Sim.+	Sim.+	<u>Sim.+</u>	Sim.+	Sim.+	Sim.+	<u>Sim.+</u>	Sim.+
MHW, High SLR Projection (50 years)	6.89	Non-tidal	4.41	Sim.+	Sim.+	Sim.+	Sim.+	<u>Sim.+</u>	Sim.+	Sim.+	Sim.+	<u>Sim.+</u>	Sim.+
Mean Salinity	30*	0.0	17.8	0.0	0.0	0.0	0.0	<u>15.3</u>	14.1	15.7	17.0	<u>17.5</u>	17.0
Maximum Salinity	30*	0.0	26.5	0.0	0.0	0.0	0.0	<u>21.2</u>	20.3	21.3	23.0	<u>26.4</u>	23.0

* = Salinity in Model within Wellfleet Harbor
+ = In model simulation



Fig 6-1. Locations (black circles) within the model domain that were modified to represent removal of anthropogenic features.





removal of anthropogenic features



WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited
Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Required Actions (310 CMR 10.11) (cont.)

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Wellfleet / Truro
City/Town

Areas of Critical Environmental Concern (ACECs)

Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

Yes No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations).

Wellfleet Harbor
Name of ACEC

Minimum Required Documents (310 CMR 10.12)

Complete the Required Documents Checklist below and provide supporting materials before submitting a Notice of Intent Application for an Ecological Restoration Project.

This Notice of Intent meets all applicable requirements outlined in for Ecological Restoration Projects in 310 CMR 10.12. Use the checklist below to insure that all documentation is included with the NOI.

At a minimum, a Notice of Intent for an Ecological Restoration Project shall include the following:

- Description of the project's ecological restoration goals;
- The location of the Ecological Restoration Project;
- Description of the construction sequence for completing the project;
- A map of the Areas Subject to Protection Under M.G.L. c. 131, § 40, that will be temporarily or permanently altered by the project or include habitat for Rare Species, Habitat of Potential Regional and Statewide Importance, eel grass beds, or Shellfish Suitability Areas.
- The method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.) is attached with documentation methodology.
- List the titles and dates for all plans and other materials submitted with this NOI.

See Appx A (plans), H (O&M manuals) and J (Stormwater Management Reports & SWPPP)

a. Plan Title	

b. Prepared by	c. Signed and Stamped by
_____	_____
d. Final Revision Date	e. Scale
_____	_____
f. Additional Plan or Document Title	g. Date
_____	_____

- If there is more than one property owner, attach a list of these property owners not listed on this form.
- Attach NOI Wetland Fee Transmittal Form.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Required Actions (310 CMR 10.11) (cont.)

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Wellfleet / Truro

City/Town

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Wellfleet Harbor

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Narrative
and
attachments

- A map of the Areas Subject to Protection Under M.G.L. c. 131, § 40, that will be temporarily or permanently altered by the project or include habitat for Rare Species, Habitat of Potential Regional and Statewide Importance, eel grass beds, or Shellfish Suitability Areas.

Appendix E

- The method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.) is attached with documentation methodology.

- List the titles and dates for all plans and other materials submitted with this NOI.

See Appx A (plans), H (O&M manuals) and J (Stormwater Management Reports & SWPPP)

a. Plan Title

b. Prepared by

c. Signed and Stamped by

d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

- If there is more than one property owner, attach a list of these property owners not listed on this form.
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**Attached to
Narrative**





WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited
Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Minimum Required Documents (310 CMR 10.12)

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Wellfleet / Truro

City/Town

N/A - not seeking
a Restoration OOC

- An evaluation of any flood impacts that may affect the built environment, including without limitation, buildings, wells, septic systems, roads or other man-made structures or infrastructure as well as any proposed flood impact mitigation measures;
- A plan for invasive species prevention and control;
- The Natural Heritage and Endangered Species Program written determination in accordance with 310 CMR 10.11(2), if needed;
- Any Time of Year restrictions and/or other conditions recommended by the Division of Marine Fisheries or the Division of Fisheries and Wildlife in accordance with 310 CMR 10.11(3), (4), (5), if needed;
- Proof that notice was published in the Environmental Monitor as required by 310 CMR 10.11(1);
- A certification by the applicant under the penalties of perjury that the project meets the eligibility criteria set forth in 310 CMR 10.13;
- If the Ecological Restoration Project involves the construction, repair, replacement or expansion of infrastructure, an operation and maintenance plan to ensure that the infrastructure will continue to function as designed;
- If the project involves dredging of 100 cubic yards or more or dredging of any amount in an Outstanding Resource Water, a Water Quality Certification issued by the Department pursuant to 314 CMR 9.00;
- If the Ecological Restoration Project involves work on a stream crossing, information sufficient to make the showing required by 310 CMR 10.24(10) for work in a coastal resource area and 310 CMR 10.53(8) for work in an inland resource area; and
- If the Ecological Restoration Project involves work on a stream crossing, baseline photo-points that capture longitudinal views of the crossing inlet, the crossing outlet and the upstream and downstream channel beds during low flow conditions. The latitude and longitude coordinates of the photo-points shall be included in the baseline data.
- This project is subject to provisions of the MassDEP Stormwater Management Standards. A copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) is attached.
- Provide information as the whether the project has the potential to impact private water supply wells including agricultural or aquacultural wells or surface water withdrawal points.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Minimum Required Documents (310 CMR 10.12)

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Wellfleet / Truro

City/Town

Appendix J

- An evaluation of any flood impacts that may affect the built environment, including without limitation, buildings, wells, septic systems, roads or other man-made structures or infrastructure as well as any proposed flood impact mitigation measures;

Plan notes & specs

- A plan for invasive species prevention and control;

Appendix C

- The Natural Heritage and Endangered Species Program written determination in accordance with 310 CMR 10.11(2), if needed;

Appendix B

- Any Time of Year restrictions and/or other conditions recommended by the Division of Marine Fisheries or the Division of Fisheries and Wildlife in accordance with 310 CMR 10.11(3), (4), (5), if needed;

Attached to Narrative
















N/A - not seeking
a Restoration OOC

- Proof that notice was published in the Environmental Monitor as required by 310 CMR 10.11(1);
- A certification by the applicant under the penalties of perjury that the project meets the eligibility criteria set forth in 310 CMR 10.13;

Shared with me > WPA Notice of Intent P... > Appendix J

Type ▾ People ▾ Modified ▾

Name ↑

 2012_HR_Hydrodynamic_Modeling_Final_Comprehensive_Report.pdf 
 2013_HR_Final_Dike_Control Structure_Hydrodynamic_Modeling.pdf 
 2016_Mill_Creek_GW_Modeling_for_Selected_Restoration_Cases.pdf 
 2016_Review_of_Prior_Mill_Creek_Sub-Basin_GW_Assessments.pdf 
 2018_Additional_Modeling_of_Upper_Pole_Dike_Creek_and_Mill_Creek.pdf 
 2018_HR_Ecological_Modeling_Using_SLAMM_To_Project_Habitat_Change.pdf 
 2019_A_Decision_Framework_to_Analyze_Tide-Gate_Options_for_Restoration_of_the_Herring_
 2020_Mill_Creek_Comp_Assessment_of_Existing_Conditions.pdf 





Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Minimum Required Documents (310 CMR 10.12)

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Attached to Narrative

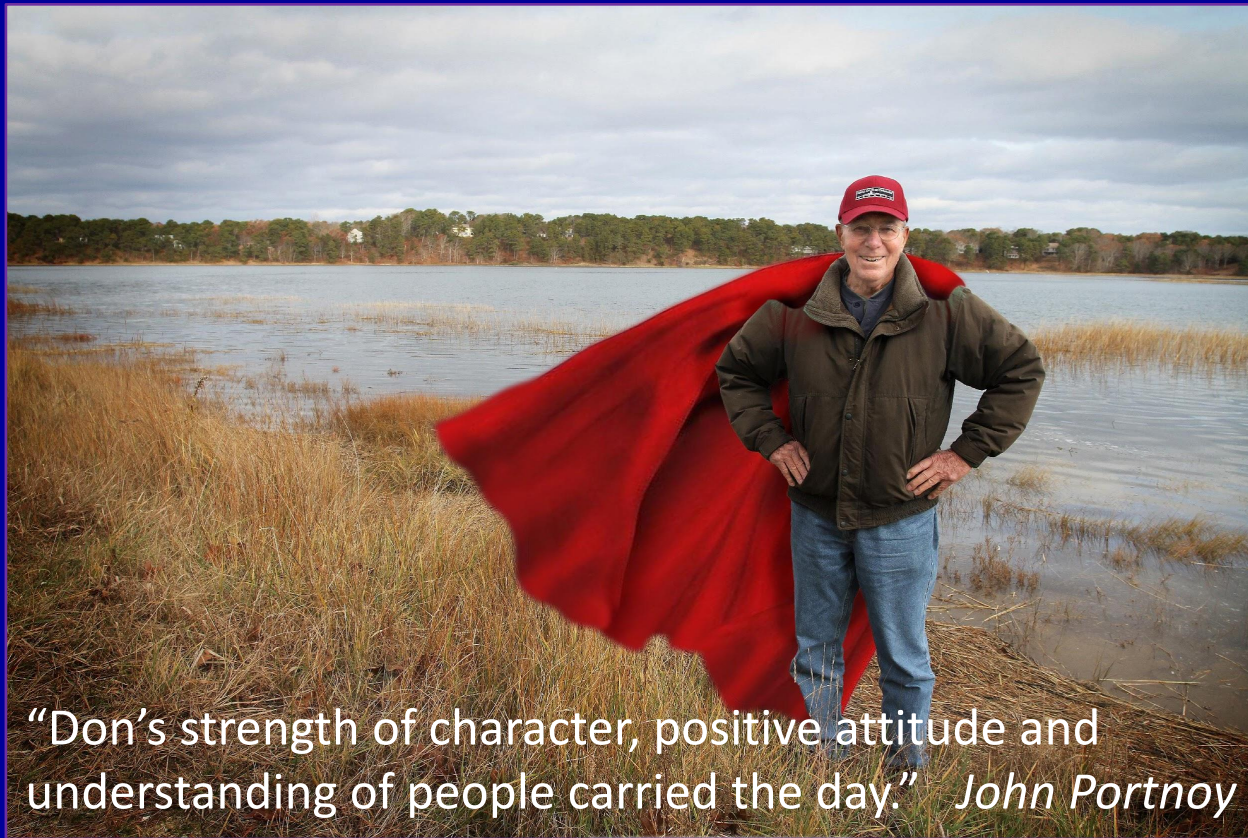
N/A - not seeking
a Restoration OOC

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a Restoration OOC

criteria set forth in 310 CMR 10.13;

- Appendix H** If the Ecological Restoration Project involves the construction, repair, replacement or expansion of infrastructure, an operation and maintenance plan to ensure that the infrastructure will continue to function as designed;
- Appendix F** If the project involves dredging of 100 cubic yards or more or dredging of any amount in an Outstanding Resource Water, a Water Quality Certification issued by the Department pursuant to 314 CMR 9.00;
- Appendix A** If the Ecological Restoration Project involves work on a stream crossing, information sufficient to make the showing required by 310 CMR 10.24(10) for work in a coastal resource area and 310 CMR 10.53(8) for work in an inland resource area; and
- Appendix G** If the Ecological Restoration Project involves work on a stream crossing, baseline photo-points that capture longitudinal views of the crossing inlet, the crossing outlet and the upstream and downstream channel beds during low flow conditions. The latitude and longitude coordinates of the photo-points shall be included in the baseline data.
- Appendix I** This project is subject to provisions of the MassDEP Stormwater Management Standards. A copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) is attached.
- Appendix K** Provide information as to whether the project has the potential to impact private water supply wells including agricultural or aquacultural wells or surface water withdrawal points.



“Don’s strength of character, positive attitude and understanding of people carried the day.” *John Portnoy*

Thank You – Questions?

Photos, graphics and slides provided by by Tim Smith (Cape Cod National Seashore), Wes Stinson (Environmental Partners), Eben Portnoy (Solano Film Collective), Erika Pfammanter (Friends of Herring River), Laurie Warner (Wellfleet resident), Fuss & O’Neill, Woods Hole Group, Wellfleet Historical Society, MassDEP, and FHR/Project archives.