Building Partnerships for Restoration:
Partners to Restore New Hampshire's Estuaries

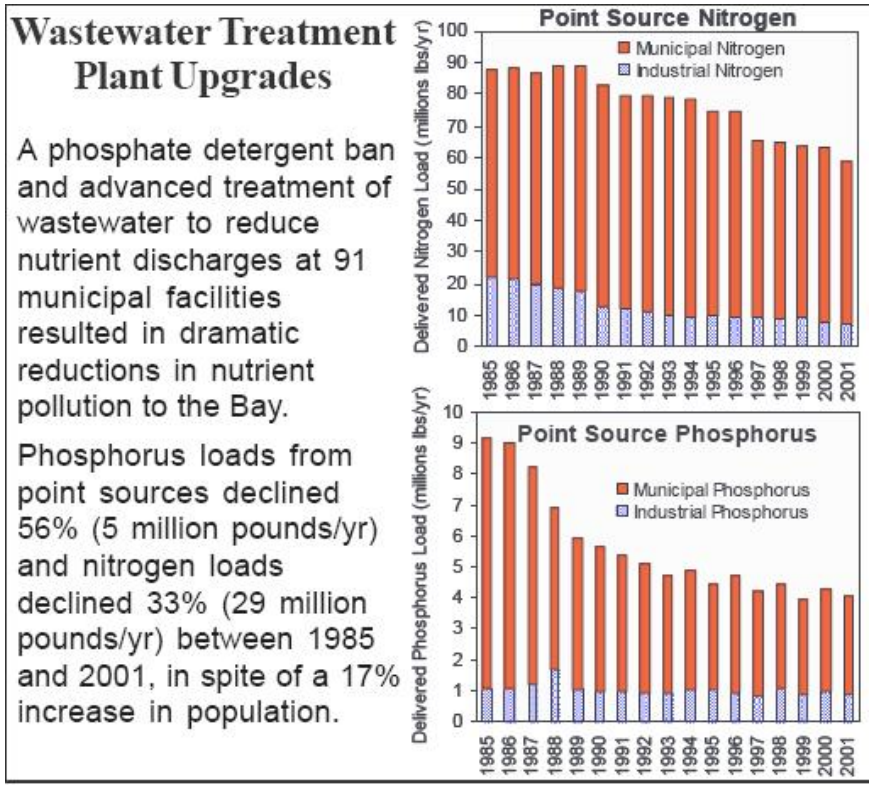
Ray Konisky
The Nature Conservancy
New Hampshire Chapter

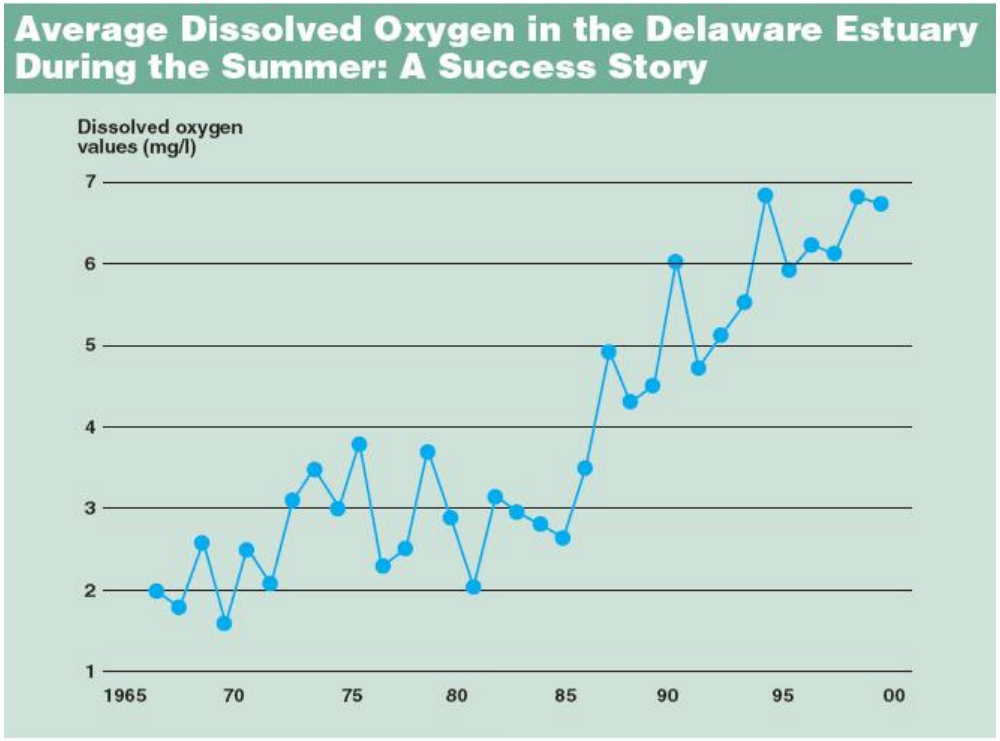
The Nature Conservancy
SAVING THE LAST GREAT PLACES ON EARTH

National Restoration Partnerships

Site	Watershed (sq mi)	Est	Spent/ Source	Governance/ Focus
Columbia River (WA)	640,000	1980	$3.5b Power	Governors appointees Water/Salmon
Chesapeake Bay	64,000	1987	$4b Fed/St	Special EPA Office Estuary/Fish/Oysters
Florida Everglades	18,000	1983	$10b Fed	Fed/State task force Water/Grasslands
Delaware Bay	13,500	1965	$1b Fed/St	Gov appointees ACOE Water/Fish
San Francisco	1,200 (Delta/Bay)	1995	$1b Fed/St	CALFED (State/Fed) Water/Habitat

Do partnerships work?



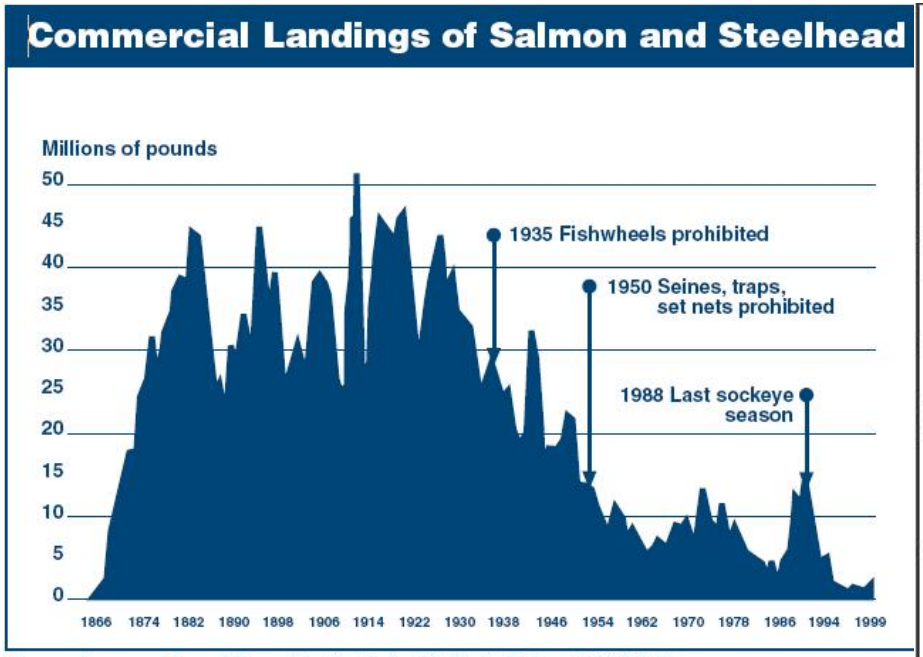


Source: Santoro, E.D., Delaware Estuary Monitoring Report, DRBC (July 2000)

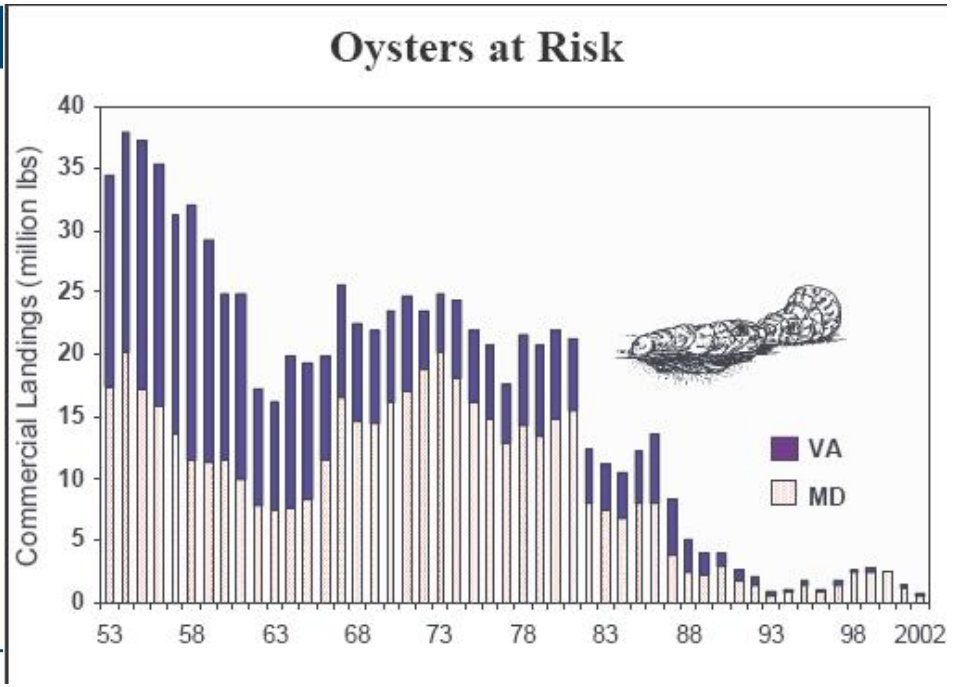
Chesapeake Bay Nutrients

Delaware Estuary

Do partnerships work?



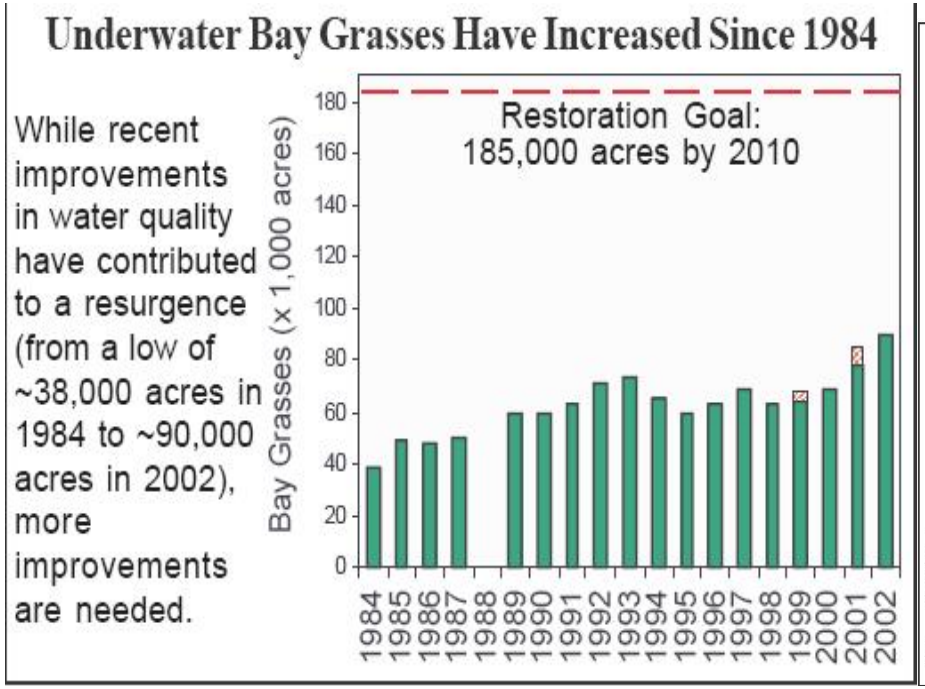
Source: Inaugural Annual Report for the Columbia Basin Fish and Wildlife Program, Northwest Power Planning Council, 2001–2

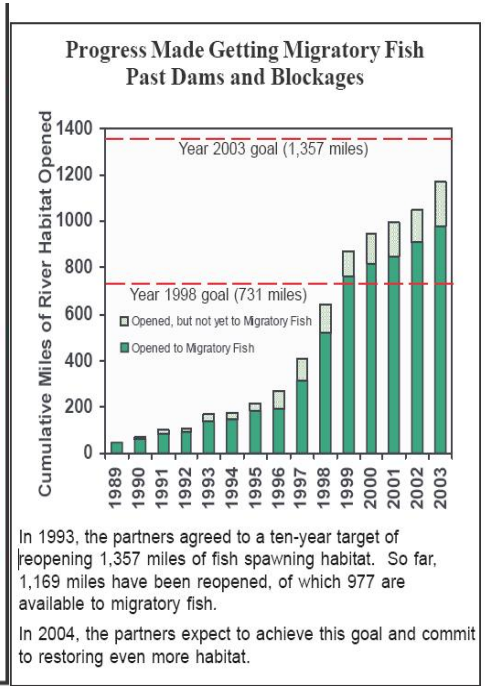


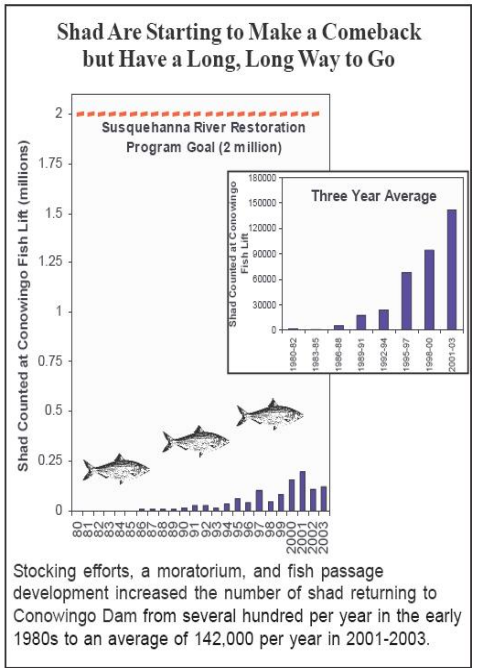
Columbia River Salmon

Chesapeake Bay Oysters

Do partnerships work?







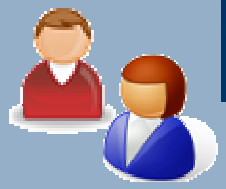
Chesapeake Bay Eelgrass, Fish Habitat, Shad

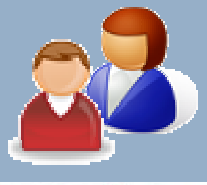
Common Vision for New Hampshire

We believe that a new approach to estuarine and diadromous fish habitat restoration is needed; one that is more collaborative and coordinated, more ambitious, larger scale, longer-term, and ecosystem-based.

"Our vision is to promote cooperative restoration and conservation activities in New Hampshire's coastal watersheds to improve the health, productivity, and resiliency of our estuaries".

Partners to Restore NH's Estuaries



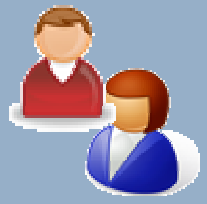


GREAT BAY NATIONAL ESTUARINE RESEARCH RESERVE

New Hampshire Department of Environmental Services

NRCS Natural Resources Conservation Service

NewHampshire EstuariesProject



The Nature Conservancy
SAVING THE LAST GREAT PLACES ON EARTH

Starting Point: Restoration "Compendiums"

Great Bay Restoration Compendium

The Nature Conservancy · New Hampshire Estuaries Project · NHCP · University of New Hampshire

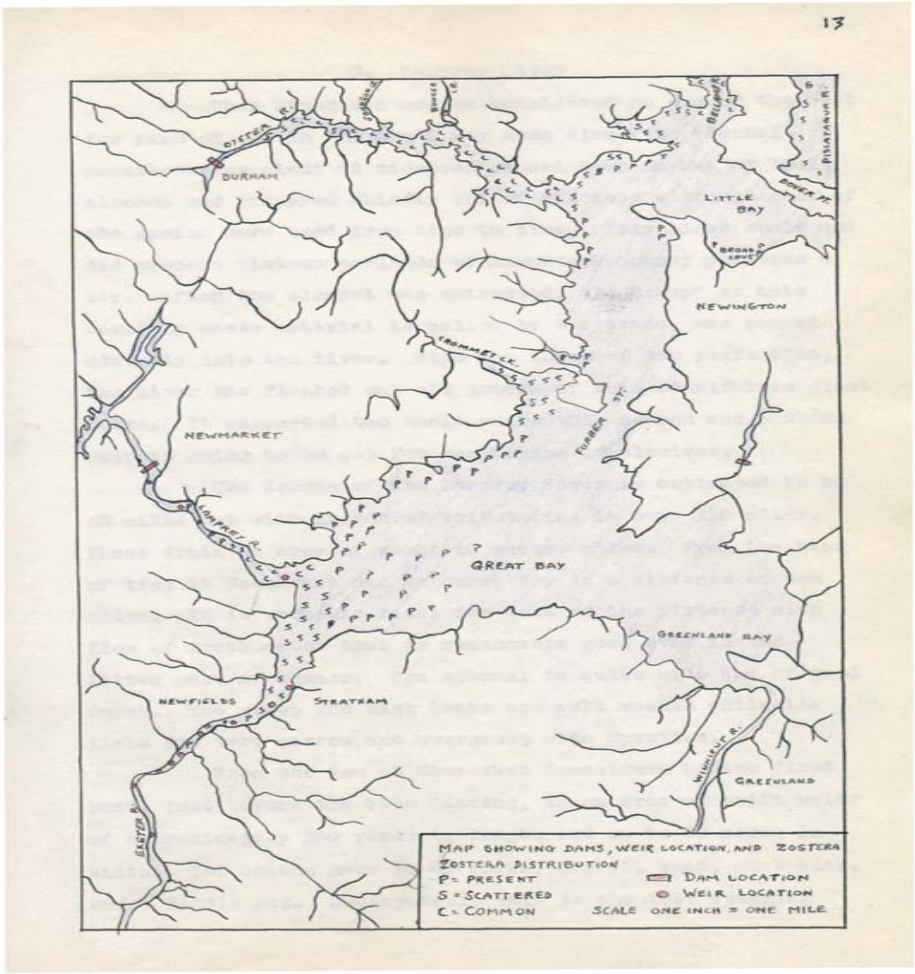
July, 2006

Hampton-Seabrook Estuary Restoration Compendium

Alyson L. Eberhardt and David M. Burdick
University of New Hampshire

NewHampshire EstuariesProject · University of New Hampshire · NHCP · NOAA

Restoration Planning & Assessment



Krochmal 1949 (34 bfs)

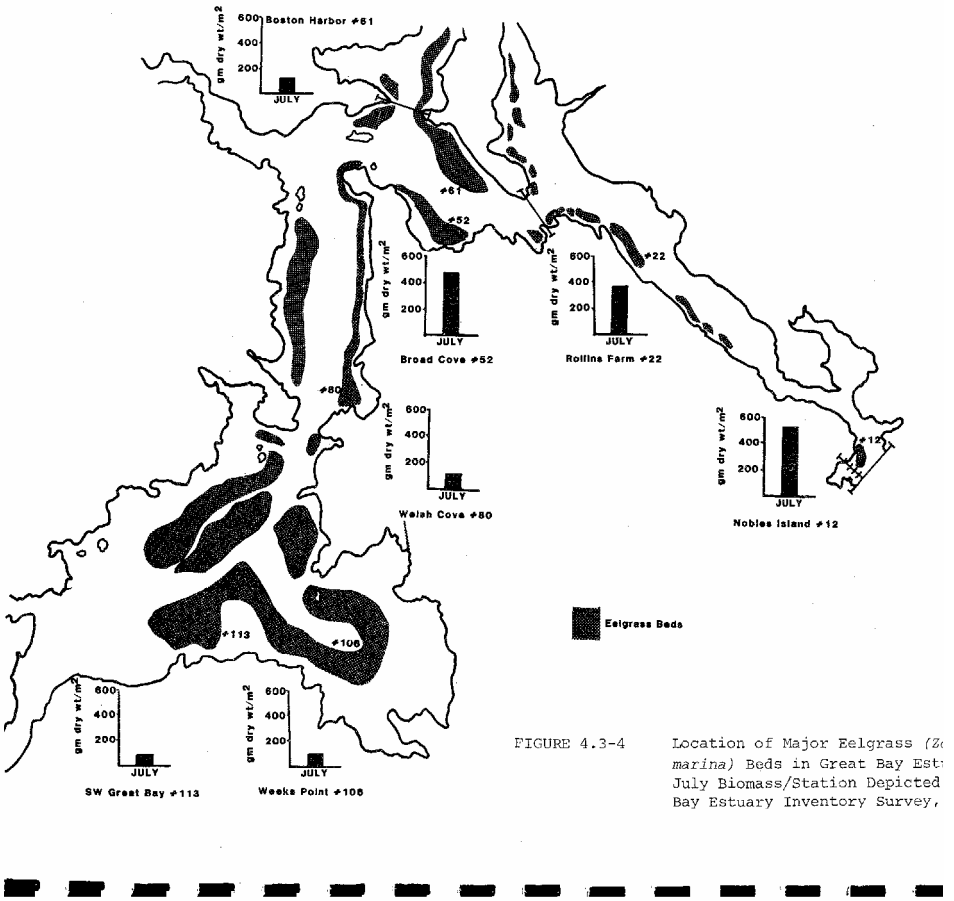
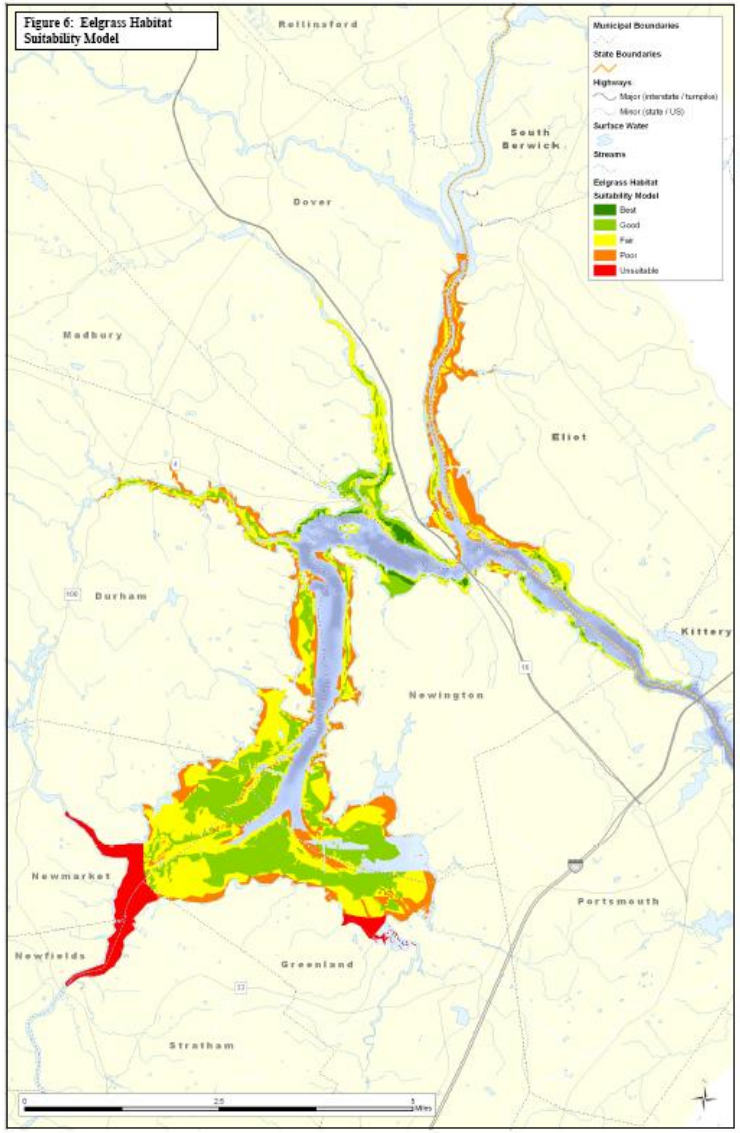
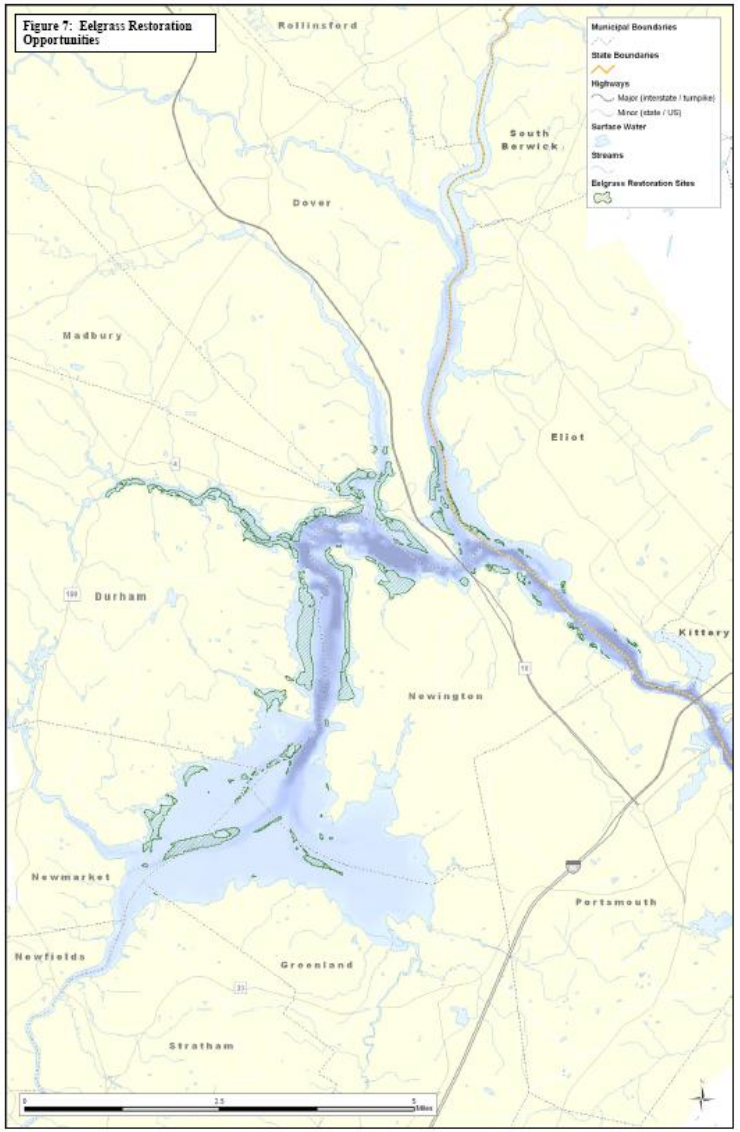


FIGURE 4.3-4 Location of Major Eelgrass (*Zostera marina*) Beds in Great Bay Estuary and July Biomass/Station Depicted in Great Bay Estuary Inventory Survey,

Nelson 1981 (2 bfs)

Restoration Planning & Assessment





Habitat Loss in Great Bay Estuary

Site Data Repository

restoreNH

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Actions

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Navigation

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- Fresh Creek
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- Hampton Harbor South
- Lamprey Mainstem
- Lower Bellamy
- Lower Cocheco
- Lower Piscataqua
- Lubberland Creek
- North & South Mill Ponds
- Oyster Mainstem
- Packer Brook
- Peverley Stubbs
- Pickering Brook
- Squamscott Mainstem
- Upper Piscataqua
- Varney Brook
- Winnicut Mainstem

edit navigation

Welcome to the wiki site for the *Partnership to Restore New Hampshire's Estuaries!*

This purpose of this site is to serve as an online electronic workspace for the Partnership. "Wiki" sites differ from conventional websites in that that the site's conter be edited, saved, and tracked by any member with access privileges. Any participating member of the Partnership is invited to access the site, and is enabled to e add content. This site will provide a way for members to share their collective knowledge about NH's estuaries, and for all of us to utilize the most recent drafts of working documents. To edit any page, simply click the "edit" button at the top, make your edits, then hit the "save" button at the top. Edits are tracked (by usernam changes are made to the site's content, so that it is easy to follow-up with the right person with questions or clarifications regarding contributed content. For online tutorials on using the site, visit: http://www.wikispaces.com/site/tour. Notice that you can leave messages on the site by clicking the "discussion" tab above, and ca which changes were made by whom by clicking on the "history" tab above. If you have any questions about this page, please contact Derek Sowers, NHEP: 603-86 derek.sowers@unh.edu.

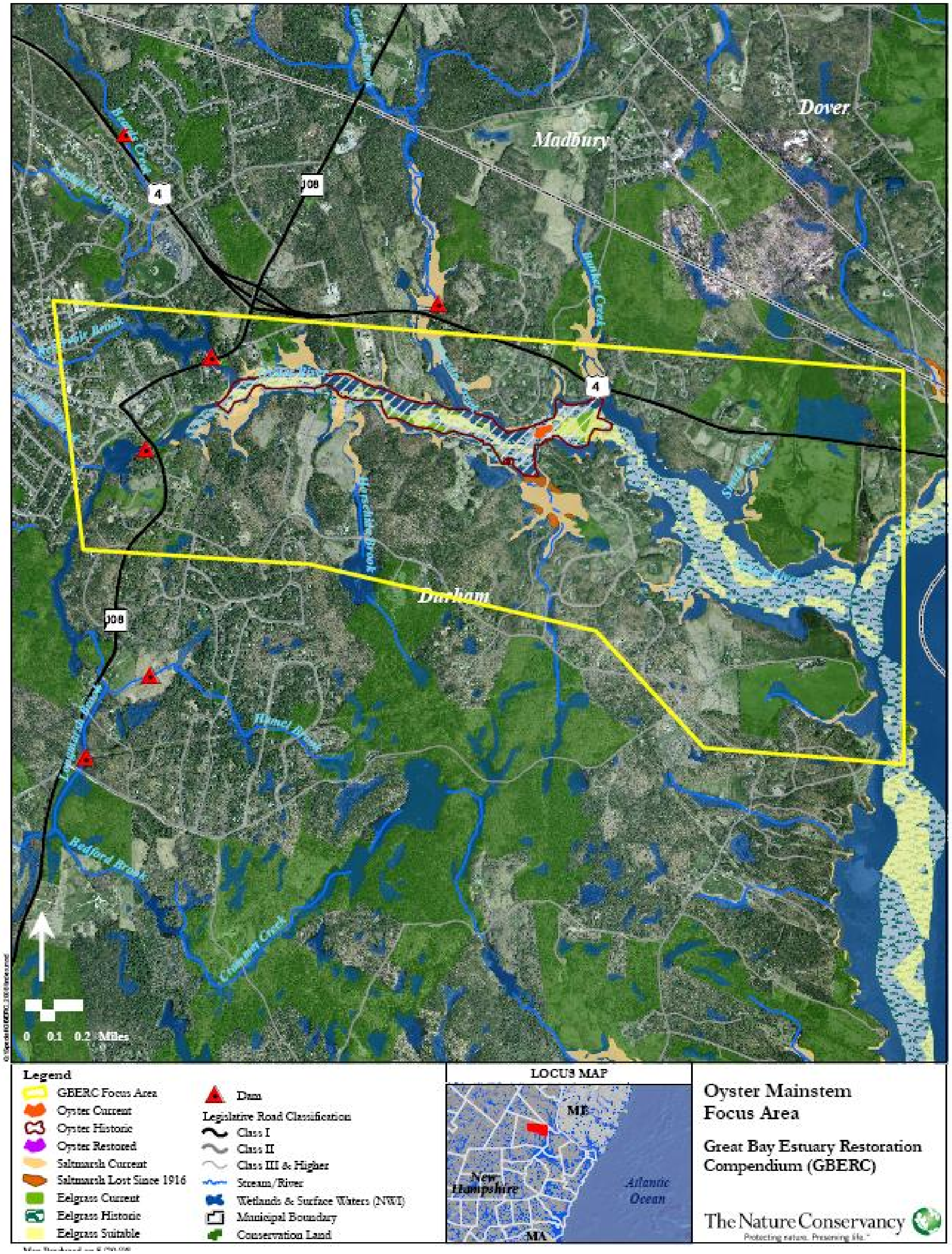
PLEASE CONTRIBUTE YOUR KNOWLEDGE ABOUT POTENTIAL RESTORATION SITES IN THE PAGES BELOW.

Restoration Pilot Project - Potential Restoration Focus Areas

The list below links to maps and site profile tables for each proposed restoration project consideration area. Simply double click on a site name you wish to view a edit.

1. Fresh Creek
2. Lower Cocheco
3. Varney Brook
4. Lower Bellamy
5. Bunker/Johnson Creek
6. Oyster Mainstem
7. Crommet Creek
8. Lubberland Creek
9. Lamprey Mainstem
10. Squamscott/Exeter Mainstem
11. Winnicut Mainstem
12. Packer Brook
13. Pickering Brook
14. Peverley/Stubbs
15. Upper Piscataqua
16. Lower Piscataqua
17. North/South Mill Ponds
18. Berry's Brook

Maps



Dover
Madbury
Durham
Bunker Creek
Hamel Brook
Bedford Brook
4
108
0 0.1 0.2 Miles
Legend
GBERC Focus Area
Oyster Current
Oyster Historic
Oyster Restored
Saltmarsh Current
Saltmarsh Lost Since 1916
Eelgrass Current
Eelgrass Historic
Eelgrass Suitable
Dam
Legislative Road Classification
Class I
Class II
Class III & Higher
Stream/River
Wetlands & Surface Waters (NWI)
Municipal Boundary
Conservation Land
LOCUS MAP
ME
New Hampshire
MA
Atlantic Ocean
Oyster Mainstem Focus Area
Great Bay Estuary Restoration Compendium (GBERC)
The Nature Conservancy
Protecting nature. Preserving life.

Data

Potential Restoration Actions

- Oyster reef restoration (yes or no): no
- Eelgrass planting(yes or no): no
- Address fish passage barrier at dam(s) (yes or no): no
- Address fish passage barrier at culvert(s) (yes or no): YES
- Salt marsh restoration (yes or no): YES
- Restore/improve tidal hydrology (yes or no): YES
- Shoreland buffer enhancement (yes or no): no (do we need more information? Could there be buffer restoarion opportunities in the upper watershed?)
- Invasive plant control (yes or no):
- Stormwater abatement (yes or no): possibly; more information regarding watershed conditions will be needed.
- Other: Evaluate dissolved oxygen levels upstream of the Gulf Road culvert

Description of potential restoration actions:

Lower or replace existing perched culverts to restore fish passage and/or salt marsh upstream of blockage at Gulf Road
Determine if dissolved oxygen levels upstream of the Gulf Road blockage will be sufficeint to support aquatic life once the culvert is removed (if not, determine if best management practices will need to be implemented in the watershed).

Monitoring/assessment data available:

NH Coastal Program Watershed and Water Quality Assessment (Univ of New Hampshire JEL) - Draft 2007; Cocheco River Watershed Coalition (CRWC) conducts water quality monitoring (chemical & biological) at several stations in the Fresh Creek watershed see linked report for 2007:
http://www.des.state.nh.us/wmb/vrap/documents/Cocheco/data_report_lower2007.pdf CRWC will conduct monitoring in 2008 as well.

Is site specifically identified as a restoration or protection priority by conservation plans or partner organizations?

NH Coastal Program has provided funds for 2008 habitat restoration assessment

List any past or current restoration projects within the profile site area:

NHDES 303(d) listed waterbody (y/n)? Yes. (Fresh Creek is listed for mercury: http://oaspub.epa.gov/tmdl/huc_rept.control?p_huc=01060003&p_huc_desc=PISCATAQUA-SALMON%20FALLS&p_cycle=2006 scroll down through the list to review the Fresh Creek assessment units)

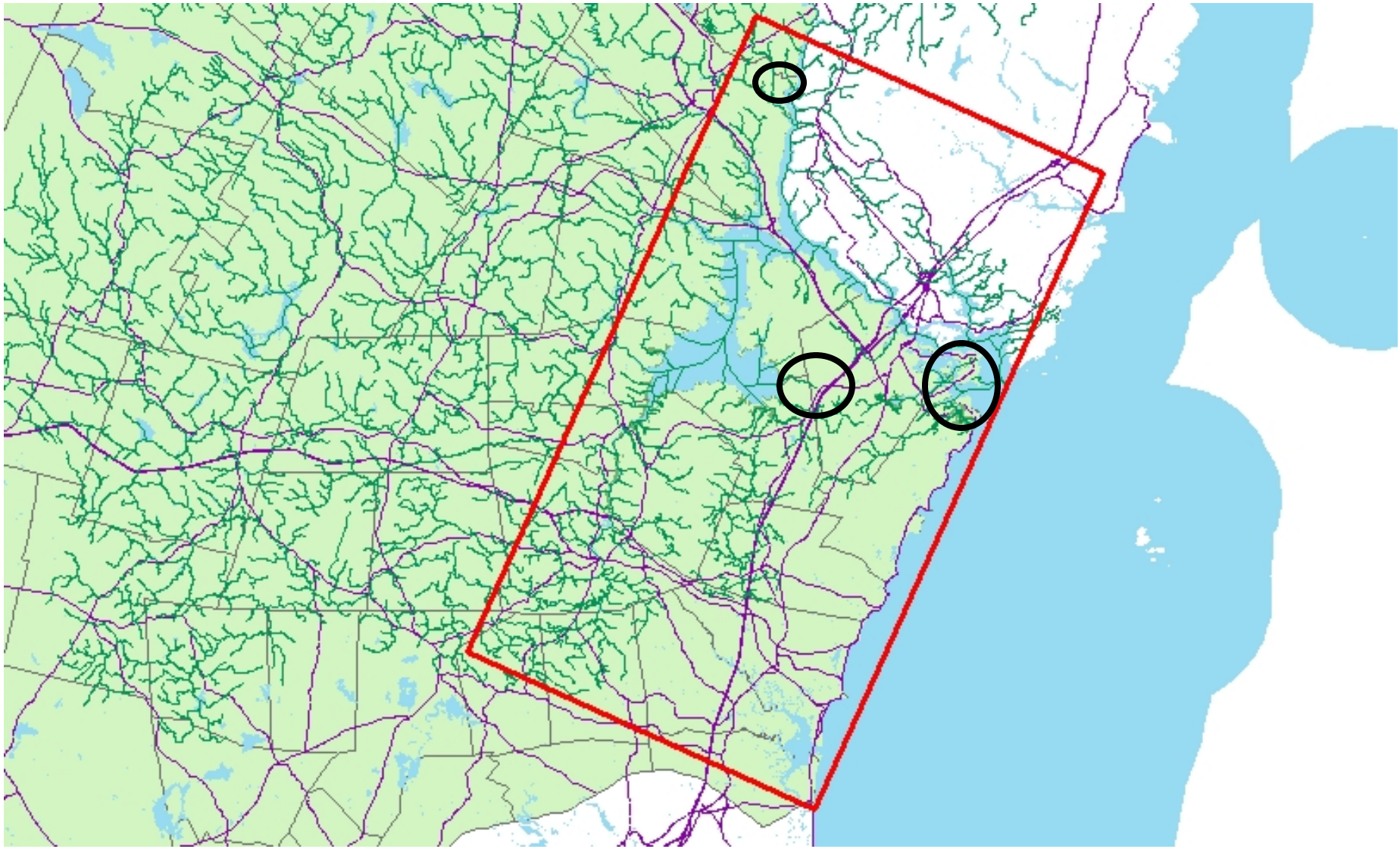
If yes, list cause of impairments: mercury

Restoration Needs: Replace existing box culvert with new structure that allows full tidal ex
adult fish.

4. **Saltmarsh**

   Restoration Target Summary: [UNK ac historic, 23 ac current, 0 ac restored]
   Limiting Factors: Tidal exchange artificially blocked at Gulf Road box culvert.
   Restoration Needs: Restore full tidal flow to portion of Fresh Creek above Gulf Road to res

LiDAR in NH Seacoast



Partners to Restore NH Estuaries

- Information Exchange
- Interagency Coordination
- Priority Identification
- Fundraising
- Public/Private Outreach

Partners to Restore NH Estuaries