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Managing the Great Marsh ACEC - Next Steps? Options for Developing a Resource Management Plan

December 21, 2011

Prepared for:
The Great Marsh ACEC Assembly
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Managing the Great Marsh ACEC – Next Steps?
Options for Developing a Cooperative Resource Management Strategy

Prepared for the Great Marsh ACEC Assembly

1. BACKGROUND

The Great Marsh ACEC Assembly was convened in the spring of 2011 to discuss the potential for developing a cooperative resource management strategy (CRMS) to assist the municipalities that are a part of the Area of Critical Environmental Concern (ACEC) to effectively address short- and long-term objectives, issues and concerns for and about the Great Marsh ACEC. The Great Marsh ACEC includes the areas of Newbury, Rowley, Ipswich, Essex and Gloucester. This effort was spearheaded by the Town of Ipswich, through the Planning Department and members of the Conservation Commission, who reached out via written invitation to key municipal officials and volunteers in the five Great Marsh ACEC communities, as well as representatives of local conservation and environmental groups, to participate in the Assembly. The Town of Ipswich contracted with Horsley Witten Group, Inc. (HW) to facilitate the discussion process, gather information, provide technical support, and write interim and final reports over a four month period from late summer through fall of 2011. This work has been funded by a grant from the Massachusetts Bays Program, administered by the MA Office of Coastal Zone Management, to the town of Ipswich with matching in-kind funds provided by the Town. During this process, the following meetings and communications took place:

- A kick-off meeting with the Town of Ipswich primary contacts;
- Two Assembly discussion sessions in Essex and Rowley (September 12 and 15, 2011) to identify and distill the characteristics of the Great Marsh ACEC and management issues that are of concern;
- Two Steering Committee meetings (October 5 and 19, 2011, in Ipswich) to discuss the mission statement, the issue of concern, and the scope (geographic, temporal, and technical) of a potential management planning effort;
- A Great Marsh ACEC Assembly meeting (December 5, 2011, in Ipswich); and
- Various correspondences and feedback from the Assembly members via email.

A list of the Assembly members is provided in Appendix A to this document. This list includes people who attended the first Assembly meeting on May 24, 2011 or the second Assembly meeting on December 5, 2011, and others who expressed interest in participating and remaining on the distribution list of the Assembly. The Steering Committee was identified during the first Assembly meeting. These eleven (11) Steering Committee members are also identified in Appendix A.

2. PURPOSE

The purpose of the Great Marsh ACEC Assembly, at this initial stage, is to determine whether or not to work together to develop a five-community CRMS or Resource Management Plan (RMP) for the ACEC. While this decision is stated succinctly here, it is more complex in practice. In reality, the range of options for the Assembly spans between doing nothing and developing a detailed, comprehensive RMP with the support and buy-in of all five communities. This "Options Paper" aims to briefly describe the range of options for consideration by the Assembly.

3. DISCUSSION OF MANAGEMENT OPTIONS - HOW TO MOVE FORWARD

A fundamental initial question that must be raised in this discussion is whether there is interest by the five municipalities (Gloucester, Essex, Ipswich, Rowley and Newbury) in participating in the development of a CRMS. In order to help answer that question, a model outline and preliminary draft text for an RMP, following the format generally recommended by the MA ACEC Program, was provided to the Assembly as something to react to as part of this discussion, and to familiarize them with the content of a typical RMP. This document was meant to be provocative in order to provide decision-makers with something to react to as part of this discussion; in other words, it was designed to jump-start the decision-making process so that the Assembly could reach a consensus sooner rather than later.

It should be clear that no matter which option is ultimately selected and pursued, no municipality would cede any of its authority or be required by law to take any actions as a direct result of the CRMS. The CRMS itself would hold no regulatory power within the community or the ACEC itself. Neither the adoption of regulations nor the establishment of mandates is contemplated, with one possible exception pertaining to the state's Chapter 91 regulation of new docks and piers within the ACEC, an issue that will be fully vetted during the CRMS process. [The communities may choose to have the CRMS formally approved by the Secretary of Energy and Environmental Affairs in order to garner relief from the Chapter 91 prohibition on new privately owned structures (i.e., docks) for water-dependent use within an ACEC. However, the standards and permitted locations or environments for such structures would be included in the CRMS and would be developed by consensus among the communities, or not at all.] No state or federal agency would acquire any new or expanded authority or jurisdiction. To the contrary, the municipalities and the state agencies would be informed and guided in their own actions by the adopted strategy or plan. However, by participating in this CRMS process, each municipality is acknowledging the inherent value in the Great Marsh ACEC and is pledging to work toward protecting the services and values that it provides to each of the communities.

4. CONSENSUS REACHED ON THESE ISSUES

In initial discussions with the Great Marsh ACEC Assembly Steering Committee, a general consensus was reached on several key issues related to a potential CRMS or RMP. Consensus was confirmed on these issues at the December 5, 2011 meeting of the Great Marsh ACEC Assembly. These are:

- The planning horizon should be 30-50 years, and the plan should include both short-term (5 year) and long-term (30-50 year) management strategies, depending on the issue.

- This planning effort should be a joint effort among the five municipalities to address resource management issues in the Great Marsh ACEC.

- It would be most prudent and effective to focus the planning on the ACEC itself (and the immediately adjacent lands), without broadening the management efforts to the surrounding area and contributing watershed. However, there may be some cases where the plan should acknowledge that activities and land uses that take place outside the ACEC can impact resources inside the ACEC.

- There are numerous other related research and conservation efforts being undertaken by other organizations throughout the Great Marsh system (for example, the PIE-R^2 Project, the Great Marsh Coalition efforts, Marine Biological Laboratories research, prior baseline and resource management documents prepared by MA Office of Coastal Zone Management, Mass Audubon's Rough Meadows Sanctuary establishment, and more). It is not the Assembly's intention to

duplicate efforts, but rather to draw upon and incorporate by reference these other efforts within a future CRMS.

5. DRAFT MISSION STATEMENT

The following draft mission statement for the future Great Marsh ACEC planning efforts was developed by HW with feedback and discussion from the Assembly Steering Committee and the Assembly as a whole:

> "To manage current and future threats to the Great Marsh to preserve[1] and restore the unique coastal ecosystem so that it may continue to provide an invaluable source of recreation, economic benefit, habitat, clean water, and protection from natural storm events."

6. RANGE OF GREAT MARSH ACEC "MANAGEMENT OPTIONS"

Following is a list of Management Options for consideration for the Great Marsh ACEC. Option #1 is the Preferred Option of the Great Marsh ACEC Assembly, as discussed on December 5, 2011, and as previously discussed by the Steering Committee on October 19.

1. PREFERRED OPTION: Adopt a Vision/Mission Statement and develop a formal CRMS or RMP as described by the ACEC Program. The exact combination of issues to be addressed, as well as the management strategies, responsible parties and timeframes, will be defined by the Assembly. This would be presented for adoption by each of the five municipalities and submitted for approval by the Secretary of Energy and Environmental Affairs[2] following review by the MA ACEC Program, MA CZM and MA DEP. Implementation would take place on a town by town basis, but success of a given management strategy may be dependent upon inter-municipal cooperation and consistency.

2. Adopt a Vision/Mission Statement and develop an informal comprehensive resource management strategy (not formally adopted) for the entire ACEC for use in future planning efforts. Each municipality could use this to determine the appropriate actions and mechanisms within their own community.

3. Adopt a Vision/Mission Statement and develop a cooperative management strategy for the entire ACEC that addresses a single issue or a small set of key issues. The management strategies could be very detailed for the entire ACEC, or left to the discretion of each municipality to determine the appropriate actions and mechanisms within their own community.

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[1] The Assembly discussed the use of the word 'conserve' versus 'preserve'. However, according to Webster's College Dictionary, these can be synonyms and the meanings are only very subtly different from one another. Therefore, the word preserve, as originally presented to the Assembly, has been used here.

[2] Note that an RMP must be approved by the Secretary of Energy and Environmental Affairs if relief from the Chapter 91 prohibition on new privately owned structures (i.e., docks) for water-dependent use within an ACEC is requested. Only Option 1 meets this requirement.

4. Adopt a Vision/Mission Statement and then develop individual resource management strategies on a town-by-town basis, focused on issues of concern to each community. The level of detail and implementation mechanism would be left to the discretion of each individual municipality.

5. Do nothing further as an Assembly at this time.

Option 1 is clearly the most comprehensive option. The Great Marsh ACEC Assembly agreed to "aim high" and work toward the goal of meeting Option 1, with the understanding that once the process moves forward, there may be reason to adjust the goals. For example, the communities may decide in the future that they do not want or need approval of the planning document by the Secretary of Energy and Environmental Affairs.

7. CONCLUSION AND NEXT STEPS

The Great Marsh ACEC Assembly agreed at the December 5, 2011 meeting to move forward toward developing a CRMS in accordance with Option 1 above. In order to do this, there are several key actions that must take place. In general, the Assembly members must seek support for this effort from the decision-makers within their own respective communities. This process will involve informing the decision-makers within an on-going broad public dialogue about Great Marsh values, issues, threats and concerns than has been possible to date. This dialogue would then be extended to include management issues and potential strategies facing the Great Marsh ACEC so that collective support and consensus can be built around the CRMS effort and ultimately around the CRMS itself. The Assembly must also begin to identify funding sources to support this CRMS development effort, and then pursue that funding. At this time, there is no municipal funding associated with the state's ACEC Program. In short, the following list identifies the key 'next steps' that need to take place (although we note that these steps do not necessarily need to occur in the order presented):

- Develop a CRMS committee;
- Develop a public dialogue;
- Identify the key management issues to be addressed in the CRMS;
- Develop small task forces to document existing conditions and recommend management strategies for each management issue;
- Gather support from local decision-makers to pursue a CRMS; and
- Prepare a CRMS and submit it for approval and local adoption.

The work completed to date in 2011 is just the beginning of an important process which, in order to be successful, must be fostered at the local level and representative of local interest, concerns and aspirations for the Great Marsh ACEC.

APPENDIX A

APPENDIX A
Great Marsh ACEC Assembly Members

Great Marsh ACEC Assembly Steering Committee

Name	Affiliation
Brent Baeslack	Rowley Conservation Agent
Glenn Gibbs	Ipswich Planning Director
Kathryn Glenn	MA Office of coastal Zone Management
Karl Kastorf	Ipswich Conservation Commissioner
Kerry Mackin	Ipswich River Watershed Association
Lisa O'Donnell	Essex Selectman
Peter Phippen	8 Towns and the Bay, Merrimack Valley Planning Commission
Lisa Press	Gloucester Conservation Agent
David Standley	Ipswich Conservation Commission Chair
Jack VanLoan	Parker River Clean Water Association
Geoff Walker	Newbury Selectman

Great Marsh ACEC Assembly and Interest Group

Name	Affiliation
Ed Becker	Essex County Greenbelt Association
Tracy Blais	Newbury Town Administrator
Bob Brophy	Essex Conservation Commission
Wallace Bruce	Essex Conservation Commission Chair
Robert Buchsbaum	MassAudubon
Gregg Cademartori	Gloucester Planning Director
Catherine Carney-Feldman	Ipswich Conservation Commission
Donald Cheney	Ipswich Bay Yacht Club
Chris Cullinan	Ipswich Bay Yacht Club
Brian Degasperis	The Trustees of Reservations
Kim Drake	Essex Planning Board
Debbie Eagan	Rowley Town Administrator
Ann-Margaret Ferrante	State Representative
Sarah Garcia	Gloucester Community Development Director
Kristen Grubbs	Ipswich Open Space Program Manager
Robert Gulla	Gloucester Conservation Commission Chair
Jim Hankin	Essex Conservation Agent
Annie Harris	Essex National Heritage Area
Brad Hill	State Representative
Brian Hone	Ipswich Planning Board
Russell Hopping	The Trustees of Reservations
Brian Kelder	Ipswich River Watershed Association
Carolyn Kirk	Gloucester Mayor
Jim MacDougall	Ipswich River Watershed Association
Bob Markel	Ipswich Town Manager
Bill McDavitt	Ipswich Conservation Commission
Richard Noonan	Gloucester Planning Board Chair

Name	Affiliation
David Pancoast	Ipswich Conservation Agent
Kathleen Pearson	Newbury Planning Board
Cliff Pierce	Rowley Planning Board
Trish Reydel	Ipswich Resident
Dave Sargent	Gloucester Shellfish Constable
Marlene Schroeder	Parker River Clean Water Association
Robert Snow	Rowley Selectman
Elizabeth Sorenson	MA State ACEC Program
Harriett Stanley	State Representative
Brendan Stokes	Newbury Harbor Master
Charlie Surpitski	Ipswich Selectman
Bruce Tarr	State Senator
Graham Taylor	Parker River National Wildlife Refuge Manager
Martha Taylor	Newbury Planner
Susan Testaverde	State Senator Bruce Tarr's Office
Greg Verga	Gloucester City Councilor
Doug Watson	Rowley Conservation Commissioner
Mary Williamson	Essex National Heritage Area
Brendhan Zubricki	Essex Town Administrator

APPENDIX B

APPENDIX B - Great Marsh ACEC
Internet Information Resource List

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I. CONSERVATION, PLANNING, AND RECREATION ORGANIZATIONS

The Bay Circuit Alliance (BCA)
www.baycircuit.org

- Trail map, www.baycircuit.org/images/nobox.pdf

Ducks Unlimited
www.ducks.org

- Massachusetts Conservation Projects
  www.ducks.org/massachusetts/massachusetts-projects/massachusetts-projects-home

Eight Towns and the Bay
www.8tb.org

- Tidal Crossing Inventory and Assessment, www.8tb.org/projects/tidal.htm
- Stormwater Problem Site Characterization, www.8tb.org/projects/swprioritization.htm
- Upper Great Marsh Phragmites Evaluation and Management Plan
  ase.tufts.edu/uep/Degrees/field_project_reports/2005/5-evaluation_and_management_in_the_upper_great_marsh.pdf

Essex County Greenbelt Association
www.ecga.org/

Friends of Parker River Refuge
www.parkerriver.org/

Great Mash Coalition
www.massaudubon.org/GreatMarsh/Great_Marsh_Web_Site/Coalition.htm

- Map of Restoration Sites
  www.mass.gov/dfwele/der/wrp/gmplan/gmap.htm
- Bibliography of Publications on the Natural History of the Great Marsh
  www.massaudubon.org/GreatMarsh/Great_Marsh_Web_Site/biblio.htm

Ipswich River Watershed Association (IRWA)
ipswichriver.org

- 2003 Watershed Action Plan
  ipswich-river.org/wp-content/uploads/2010/03/wap_ipswich_2003.pdf

MassAudubon
www.massaudubon.org/GreatMarsh/Great_Marsh_Web_Site/index.htm

- Great Marsh Important Bird Areas (IBA)
  www.massaudubon.org/Birds_and_Birding/IBAs/site_summary.php?getsite=59
- Great Marsh Conservation Initiative – an effort to conserve additional undeveloped lands to connect conservation lands in eth Great Marsh system. This is currently focused on purchasing 85 acres in Rowley to establish the Rough Meadows Wildlife Sanctuary, and the town of Rowley voted in Jun 2011 Town Meeting to allocated $250,000 from the Community Preservation Fund toward this effort. Land Acquisition Map:
  www.massaudubon.org/Images/landprotection/GreatMarsh_tobeprotected.jpg

North Shore Greenscapes Coalition
www.greenscapes.org/

Parker-Ipswich-Essex Rivers Restoration Partnership (PIEr2)
web.me.com/jm3/PIEr2/PIEr2_Home.html
IRWA recently convened a working group of North Shore conservation organizations to form a partnership to restore the Ipswich, Parker and Essex Rivers and the Great Marsh. The main priorities of the partnership are ecological protection and sustainable resource management, addressing the following broad issue areas: water, nature, land protection, water-wise communities, and adapting to climate change.

Parker River Clean Water Association
www.businessevision.info/parker_river/

- The Parker River Watershed: An Assessment of Recent Trends in Salt Marshes, Their Buffers, and River-Stream Buffer Zones (1985-1999)
  www.businessevision.info/parker_river/PRSaltMarsh.pdf
- 2002 PARKER RIVER WATERSHED Year 3 Watershed Assessment Report
  www.businessevision.info/parker_river/Parker_Assessment_2001.pdf
- Parker River Watershed Year 5 Watershed Action Plan (2006 – 2010)
  www.businessevision.info/parker_river/parkerriveWAP.pdf
- 2001 Parker River Low Flow Study
  www.businessevision.info/parker_river/ParkerRiverLowStudyFinalReport.pdf
- 2008 Water Balance, Well Pumping, and Streamflow Analysis of the Upper Parker River (Horsley Witten Group), www.businessevision.info/parker_river/parker_eco_safe_yield.pdf
- Tidal Crossing Handbook: A Volunteer Guide to Assessing Tidal Restrictions
  www.businessevision.info/parker_river/TCHandbook.html

The Trustees of Reservations
www.thetrustees.org/

Western Hemisphere Shorebird Reserve Network
www.whsrn.org/site-profile/great-marsh
The lead partner in this conservation effort is the Manomet Center for Conservation Sciences (Plymouth, MA), www.manomet.org/. The Great Marsh was included as a site in 2004.

II. AGENCIES - FEDERAL

Army Corps of Engineers, New England District
www.nae.usace.army.mil/regulatory

Environmental Protection Agency (EPA)

- EPA's National Pollutant Discharge Elimination System (NPDES) Program
  cfpub.epa.gov/npdes/regs.cfm
- EPA Region 1 (New England) NPDES Program
  http://www.epa.gov/region1/npdes/index.html
- EPA's CWA Section 404 Program
  water.epa.gov/lawsregs/lawsguidance/cwa/wetlands/laws_index.cfm

Fish and Wildlife Service (FWS)

- Parker River Wildlife Refuge
  www.fws.gov/northeast/parkerriver
- Parker River Wildlife Refuge Comprehensive Conservation Plan
  www.fws.gov/northeast/planning/Parker%20River/ccphome.html
- Great Marsh Pepperweed Eradication Project
  www.fws.gov/northeast/parkerriver/pepperweed.html
- Division of Bird Habitat Conservation - Small Grant Program (funded projects in the Great Marsh in 2001, 2003, 2007)
  www.fws.gov/birdhabitat/Grants/NAWCA/Small/Massachusetts.shtm

National Oceanic and Atmosphere Administration (NOAA) - Northeast Regional Office Protected Resources Division
www.nero.noaa.gov/hcd

- Summary of Essential Fist Habitat Designation
  www.nero.noaa.gov/hcd/STATES4/CapecodtoNH/42407040.html

Natural Resources Conservation Service (NRCS)

- www.ma.nrcs.usda.gov/programs

III. AGENCIES - STATE/REGIONAL

Essex National Heritage Area
www.essexheritage.org/sites/index.shtml

- Essex National Heritage Commission
  www.essexheritage.org/commission/index.shtml

MassBays National Estuary Program (MBP)
www.mass.gov/envir/massbays/estuaries.htm

- Comprehensive Conservation Management Plan (1996)
  www.mass.gov/envir/massbays/ccmp.htm#ccmp
- 2003 Revisions to the CCMP
  www.mass.gov/envir/massbays/ccmp.htm#ccmprevisions

Massachusetts Department of Conservation and Recreation (DCR)/ACEC Program
www.mass.gov/dcr/stewardship/acec

- Great Marsh ACEC webpage
  www.mass.gov/dcr/stewardship/acec/acecs/l-parriv.htm
- Parker River/Essex Bay ACEC designation documentation
  www.mass.gov/dcr/stewardship/acec/acecs/designations/preb_des.pdf
- ACEC Resource Management Plan Guidelines (2004)
  www.mass.gov/dcr/stewardship/acec/rmp_guidelines.pdf
- ACEC Guide to State Regulations and Programs
  www.mass.gov/dcr/stewardship/acec/acecGuide.pdf

Massachusetts Department of Environmental Protection (DEP)
www.mass.gov/dep/water

- Parker River Watershed Year 5 Watershed Action Plan (2006 – 2010)
  www.mass.gov/Eoeea/docs/eea/water/wap_parker_river.pdf
- Draft Pathogen TMDL for the Parker River Watershed
  www.businessevision.info/parker_river/TMDLReport.pdf
- Parker River Watershed - 2004-2008 Assessment Report
  www.mass.gov/dep/water/resources/91wqar10.pdf
- Parker River Watershed, Water Quality Assessment Report 1999
  www.mass.gov/dep/water/resources/91wqar99.pdf

Massachusetts Department of Fish and Game (DFG)

- **Division of Ecological Restoration** www.mass.gov/dfwele/der
  - Wetlands Restoration Program (WRP) - Great Marsh Coastal Wetlands Restoration Plan
    www.mass.gov/dfwele/der/wrp/gmplan/introduction.htm
  - List of Restoration Sites, www.mass.gov/dfwele/der/wrp/gmplan/list_id.htm
  - Map of Restoration Sites, www.mass.gov/dfwele/der/wrp/gmplan/gmap.htm
  - Riverways Program, www.mass.gov/dfwele/der/riverways/index.htm
- **Division of Fish of Wildlife** www.mass.gov/dfwele/dfw
  William Forward Wildlife Management Area (Rowley)
  www.mass.gov/dfwele/dfw/habitat/maps/wma/northeastwma/williamforwardwma.pdf
  (2,083 acres of salt marsh and upland habitat with a large portion in the Great Marsh ACEC)

- **Division of Marine Fisheries (DMF)** www.mass.gov/dfwele/dmf/index.html
  An Assessment of River Herring Stocks in Massachusetts
  www.mass.gov/dfwele/dmf/publications/tr_46.pdf

Massachusetts Office of Coastal Zone Management (CZM)
www.mass.gov/czm/prebacec.htm

- Resource Inventory: Parker River/Essex Bay ACEC Project:
  www.mass.gov/czm/prebresourceinventory.pdf
  - Reference List, www.mass.gov/czm/prebresourceappendix.pdf
  - Partner Contact List, www.mass.gov/czm/prebresourcepartner.pdf
  - National Heritage Endangered Species Program (NHESP) Parker River/Essex Bay ACEC rare species list www.mass.gov/czm/prebresourcerare.pdf
- Shellfish Bed Maps (Parker River-Plum Island Sound Estuary
  www.mass.gov/czm/marineresourcepreb5.pdf
- An Assessment of Resource Management Strategies in the Parker River/Essex Bay ACEC, (2001,
  www.mass.gov/czm/prebmanagemenstrategies.pdf
- The Marine Resources of the Parker River-Plum Island Sound Estuary: An Update after 30 Years
  www.mass.gov/czm/marineresourcepreb.pdf
- Technical Assistance: Parker River/Essex Bay ACEC Project
  www.mass.gov/czm/prebtechnical.htm#gisdataandmaps
- Parker River/Essex Bay Natural Resources Maps
  www.mass.gov/czm/prebtechnical.htm#naturalresourcemaps

Merrimack Valley Planning Commission
mvpc.org

- Perennial Pepperweed Control Handbook
  mvpc.org/wp-content/uploads/Final-Perennial-Pepperweed-Handbook.pdf

Northeast Massachusetts Mosquito Control and Wetland Management District
www.northeastmassmosquito.com

IV. AGENCIES - MUNICIPAL

Essex (www.essexma.org)

- Essex General Bylaws, essexma.virtualtownhall.net/Pages/EssexMA_Clerk/bylaws/index
- Open Space Plan, www.essexma.org/Pages/EssexMA_BComm/ltpcdocuments/openspaceindex
- Shellfish Regulations www.essexma.org/Pages/EssexMA_Harbor/Shellfish%20Regulations%2010-15-10.PDF

Gloucester (www.gloucester-ma.gov)

- Zoning Ordinance, gloucester-ma.gov/DocumentView.aspx?DID=366
- Wetlands Ordinance, gloucester-ma.gov/DocumentView.aspx?DID=350
- Open Space and Recreation Plan (2011), www.gloucester-ma.gov/index.aspx?nid=271

Ipswich (www.town.ipswich.ma.us)

- Ipswich General Bylaws www.ipswichma.gov/index.php?option=com_docman&task=doc_download&gid=29&Itemid=245
- Ipswich Wetlands Protection Bylaw www.town.ipswich.ma.us/index.php?option=com_content&view=article&id=91:ipswich-wetlands-protection-by-law-rules-a-regulations&catid=49:conservation&Itemid=79
- Shellfish Rules and Regulations www.ipswichpolice.org/Files/shellfish/Section%2013%20Final%20with%20Edits%20Accepted%20_2_.pdf
- Ipswich Open Space Plan www.town.ipswich.ma.us/index.php?option=com_content&view=article&id=284:open-space-plan-update-2010&catid=56:open-space&Itemid=86
- Draft Great Neck Conservation Area Management Plan (2007) www.town.ipswich.ma.us/index.php?option=com_docman&task=doc_download&gid=1665&Itemid=233

Newbury (www.townofnewbury.org)

- Newbury General Bylaws www.townofnewbury.org/Pages/Newbury%20Bylaws.pdf
- Newbury Open Space Plan (2009) www.townofnewbury.org/Pages/NewburyMA_BComm/2010_draft%20_OSRP.pdf
- Newbury Master Plan (2006) www.townofnewbury.org/Pages/NewburyMA_Planning/MasterPlan.pdf
- Newbury Estuarine Management Plan (2005) www.townofnewbury.org/Pages/NewburyMA_PlanBoard/FinalPlanEstuary.pdf
- Plum Island Beach Management www.townofnewbury.org/Pages/NewburyMA_PIBM/index
- Beach Scraping
    - 2010 Beach Scraping Workgroup Report www.townofnewbury.org/pages/EOEEA%20Beach%20Scraping%20Workgroup%20Report.pdf
    - Town of Newbury Response Letter www.townofnewbury.org/pages/TON%20Response%20to%20Scraping%20RPT%206.2.10.pdf
- Beach Plants (2003) www.townofnewbury.org/Pages/NewburyMA_ConservComm/Plants.pdf

Rowley (www.town.rowley.ma.us)

- Rowley General Bylaws, www.town.rowley.ma.us/pdf/General_Bylaws.pdf
- Wetlands Bylaw (2004), www.town.rowley.ma.us/pdf/ConCom_WetlandBylaw2004.pdf
- Stormwater Management and Erosion Control Bylaw (2007) www.town.rowley.ma.us/pdf/ConCom_StormwaterBylaw2007.pdf
- Open Space Committee www.town.rowley.ma.us/common/index.php?com=rowl&div=DD&nav=DD&page=D24

V. GREAT MARSH RESEARCH

The Plum Island Ecosystem (PIE) Long Term Ecological Research (LTER)
www.lternet.edu/sites/pie
This is an integrated research, education, and outreach program whose goal is to develop a predicative understanding of the long-term response of watershed and estuarine ecosystems a land-sea interface to changes in climate, land use, and sea level. The program was established in 1998 and renewed in 2004. The PIE LTER makes use of two field stations: Marshview Farms and the Rowley House. The program also conducts education and outreach through its Schoolyard LTER Program, which is conducted through the Massachusetts Audubon Society's Salt Marsh Program. PIE LTER receives its funding from the National Science Foundation (NSF) and is part of NSF's Long Term Ecological Research (LTER) Network. Primary institutions participating in the PIE LTER include the Marine Biological Laboratory, Clark University, Massachusetts Audubon Society, University of Georgia, University of Massachusetts, University of New Hampshire, and University of South Carolina.

IPSWATCH (Ipswich - Parker Suburban Watershed Channel)
www.ipswatch.sr.unh.edu
(Data and website last updated approximately 2005)

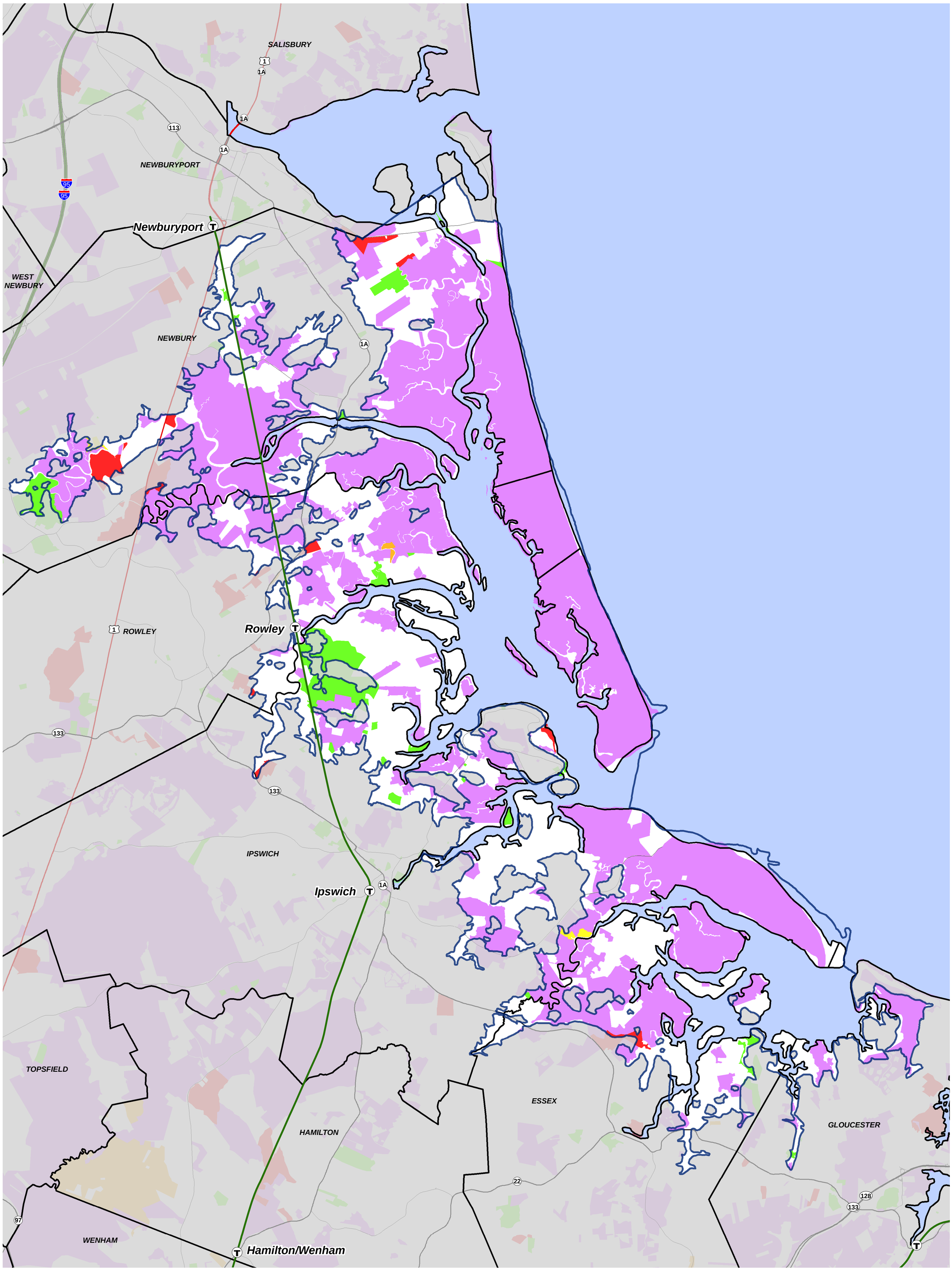
VI. ONLINE BIBLIOGRAPHIES/ LIBRARIES OF INFORMATION ABOUT THE GREAT MARSH

Great Marsh Coalition Bibliography:
www.massaudubon.org/GreatMarsh/Great_Marsh_Web_Site/biblio.htm

Massachusetts CZM, Great Marsh Reference List by Category:
www.mass.gov/czm/prebresourceappendix.pdf

Parker-Ipswich-Essex Rivers Restoration Partnership (PIEr2), Guiding Documents and Research:
web.me.com/jm3/PIEr2/Library.html

APPENDIX C



Legend

Great Marsh ACEC

Protected and Recreational Open Space

Level of Protection

- Limited (L)
- None (N)
- In Perpetuity (P)
- Temporary (T)
- Unknown (X)

MBTA Commuter Rail Station - Active

MBTA Commuter Rail Line - Operational

Town Boundaries

Note: The level of open space protection varies among lands. Not all lands are protected in perpetuity.
Data source: MassGIS, 2011. Open Space data last updated July 8, 2011.

N

Feet

3,000

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Great Marsh Area of Critical Environmental Concern (ACEC)

Date: 9/12/2011

Path: H:\Projects\2011\11082 Ipswich-Great Marsh Assembly\GIS\Maps\GreatMarshACEC.mxd