Northeast Regional Ocean Council
Coastal Hazards Resilience Committee
Living Shorelines Group

Kickoff Meeting

May 20, 2015
11:00 am – 12:30 pm

Purpose of LS Group:
To facilitate knowledge sharing around Living Shorelines and coastal green/natural infrastructure

Meeting Objectives:
1. Participants are aware of LS initiatives across the region through coordinated statewide updates
2. Participants have an opportunity to provide feedback on group mechanics (call frequency and format; communication preferences between calls; in person meetings, etc.) and topics of interest for future calls through a post-call survey

Action Items:
1. Complete the LS Group survey: Use survey results to schedule next group call, establish group communications, and develop topics of interest list
2. Develop summary of LS initiatives based on call information
3. Share summary and call highlights at NROC meeting on May 21st

DRAFT Meeting Summary:
- **Regional Needs:**
  - Working definition for “Living Shorelines” (and how it relates to other practices like Green Infrastructure, Natural Infrastructure, etc)
  - Applying LS to address impacts of climate change and coastal storms
  - Guidance and lessons learned on LS in cold climates
  - Guidance and lessons learned from Hudson River NERR and Sandy areas in NY/NJ
  - Assessment of regulatory hurdles and incentives for LS projects in NE
  - Sharing project notes - peer-to-peer project sharing to collect stories on successes, failures, obstacles, recommended best practices/lessons learned for LS projects in the NE

- **Resources of Interest:**
  - RI White Paper: Coastal Erosion and Adaptation on the RI Coastline (shared through Google Drive)
  - NH Presentation (shared through Google Drive)
• **Rhode Island Update:**
  - POC: Caitlin Chaffee, RI CRMC
  - *RI Shoreline Adaptation Project* with Save The Bay and RI CRMC. Using a NOAA Habitat Restoration Grant, partners were able to explore non-structural shoreline adaptation techniques (living shorelines, re-grading and re-vegetation, habitat restoration, removal of impervious surface and failing infrastructure), green infrastructure for coastal stormwater management and use of “soft” materials for bank stabilization. Project outputs included shoreline GIS analysis, Living Shoreline workshop, white paper on shoreline adaptation in RI, coordination with several town planning and engineering departments, list of potential municipal projects, and implementation of sixteen adaptation projects in seven coastal communities. The white paper is available ([shared through Google Drive](#)).

  - “**GRIP**” Project with RI Sea Grant, RI CRMC, Save The Bay, Towns of Warwick, Newport, and North Kingstown, and URI. Using DOI Sandy Resiliency Funding, the project is providing coastal Green Infrastructure guidance to municipalities and complete conceptual designs for projects in Newport, N. Kingstown and Warwick.

  - *Federally Funded Habitat Restoration Projects* with RI CRMC, DOI-USFWS, Save The Bay, TNC, Towns of Charlestown and Westerly, USEPA, and NOAA Restoration Center. RI is pioneering beneficial reuse of dredged materials to restore salt marsh within Narrow River, Sachuest Point and the RI coastal ponds to improve habitat value and coastal resiliency.

  - *RI State-Funded Habitat Restoration Projects* plans to work with RIDEM and various applicants to fund projects through the RI Coastal and Estuarine Habitat Restoration Fund. The Fund seeks to support projects that will enhance coastal resiliency in addition to enhancing coastal and estuarine habitat value.

  - *RI Green Infrastructure Coalition* is a statewide collaborative effort that seeks to promote green infrastructure for stormwater management through policy initiatives, support for regional stormwater utility district, direct work with communities and implementation of neighborhood-scale demonstration projects, mapping and documentation of existing GI projects and communication and outreach. Not a strictly coastal focus, but seeks to partner with the efforts of URI and others to address GI issues in the coastal zone.

• **New Hampshire Update:**
  - POCs: Kirsten Howard, NH DES and Dave Burdick, UNH
NH DES and Great Bay NERR organized a Shoreline Management Conference in December 2014, with more than 100 participants from local, regional and state organizations. The conference provided participants with information on “soft” shoreline management techniques and approaches and related permitting issues.

Based on conference evaluations and feedback, NH partners developed a Living Shorelines needs assessment. Great Bay NERR is organizing a series of shoreline management workshops, first topic is on shoreland zoning in June.

NH Coastal Program is including Living Shorelines in the NOAA 309 Assessment process. The strategy is: To develop and provide guidance for shoreline protection strategies that consider climate change impacts and protect ecosystem services, including natural flood protection and habitat, and identify potential demonstration sites for living or soft shorelines. Key tasks for the next few years include:

- Publish a white paper that assesses existing regulatory issues related to living shorelines in New Hampshire, including permitting and public trust issues as well as the potential for regulatory changes.
- Complete spatial inventory of existing shoreline structures and natural shorelines in the Coastal Zone. Note: NH DES will conduct a shoreline structure inventory using aerial imagery this summer.
- Conduct an assessment of shoreline vulnerability to erosion and sea level rise, and a suitability analysis for living shoreline management approaches, using the shoreline inventory and other available data.
- Publish guidance for shoreline management strategies directed at municipal officials, permitters and developers, and conduct education workshops about the guidelines.

NH DES and Great Bay NERR (along with NH Coastal Adaptation Workgroup) have developed the “Shoreline Stories” series to highlight past and ongoing shoreline management challenges, innovative approaches and questions related to future resiliency for both hard and soft shorelines in NH. The first story is available. NH expects to publish 10 stories in 2015-2016.

Projects to date:

- Dune restoration in the Towns of Hampton and Seabrook for coastal protection and habitat benefits (ongoing - see first shoreline story).
- Restoration of high marsh on North Mill Pond shoreline completed in Portsmouth.
- Proposal for living shorelines project in Portsmouth

**Connecticut Update:**

- Peter Francis, CT DEEP
In 2012, CT legislature updated regulations to promote Living Shorelines projects. CT has developed a working definition for LS: A shoreline erosion control management practice which also restores, enhances, maintains or creates natural coastal or riparian habitat, functions and processes. Coastal and riparian habitats include but are not limited to intertidal flats, tidal marsh, beach/dune systems, and bluffs. Living shorelines may include structural features that are combined with natural components to attenuate wave energy and currents.

There are approximately 9 applications that are pending permit approval for “Living Shorelines” projects. From reg perspective, have 8 or 9 applications that are pending.

- Jessica LeClair, UCONN CIRCA
  - Provided a short introduction to CT Institute for Resilience and Climate Adaptation (CIRCA). CIRCA is a partnership between UCONN, CT Sea Grant, and DEEP. CIRCA received CREST grant from NOAA ($500k) to increase coastal resiliency in CT with research and outreach, mapping coastal change, and mapping existing shoreline protection.

- Restore America’s Estuary is planning a Living Shorelines Summit for the October/November timeframe - watch for details. RAE Living Shorelines resources.

- Juliana Barrett, CT Sea Grant
  - As part of CIRCA’s Climate Adaptation Academy, Sea Grant is working to develop a series of Living Shorelines workshops for practitioners (coastal engineers, landscape architects, etc) and municipal officials. The first workshop in January 2015 had 90 participants. A second workshop is planned for June. A 3rd workshop will be held later in 2015.

- Jennifer O’Donnell, UCONN CIRCA
  - CIRCA is working to create a decision support tool to assist public in selecting sites for LS projects. LS is highly site specific. There are 2 pilot projects - New Haven (urban) and Old Saybrook (more rural/residential) - to map suitable and unsuitable sites for the 2 pilot areas.

  - Lead for the Living Shorelines literature review focused on improving the understanding of the effectiveness of LS as an erosion control measure. The literature review has identified a gap in knowledge related to the practice (design and implementation guidance) for LS in a cold climate.

- Adam Whelchel, TNC:
The Nature Conservancy released the final workshop report for the Connecticut Coastal Design Project. The workshop was held in Guilford, CT in June 2014 and focused on the current opportunities and constraints of coastal non-structural and natural infrastructure projects. The results of interviews with coastal engineers and regulators are available in Appendix B.

- Massachusetts:
  - Tricia Bowie, MA CZM:
    - Massachusetts Office of Coastal Zone Management has 2 grant programs for financial and technical assist to communities using capital funding in 2014 and 2015. The Coastal Community Resilience grant program is focused on planning activities (vulnerability assessments, planning, adaptation strategies, retrofit infrastructure, management measures). [For more information.]

  - The Green Infrastructure for Coastal Resilience grant program is focused on erosion control projects (beach berm building and dune restoration, natural fiber blankets, biodegradeable materials, plantings, reef creation, and marsh creation). [For more information.]
    - $2.5M and 16 projects to date.
    - Projects consider SLR in the project.
    - Planning, design, permitting, construction – monitoring is eligible, but no current projects using funds for monitoring.
    - Summary of projects online. First round coming to close this June. Summary of projects - [2014; 2015].
    - Transferability built into guidelines and criteria to enable approaches/methods to be shared across the region. Need for continued discussion on how best to share the results of the projects with the region.

  - Tonna-Marie Rogers, Waquoit Bay NERR:
    - Research project wrapping up on role of salt marshes in storing carbon as an ecosystem service (blue carbon). Conference held in May. Idea for continued discussion is how to connect blue carbon concept with living shorelines and natural infrastructure projects.

    - WB NERR will work with Sea Grant to put together a workshop on Living Shorelines and shellfish/aquaculture this fall.

- Maine:
  - Pete Slovinsky and Steve Dickson, ME Geological Survey:
    - Maine does not allow seawalls in sand systems. The Coastal sand dune rules guide dune restoration. There is a gap in Living Shorelines for
wetlands. Inflexibility of existing regulatory language around fill below high tide line. Permitting and mitigation requirements triggered.

- Projects:
  - Damariscotta – project to protect its historic downtown and central parking lot by building a larger seawall and include a fringing marsh along seawall.
  - Application received to stabilize a highly unstable section of bluffs to build homes. The applicant is amenable to constructing a marsh at the base of the eroding bluff. Fill below high tide is obstacle from regulatory standpoint.
  - Project of Special Merit (NOAA funds) looking at unconsolidated bluffs in Casco Bay to produce BMP recommendations for bluff shorelines, incentives for soft shoreline techniques, and pilot projects with communities. Working with ME SG for a lessons learned document. Also looking at a link between bluff stabilization and local clam flat restoration.

- Including Living Shorelines in NOAA section 309 strategies for next 5 years.
  - Inventory of shoreline structures, etc.
  - Demonstration sites on public property and conservation lands.
  - Barriers and incentives (maybe build on CT work). Cold water performance a big concern.
  - Incentives for landowners to use these techniques.
  - Expanding and re-releasing shoreline database – shoreline construction.

- Education for realtors and engineers on LS.
  - Tin Smith, Wells NERR:
    - Integrate Living Shorelines concepts and marsh migration into restoration projects.
    - Wells Reserve conducts research on the erosion of marshes, steep bank slumping and impacts of green crabs.
    - Education focus – bring ideas to local communities and decision-makers. Recent effort with Jacques Cousteau NERR in NJ to connect homeowners and Municipal officials from Maine communities with counterparts in NJ to share lessons learned and stories on how Living Shorelines minimized damage from Sandy. On Tour of NJ impacts from Sandy – how LS minimized damage.

- Other Update:
  - Trish Garrigan, EPA Region 1: EPA Region 1 is developing a searchable database on Resilience and Adaptation in New England (RAINE) and we have a
section on "spotlights" to highlight good examples. The database will go live later this summer. Contact information: garrigan.trish@epa.gov or 617-918-1583

Participants:
Juliana Barrett, CTSG/CIRCA
Patricia Bowies, MA CZM
Jim Boyd, RI CRMC
Dave Burdick, UNH
Allison Castellan, NOAA OCM
Caitlin Chaffee, RI CRMC
Steve Dickson, MEGS
Peter Francis, CT DEEP
Janet Freedman, RI CRMC
Rebecca French, CIRCA
Trish Garrigan, EPA Region 1
Adrianne Harrison, NOAA OCM
Kirsten Howard, NH DES
Julia Knisel, MA CZM
Jessica LeClair, CIRCA
Regina Lyons, EPA Region 1
Becca Newhall, NOAA OCM
Kevin O’Brien, CT DEEP
Jennifer O’Donnell, UCONN/CIRCA
Tonna-Marie Rogers, WB NERR
Peter Slovinsky, MEGS
Tin Smith, Wells NERR
Rachel Stevens, GB NERR
Megan Tyrrell, USFWS/NALCC
Adam Whelchel, TNC