

Appendix A

Accomplishments in 2008-2009:

- In 2008, the Management Committee dedicated \$150K toward developing a sentinel monitoring program, allocating \$75K to each state (CT & NY) to synthesize a strategy and begin implementing monitoring. As mentioned previously, a work group was formerly convened in 2009.
- The work group oversees the two state-level workgroup in NY and CT. The NY work group has met several times and has developed a list of potential indicators and a subsequent monitoring matrix. The CT work group has held two workshops for CT participants, drafted a white paper, and begun discussion of drivers, elements and indicators.
- The two LISS STAC fellows were also dedicated to this project. The fellows conducted a literature search of existing monitoring programs and data and prepared a report. They also compiled data sources and made a google map of monitoring locations.
- With bi-state agreement, CTDEP contracted with UConn's Sea Grant program to coordinate the development of a sentinel monitoring strategy. The CT Sea Grant program also brought the NY Sea Grant program on board.
- Through the EPA LISO, the bi-state work group applied for and was awarded a 2009 Climate Ready Estuaries (CRE) Direct Technical Assistance Award to assist with strategy development.
- Additionally, CTDEP and ICLEI applied for and were awarded a 2009 CRE Partner Start-up Grant to go through the adaptation planning process in Groton, CT.
- CTDEP collaborated with the University of Connecticut (UConn) to create an on-line database (<http://lisicos.uconn.edu/DEP/sentinel/viewfile.php>; username and password: guest) for researchers to enter information regarding their long term sampling efforts in LIS. This database is and will be used as a resource for this specific project. There are over 100 records in the database including long-term water quality monitoring, sediment erosion tables, long-term marsh monitoring plots, ocean observing buoys, and fisheries studies.
- Work group members have given presentations and briefings to the STAC, Management Committee, CAC and other meetings during 2008 - 2009.

Accomplishments in 2009-2010:

- In 2010, the Management Committee dedicated an additional \$185,000 toward developing a sentinel monitoring program. When combined with money remaining from allocations in 2009, there will be \$100k available, as of October 1, 2010, to each state to implement a pilot-scale monitoring program (\$200,000 total).
- This work group oversees the two state-level technical work groups in NY and CT.
- Through the EPA LISO, CTDEP and ICLEI applied for and were awarded a 2009 and 2010 CRE Partner Start-up Grant to go through the adaptation planning process in Groton, CT and to share out the lessons learned through this process with other communities by developing an adaptation resources toolkit.

- Work group members have given presentations and briefings to the STAC, Management Committee, CAC, EPA, CT Conference on Natural Resources (interactive session and poster presentation), NEIWPC Climate Change Workgroup Meeting, Regional Climate Priorities Workshop and other meetings during 2009-2010.
- Work group members from CT and NY attended and presented at the 2010 EPA Climate Ready Estuaries Partnership Workshop in Washington, D.C. in July; lessons learned were shared with sister CRE NEPs
- Developed prioritization criteria for sentinels identified by the state technical work groups
- Engineered an on-line survey and distributed to the two state work groups to prioritize and select indicators for the pilot study and for priority in the larger strategy.
- Began drafting a strategy
- Combined the NY and CT indicators into one table which describes all the proposed sentinels, sentinel indices, available monitoring data and ecological drivers of climate change in Long Island Sound (see attachment X); draft table is already serving as an educational and policy tool
- Developed the concept for a sentinel monitoring website/data citation clearinghouse to cross-reference and enhance research coordination; work group obtained funding from the LISS Management Committee for implementation (available October 1, 2010).
- CTDEP secured two interns to assist with various aspects of the project
- From Sept 2009 to June 2010, ICF worked with the work group to produce numerous documents including a synthesis of climate change drivers and responses in Long Island Sound, a list of candidate climate change indicators and an indicator identification and evaluation framework.
- The Sentinel Monitoring program is serving as a model for regional-scale sentinel monitoring efforts throughout the New England region and the New York Bight

Accomplishments in 2010 - 2011:

- Finalized and published the strategy document titled '*Sentinel Monitoring for Climate Change in the Long Island Sound Estuarine and Coastal Ecosystems of New York and Connecticut Volume 1 (2011)*.' The strategy was highlighted by the EPA's National Estuary Program and Climate Ready Estuaries Program.
- Performed and compiled data from an online survey to prioritize comprehensive list of climate drivers and indicators matrix resulting in a complete matrix and selection and prioritization to six pilot sentinels
- Created a Sentinel Monitoring webpage on the LISS website <http://longislandsoundstudy.net/research-monitoring/sentinel-monitoring/>
- Coordinated the states of Connecticut and New York to come to an agreement on the use of pilot implementation funds between the two states and drafted an RFP for the solicitation of a vendor for pilot implementation.
- Began work on the on-line data citation clearinghouse by contracting with UConn utilizing funds granted by the LISS Management Committee.
- Work group members participated and offered technical support at the Groton Coastal Climate Adaptation workshops held by CTDEEP and ICLEI , including the culminating joint town council presentation and final report.

- Work group members have given presentations and briefings to the STAC, Management Committee, CAC, EPA, 2010 and 2011 CT Conference on Natural Resources (interactive session, poster presentation, and oral presentation), NEIWPC Climate Change Workgroup Meeting, Regional Climate Priorities Workshop, ASLO Ocean Sciences Meeting, the Association of National Estuary Programs' November 2010 meeting, 2011 Ecosystem Indicators Conference in Boston, MA, and other meetings during 2010-2011.
- CTDEEP intern interviewed researchers and identified data gaps, information found went into the strategy and work plan for the data citation clearinghouse
- The Sentinel Monitoring program is serving as a model for regional-scale sentinel monitoring efforts throughout the New England region and the New York Bight