LONG ISLAND SOUND STUDY
A Partnership to Restore and Protect the Sound

SCIENCE & TECHNICAL ADVISORY COMMITTEE

Of the Long Island Sound Study

Website: http://www.longislandsoundstudy.net

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MEMORANDUM

Date: January 18, 2007

Subject: Summary of November 17, 2006 STAC Meeting

To: Long Island Sound Science and Technical Advisory Committee

From: Corey Garza, USEPA Long Island Sound Office

Attached is a summary of the meeting minutes from the November 17, 2006 Long Island Sound Science and Technical Advisory Committee (STAC) meeting held at the Wang Center on the campus of the State University New York, Stony Brook. Included are summaries of presentations made by Dr. Corey Garza, the NOAA liaison to the Long Island Sound Office, Mr. Rhead Enion; the Connecticut Long Island Sound Fellow from Yale and Dr. Peter Auster from the University of Connecticut. Additionally, a summary of the discussion regarding the development of an outline for the proposed Long Island Sound Synthesis Report is included as well as, an update on the Long Island Sound Study (LISS) from Mark Tedesco of the EPA Long Island Sound office.

cc: LISS Management Committee
LISS Citizens Advisory Committee
Implementation Team

LISS Science & Technical Advisory Committee Meeting
November 17, 2006
SUNY Stony Brook, New York

Presentation: Dr. Corey Garza, NOAA, LISS Liaison
Corey Garza gave a presentation on his work prior to joining LISS. His graduate work was in spatial ecology at UC Santa Barbara. He focused on benthic ecology and spatial variation in predator impact. His post-doc work was with EPA Western Ecology Division and the Gulf Ecology Division. He studied scale dependence in NCA water quality and patterns of species diversity in coastal estuaries. At CSULA, he helped to develop a landscape cellular automata model to describe rocky inter-tidal species distribution.
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LISS Synthesis Discussion (Larry Swanson)
The EPA has a RFP for workshop development. The deadline is Jan. 18th, with a maximum funding limit of $25,000. Our goal should be to turn in a proposal in early December. This requires a list of people who will talk at the workshop, along with brief descriptions of their importance to the project. The goal of the workshop will be to fully develop the outline and white papers, and bring potential authors together for discussion. The workshop will be held this spring at Port Jefferson, exact location and date TBD.

At this point, the floor was opened to discussion on the outline of the LISS synthesis book. There were several questions concerning the scale of the research. It may be necessary to examine Western LIS versus Eastern LIS fisheries and habitat, because these are considered by many researchers to be entirely different areas. Should the focus be on individual organisms, groups or ecological systems? There needs to be a short list of organisms going in to the workshop.

Another topic of discussion was the format of the final synthesis product. Should we go for a book or a special edition of Estuaries with limited papers? A book, like the one for Narragansett Bay, has long chapters that will go unread. Is there a possibility for a smaller book? Each chapter should definitely be preceded by a ~5 page executive summary. Some people felt that a special edition of Estuaries would be useful, because it will be reviewed by outsiders and considered a 'real publication' for the authors involved. It has a better chance of influencing an audience outside of LIS, in contrast to a published book. Size, however, is a problem. Estuaries cannot run a 700 page special issue, not to mention that the 'special edition LIS' has already been done by several journals. One important consideration when deciding the format is the question of the audience. Do we wish to reach scientific academics? Local officials? It is difficult to influence both science and management within the same publication. We must start making decisions on the format, in order to move forward.

Content of the synthesis was also debated. Going in to the workshop, we need to have a page of questions: What assumptions need to be questioned? What have we not done right in LIS? Is LIS changing for the better or staying the same over the past 30 years? Is the focus on current conditions at the expense of historical change? We want a more dynamic approach where the historical past helps us to predict the future. The book may be more marketable, however, if it

focused on the historical importance of LIS. What is the real purpose of this synthesis effort? Is it to provide the basis for a push in real science for LIS? As currently envisioned, increased science will not necessarily help the public or the managers in LIS. One person mentioned the need to not overlook essential sources of information on LIS, such as local fishermen knowledge of lobsters, which is seldom utilized by academia. Another mentioned the need for discussion on future of wetlands in the watershed. A third argued the need to integrate anthropogenic changes in LIS and subsequent influence on the natural systems in any synthesis discussion.

Questions of organization went hand-in-hand with content. The synthesis may be organized around each research area, first by asking what we really know and how has our understanding advanced in each area. These research areas might be different phenomena we have tried to manage in LIS (chlorophyll-a, dissolved oxygen, nitrogen, etc.), which would help us reach a larger audience of managers. Some topics clearly need to be expanded upon, for example, how would a natural LIS look vis-à-vis pollution sources.

Some people wished to organize the synthesis around topics of concern, not around scientific disciplines. In the interest of brevity, this organization would emphasize topics of interest over encyclopedic knowledge. However, there is value in compiling the current scientific knowledge on various areas of LIS, to provoke better management strategies. Focusing more on what the current state of scientific knowledge is today, instead of asking what we need to know, may be more useful because the questions of today inevitably change in 10, 20 years. There was some agreement that the synthesis should start with background information on LIS, organized by discipline, then move to later chapters that are topic driven for management. This would allow for reflection back to the state of scientific knowledge in later chapters. Management of LIS needs to anticipate changes and possible future plans, along with potential responses by the LIS ecosystem. Organization of the workshop into scientific topics may help to draw out overarching questions. An example of a topic based question: What (and why) are the limitations to our knowledge on hypoxia prediction in LIS? For management understanding, consistency in message is important. This is more a structural concept than a content one. There should be consistent use of maps and graphics, along with consistent predictions for spatial and temporal hotspots for restoration purposes. An overarching question – management of LIS? – is probably necessary to limit the breadth of this synthesis.

Finally, one must not forget funding considerations in the development of this synthesis. For example, as part of the agreement with Springer publishers, the Narragansett Bay people promised to buy several hundred volumes of the book, which were distributed to relevant agencies and academics. This reassured the publisher that a publication run would be a profitable venture.

In summary, most agreed that the synthesis book should begin with short summaries of the current state of scientific knowledge in LIS, with a later focus on question-driven topics of concern. Everyone has two weeks to constructively respond to this discussion, by emailing Corey Garza. A list of names and topics of concern should be submitted to Larry Swanson by the end of the day.

Selection of nominating committee for NY co-chair (Charles Yarish)
According to the bylaws, elections are held every other year. There is a nominating process through which a slate of candidates will be presented to the STAC at the next STAC meeting (Feb. 16, 2007). Volunteers were selected for the Nominating Committee, two from NY and two from CT:
Karen Chytalo (NY)
Johann Varekamp (CT)
Anne McElroy, (NY)
Paul Stacey(CT)

Approval of 2007 STAC Calendar
The 2007 STAC calendar was approved, with the following modifications. The June 15th, 2007 meeting was moved to June 8th. The November 16th meeting was moved to November 9th. A joint meeting with the Citizen's Advisory Committee is a possibility. It was also noted that the Synthesis Workshop will be next spring, possibly in late April 2007.

LISS Update (Mark Tedesco)
The LISS Policy Committee has established cross-Sound cable settlement funds and there is a handout on the website. Funding of $6.4 million is available for projects and activities that enhance LIS and improve scientific understanding of cable crossing impacts and benthic mapping. In addition, The Policy Committee set new targets for habitat restoration through 2011 and approved a timeframe of evaluating the nitrogen reduction targets by December 2007. The LIS Stewardship Act of 2006, recently passed by Congress and signed by the President, authorizes $25 million per year for 4 years. Land owners (not limited to private landowners) must apply to EPA for designation as a stewardship site and subsequently take action towards restoration/conservation. The bill calls for a committee to develop the proposal/application process. The appropriations status of the bill is unknown.

Mark then presented a summary of the LISS Budget. The budget framework includes (1) base programs; (2) research; (3) implementation support, such as the LIS Futures Fund; and (4) enhancements, based on ideas from workgroups, implemented on an as-needed basis (e.g., state of riparian buffers in LIS watershed). Mark showed the funding levels for the program in past years and emphasized that the 2007 budget has not been set since the federal appropriation bills are still in flux. **With the LISS Research RFP due out in early summer 2007, t**his is a good time for ideas for research proposals from STAC, some of which may come directly from the planned Synthesis workshop.

Past CAC Meeting (Nancy)
Nancy summarized the previous LIS Citizen's Advisory Committee meeting. There were two new applications for membership: (1) the town of Oyster Bay; and (2) the Hempstead Harbor Protection Committee. There was also a presentation by Dr. Fairbanks (Columbia U.) on isotope tracers for nitrogen in the East River. He discussed how four deep basins in W. LIS act as incubators for hypoxia. Weather patterns, i.e. the Bermuda High, may be influential. Several people agreed that Dr. Fairbanks would be a welcome presenter at a future STAC meeting. The next meeting will focus on dredge material management. There is currently funding for research on that subject from the Army Corps.

It was discussed that policy committee meetings are important for coordinating regulatory agencies with the projects and goals of LISS. These meetings improve interpersonal relationships and knowledge transfer.

Presentation: Use of Remote Sensing in Water Quality Measurements – Rhead Enion, STAC CT Fellow

Rhead Enion (Yale U.) presented his ongoing work on the use of MODIS satellite imagery to augment water quality measurements both spatially and temporally. Part of his work for LISS STAC will include research into spatial patterns of different water quality data in LIS.

Presentation: Seafloor Habitat Mapping – Peter Auster, UConn

Peter Auster presented his work on developing a Seafloor Habitat Mapping protocol. The goal is to provide a singular flexible habitat classification protocol for LIS, by linking research development of the protocol directly to the users in order to develop a user-friendly and useful protocol. His work has been developing, testing and vetting the classification scheme.
In order to develop such a classification, one must identify useful attributes of habitat, including (1) geomorphic; (2) sedimentological; and (3) biologic. Spatial scale is very important for habitat identification. Luckily, there are multiple types of mapping technologies available that can assist in the production of user-friendly interpretative map products of sea floor habitat.

Agenda for February Meeting

The February STC meeting will have a presentation by Alexa Fournier, the STAC NY Fellow, concerning her work on invasive species. There is the possibility of a presentation by Dr. Rick Fairbanks. The details of the Synthesis Workshop will be decided. The location will be UConn Stamford.

Public Comments

It was nice to hear Peter talk about stakeholders, which are essential to LIS and often overlooked. There are many important ecological questions still unanswered for LIS, such as the number of blackfish out there. An important overlooked resource is the tax maps, available from the local tax offices for the shoreline of townships, which contain great resolution aerial photography. Why do we still have hypoxia in LIS? Millions has been spent on sewage upgrades, etc., but hypoxia is still there. Where did all the lobsters go? There is not enough focus on diseases and epidemiology. LISS needs a list of priorities, to help focus resources on fixing the problems of LIS.