Long Island Sound Study
Science and Technical Advisory Committee
Meeting Feb. 27, 2004
Room 133, UCONN Stamford Campus

Charles Yarish brought the meeting to order at 10:00 a.m. Attendees are listed in attachment 1.

1. **Introductions, Review of Agenda** -*Charles Yarish, STAC Co-Chair*

Yarish explained that the purpose of the first presentation was to help us examine whether ecosystem health assessment is the next step in integrating the science that has been done in LIS. Then he introduced Bill Dennison, Vice President for Science Application, University of Maryland's Center for Environmental Science, to present his work regarding Spatially-Explicit Ecosystem Health Assessments.

2. **Solving Environmental Problems: The role of Science in Developing Spatially-Explicit Ecosystem Health Assessment** - *Bill Dennison, University of Maryland*

Dennison established the importance of the coastal zones and identified some similarities and differences in ecosystem health priorities between different climactic regions and cultural zones. He speculated that the need for sustainability would drive the next paradigm shift in scientific thinking. He identified what is needed from people to solve environmental problems and identified the different priorities between those studying a problem and those charged with solving the problem. He suggested that monitoring, management, and research need to be balanced and acting simultaneously for successful problem solving. He gave some history of the ecosystem problems and research done in Moreton Bay, Australia. Due to the semi-tropical setting of Moreton Bay, the major problem was "brown-water" or sediments from riverine inputs. The question of how to quantify ecosystem health in Moreton Bay was posed and ecosystem indicators were identified. Management objectives were connected to ecosystem health indicators and reference values were established. Indicators were monitored and results were presented graphically. Area-weighted averaging of all indicators was used to generate maps of ecosystem health (ecosystem health index) in the format of a report card using letter grades. Following implementation of management actions, Moreton Bay experienced significant improvement in ecosystem health. A similar program has been ongoing in Chesapeake Bay, which experienced similar success in research, management and awareness, but less success in ecosystem health improvement. One possible culprit is that while sewage upgrades were undertaken, overall nutrient loading goals were not reached. Further measures are being started.

Dennison emphasized that a successful ecosystem health assessment program can be created following these steps:

- Identify management objectives
- Develop a conceptual diagram identifying environmental health indicators to be used
- Produce maps of those indicators
- Integrate multiple indicators into a single ecosystem health index map
- Establish reporting regions

- Produce an evaluation of the ecosystem health index by reporting region

Dennison also pointed out that with a focus on problem solving and an emphasis on spatially explicit assessment using simplified, easy to understand criteria, ecosystem health improvements CAN be achieved! *This presentation as well as more information can be reviewed at:* http://ian.umces.edu

Discussion: Mark Tedesco questioned if the problem in the Chesapeake Bay was due more to a lack of science or lack of translation to management. Dennison responded that the main problem in the Chesapeake was that the effort was disbursed and no single effort was large enough to make a difference. The sewage problem is the easiest to fix, once fixed then other factors can be blamed. The answer is to bring the effort to the public. Stuart Findlay questioned the problem in public perception of success due to lag time between management changes and results. Dennison agreed that the problem exists and the lag can best be explained to the public through the community leaders. Milan Keser questioned whether nutrient trading is a good system. Dennison, trading systems work better in the atmosphere. Not all sources are equal in the water so trading can be dangerous. Milan asked about the value of bringing industry in. Dennison said that industry was at first very reluctant to be involved. Eventually they understood the problem and joined in the effort. There was some discussion of N:P ratios. In response to a question on who developed the indicator reference values, Dennison explained that it's an iterative process where values are chosen, then monitoring system can be altered, and then the thresholds and their relative importance can be re-evaluated.

3. **Sound Health 2003: A Report on Status and Trends in the Health of Long Island Sound.** - *Mark Parker, CT-DEP*

The Long Island Sound Study has developed a group of environmental indicators for Long Island Sound. Parker presented the indicators for hypoxia, nitrogen, toxic contaminants, beach closure days, floatable debris collection, shellfish bed extent, fin-fish abundance, shore bird abundance, area of habitat restoration, etc. A summary of these data can be found in the *Sound Health 2003* report. This presentation along with a great deal more information on the topic of environmental indicators in Long Island Sound can be found at:
http://www.longislandsoundstudy.net/pubs/slides/status03/status03_index.htm
The publication *Sound Health 2003* can be found at:
http://www.longislandsoundstudy.net/pubs/reports/soundhealth2003.htm

Discussion: Dennison stated that it's important to keep in mind that variability and indicator type needs to be distinguished in reporting. Also, the area of concern could be subdivided into regions. Swanson asked what the reaction from the public was. Parker responded that most of the comments were positive. Dam asked how many indicators were shown, stating that it was overwhelming. Parker responded that 45 indicators have been developed Dam noted that we need to simplify to make the data more accessible to the public and explain what these trends mean. Context is needed to interpret this information. Keser said that the Millstone monitoring program looks at more than what you have shown and have found an easy to measure keystone species. They have also identified shifts in the last 25 years. Temperature is important and drives

other factors. D'Amico responded that the LISS developed indicators using the pressure, state, response model. Stacey emphasized the 2003 Sound Health publication summarized the material for the general public and that today's presentation was meant to convey the full list of indicators that are being tracked. Dennison noted that the time scales are very important. Glowka emphasized that the eastern sound and western sound are very different in composition. Tedesco then asked whether people agree with the concept of interpreting the health assessments using a grading system. Stacey responded that we need to be very careful about that due to the patchiness of data and the slow response of the environment. Nancy Seligson noted that if we want to integrate the research and bring it to the public we have to translate it in this way so that the public can consume it and become motivated. Dam cautioned that ecosystems have different states that are not recognized by this grading system. There have been occasions where changes were made but the intended results were not achieved. Yarish said that we have data overload and brought it to this meeting to prompt discussion and have this group reduce the indicators used. He also agreed that there are differences in the regions of the sound and the broad-brush approach isn't working.

Meeting broke for lunch at 12:20pm.
Meeting returned from lunch at 1:00pm
Yarish called the meeting to order and recognized Art Glowka.

Art Glowka - Community Representative

Glowka discussed his views of what the next focus should be for the STAC. He would like to see a change in emphasis to include more biology in the study. His opinion was that hypoxia was less important than suggested. Also, he feels that floatables and toxins were too small to affect the biology. He suggested using fish as bio-indicators. He referred to the use in California of requiring permitted dischargers to monitor the impact they have on coastal waters. He suggested that we assess ourselves as well as a way to collect more money to study biology.

Yarish agreed with the need for more biological study but disagreed with Glowka's opinion that other parameters were unimportant.

Yarish introduced two new members to the STAC: Stuart Findlay (from IES), Don Les (from UCONN-EEB),. Larry Swanson recognized Mark Tedesco and gave him the floor. Tedesco agreed with Glowka's suggestion of a local funding base in the LIS area.

4. **2004 LISS Work Plan and Budget**
Introduction to 2004 Work Plan and Budget - *Mark Tedesco - EPA-LISO*

A copy of his presentation is provided as attachment 2. Tedesco reviewed the state of the budget with $2.3 million in available funds.

Implementation Funds –
$5 million – congressional earmark
Program Funds-
$ 477,400 – EPA line item support
$1,822,600 – congressional earmark

$ 510,000 - NEP share (estimate based on 2003)

Tedesco also reviewed the Work Plan, which was divided into: base program, enhancements, implementation, and research. The goal is for the LISS is to focus on the strategic priorities of the program, identify what we want to accomplish, whether the funding is available, and, if it isn't, to identify that as an area for enhancement. The LISS technical workgroups are reviewing the enhancement proposals in their respective areas. The STAC Eutrophication and SAV subcommittees have also been distributed relevant copies of proposals. The STAC will discuss this review process and the priorities.

Tedesco provided 2 documents:1) LISS 2004 Budget Priorities and Funding Sources, and 2) LISS 2004 CCMP Enhancement Projects RFP – Budget Proposal Summary (a list of proposed enhancement projects currently under consideration). These are provided as attachments 3 and 4.

Tedesco opened the meeting up to discussion: Stacey stated that he thinks that an enhancement proposal process is a good idea. However some of the RFP's were thin. The process could be simplified if those not addressing the RFP were eliminated before review. Also, some proposals do not warrant review by the STAC because they are not technical in nature. Keser asked whether announcements in the future could target proposals from certain areas i.e. biology. Tedesco responded that that could be done. Don Les asked about pre-proposals to reduce the reviewing process? Joe Salata noted that last year the STAC asked for more detail in proposals. Yarish responded that pre-proposals would require a two-step process. We would need to establish a clear calendar of events. Ed Monahan stated that many people that submitted, don't understand the difference between an enhancement and research proposal. Tedesco stated that it's hard to remove certain things from our priorities list due to various pressures. Dam responded that difficult decisions are our job. Stacey noted that our calling for proposals need to be more specific and have narrower goals bases on our ability to fund the proposals.

Yarish asked whether enhancement monies be carried over from one year to the next? Tedesco responded that we have in the past banked money. However, banking is not safe because that money may get re-appropriated. One advantage to the process is that it is forcing us to identify if the proposals are going to accomplish things we want to accomplish, also there are items that are on the list that have never been address that may not be important to us but are important to the management community.

A general question was asked whether the LISS first considers if the proposal fits our needs? Tedesco responded that proposals are first considered if they are within our needs and second whether the proposal is sound. STAC review is complicated because there is some conflict between members submitting and reviewing proposals. Glowka reported that the CAC performed a cluster analysis where each member had 4 votes that they voted as to what the priority questions to be answered. Stacey noted that one difference between the enhancement and research RFPs is that enhancement submissions are judged on what we think we know and want. The research proposals are open to novel ideas. Dam asked about 2004 monies available for research. Tedesco responded that the next topic would cover that.

Summary of Recommendations for Enhancement Proposal Process:

- make difference between enhancement and research programs more clear to potential applicants in the RFP process
- provide more specific direction and guidance in re: priorities within enhancement RFP's
- Utilize pre-proposal process to narrow down enhancement proposals being considered and reduce proposal evaluation burden. Management Committee or implementation staff should do first cut to remove proposals not in line with priorities
- Implement a give and take process to help get submitted enhancement proposals to better match priorities of enhancement grant moneys
- Solicit outside review in cases where conflicts of interest exist in proposal evaluation. Those "outside" reviewers should first come from the wider STAC, and then from outside the STAC, if necessary.

5. **2003 Research Grants Program Selection** - *Mark Tedesco – EPA-LISO*

There was a question on whether we should fund existing proposals from the 2003 announcement with 2004 money? Tedesco answered that the LISS did this in 2002 and again in 2004. All $300,000 set aside for research in 2004 has already been allocated to support projects proposed in response to the 2003 announcement. Once Base, Implementation and Research funding needs are accounted for, it leaves approximately $800,000 for the enhancement proposals.

Dam asked how does this LISS using 10% of funding going to research compare to other programs? Tedesco responded that Lake Champlain program gets about the same money as LISS but spends half as much on research as LISS. Hans reported that Chesapeake is about 20% and SF Bay 30%. Tedesco responded that he does not know the amount of money spent on research in those programs. If may be that the original intent of those monies was to fund research while our task isn't specifically to fund research.

Tedesco provided a list of the proposals approved for funding by the Management Committee: 2003 Long Island Sound Research Grants (attachment 5)

D'Amico asked where the $500,000 for implementation would go. Tedesco responded that we proposed a program to fund local groups in starting clean-up activities within the community. In Chesapeake they have had success with this type of program such that they now have earmarked money for such programs. The idea is to build partnerships and help programs start that bring in additional money from outside sources. Tedesco then asked whether the STAC wanted to review the proposals regarding monitoring. Since there was no response, he said we will accept the existing reviews. Stacey noted that regarding peer review and conflict of interest, we still need to identify if the proposals are ones that we want to fund. Mickey Weiss stated that if we find proposals that are close to what you want, and you feel that the group proposing has the ability to do what is wanted, there should be the ability to add and subtract to the proposal with agreement from the group through some give and take process. Tedesco said that yes, we try to do that. Nancy Seligson noted that the non-point source work group review had done that in its review process with those proposals that were close to want we wanted. Dennison noted that the Moreton Bay program put out for review its RFP to hone our objectives. Findlay asked whether

we want to fund all over the board or focus our funding. Regarding the issue of more proposals than we can fund, how do we decide which? Tedesco responded that in some cases we only need to find one proposal within a group because they overlap, and some fall outside of our interest/priorities.

6. **LISS Fellows Project: Updating LIS Contaminants of Concern.**

Tedesco stated that we are suggesting that the fellows update the contaminants of concern list, an issue that hasn't been addressed in over 10 years. The objective would be for the fellows to produce a white paper or papers, and to submit those to the STAC for approval. They they'd be made available to the community.

Yarish said that the best way to accomplish this would be for interested parties within the STAC to enter questions re: what they'd like to see addressed. Swanson noted that a few ground rules to keep in mind are that the term for the fellows ends mid-Oct., and they are only committed for 10 hrs per week. Glowka said that recent studies have showed that most contaminants are below measurable levels. Yarish responded that if that's true we want to establish that. St. John asked whether there an existing list, how was it developed, are there enforcement criteria? Tedesco responded that there was a list developed that would be updated based on new information.

7. **STAC Priorities** - *Larry Swanson, STAC Co-Chair*

Swanson asked whether the present workgroups were acceptable or needed improvements including creating new workgroups such as biology. D'Amico noted that we are at a point to simplify our scope. A number of people agreed that we need to close one problem before we open new ones. Yarish said we could reduce the list or focus the group on parts of the list. Glowka noted that today is the first time that the food web has been examined by STAC. Stacey agreed that we need to simplify somewhat. Findlay asked if we identified what is already known? Stacey responded that the CCMP tracking and monitoring reports should handle that. Maybe we should revisit those and see if yesterday's issues are the same as today's. O'Donnell said we should rank the priorities within a working group and then have a secondary review of those priorities to narrow them down instead of giving equal weight to all of the priorities. Monahan said that if a working group makes a strong argument then there should be a reflection of that in the enhancement proposals. Dam emphasized that the STAC needs to work closer with the management community. Yarish asked how did the workgroups information make it into the enhancement process. Tedesco replied that we started by identifying projects we'd committed to accomplish. We then asked whether existing base funding or outside funding (e.g. the Army Corps) would allow accomplishment of those commitments. If not, we identified the task as an enhancement need and included it in the Enhancement RFP.

Some discussion followed regarding the frequency of STAC meeting and the level of participation required in sub-committees. It would be very useful if we had more involvement from the STAC members in the proposal process, also if we had a clearer understanding of what we wanted from the proposals. Waliser, should there be a group dedicated to monitoring? Or group coordination for monitoring? O'Donnell, I think it is important, but not critical. We should be identifying priorities. Waliser, should we have someone or a group overseeing the

monitoring? Yarish, I think we have a need to bring in an individual with expertise to coordinate the monitoring, maybe as an EPA staff-member. Waliser, coordinating monitoring would allow people to leverage off of each others work. Dennison, often there is equal funding between research and monitoring so it is important to get the most value from the monitoring dollars.

Swanson said that brings us to the next topic of Potential Priorities and that we need to identify priorities and make them clear. Glowka suggested one of the fellows look into fish as bio-indicators. Simpson noted that CTDEP has been doing this. Stacey said that he was hearing we are asking how can we better use the data, and should we be monitoring other things? And who can we oversee the monitoring? O'Donnell, I feel that it is important to provide funds to do the monitoring and the monitoring priorities need to be identified separately from those of research. Fitzpatrick said that the Chesapeake people are looking at the next step of including the biological effects using the ECOSIM model, why not do that here? Keser, the literature contains enough data to characterize the processes if we would do that, we wouldn't need to re-do everything. Fitzpatrick, but it would help you understand causality. Keser, there are many different people wanting to do different things, but there are some problems that are common to different people that need to work together. Thee different interests need to be prioritized. Swanson, in closing, said that the Storm Water II initiative will significantly change the dynamics of our local estuaries, possibly in a detrimental way and that he thinks it should be a future topic of discussion.

Meeting adjourned 2:58pm.

Attachment 1

February 27, 2004 STAC Meeting Attendees:

Travis Baggett
Ross Bagtzoglou
Alison Branco
Robert Burg
Hans Dam
Rick D'Amico
Bill Dennison
Charles deQuilfeldt
Stuart Findlay
Jim Fitzpatrick
Art Glowka
Tom Halavik
Milan Keser
Don Les
Jane MacLellan
Ed Monahan
John Mullaney
Mark Parker
Jim O'Donnell
Joe Salata
Peter Sattler
Nancy Seligson
Dave Simpson
Donna Snellgrave
John St. John
Paul Stacey
Larry Swanson
Mark Tedesco
Johan Varekamp
Chris Villari
Duane Waliser
Mickey Weiss
Charlie Yarish