



Science and Technical Advisory Committee
Partnership for the Delaware Estuary:
A National Estuary Program
www.DelawareEstuary.org

DRAFT Minutes
January 4, 2007
Partnership for the Delaware Estuary - Wilmington, DE

Members or Alternates Attending:

Ken Anderson II – PADEP
Greg Breese – USFWS
Dr. Gary Buchanan – NJDEP
Lance Butler – PWD
Dr. Dewayne Fox – DE State University
Dr. Tom Fikslin – DRBC
Dr. Jack Gallagher - Univ. of Delaware
Simeon Hahn – NOAA
Dr. Bob Hoke – DuPont
Amy Jacobs - DNREC
Dr. Desmond Kahn* - DNREC
Dr. Sue Kilham – Drexel University

Dr. John Kraueter – Rutgers University
Dr. Danielle Kreeger – PDE
Dr. Dave Russell – EPA Region 3
Dan Soeder - USGS
Dr. Chris Sommerfield - Univ. of Delaware

Also Attending:

Dorina Frizzera – NJDEP Coastal Manag.
Mike Haberland - NJDEP
John Kennel, Jr. – DNREC
Kathy Klein – PDE
Krista Laudenbach-Nelson – PDE
Martha Maxwell-Doyle – PDE

*Desmond Kahn was voted in as a new member during the meeting (see below).

I. Welcome & Introductions (Daniel Soeder, STAC Chair)

Dan Soeder officially opened the meeting at 9:35 a.m. and welcomed all in attendance. Introductions were then made.

1. Counting Desmond Kahn who was voted onto the STAC during this meeting (see below), seventeen of the twenty-one STAC members were in attendance, along with three other Partnership staff and three guests.
2. Mr. Soeder first reviewed the scheduled agenda. He then asked if there were any comments or changes requested for the minutes from the September 28, 2006, STAC meeting, which had been circulated in draft form for review prior to this meeting. A few minor edits were requested. With no further discussion, the minutes were accepted contingent on these corrections being made.

II. PDE and Strategic Planning Updates (Kathy Klein, Executive Director)

1. Ms. Klein first referred to the 2006 PDE activities report and asked STAC members to consider making a donation to the annual appeal. Several STAC members are regular contributors and we always strive for 100% participation by our Board members, staff and key partners.

2. The conceptual framework brochure was mailed to about 24,000 people with support from PA CZM and DNREC, and we've received excellent feedback on this product.

3. Ms. Klein and Ms. Maxwell-Doyle also discussed recent progress in developing a strategic plan for the Partnership, completing a process initiated prior to the 2004 reorganization of the program under one roof. Importantly, the white paper and other recent science products were used to help define many strategic priorities for the next 3-5 years. We'll share more about strategic planning with the STAC as soon as possible.

III. STAC Membership Update Consideration of One Addition to STAC (Dan Soeder, STAC Chair)

1. Dan Soeder welcomed Drs. Bob Hoke and Dewayne Fox to the STAC. Although they had been added prior to the previous STAC meeting, both had not yet attended a STAC meeting.

2. Mr. Soeder then noted that we are considering the addition of one more member to the STAC, to round out our number to twenty-one members, which is the full compliment allowed in the STAC charter. Mr. Soeder asked Dr. Kreeger to introduce this nominee.

3. Dr. Kreeger introduced Dr. Desmond Kahn, who was in attendance. Dr. Kahn is a fisheries biologist at DNREC, with considerable expertise in fisheries management such as with blue crabs, weakfish, and striped bass. Dr. Kahn's curriculum vita was circulated for review while the group discussed the nomination.

4. STAC members noted that the addition of Dr. Kahn would help round out the expertise on the STAC, providing important coverage regarding fisheries and living resources, and perspectives from the state resource management community. Dr. Kreeger noted that PDE had sought a state fisheries representative to participate prior to formation of the STAC, but due to busy schedules there was no one available until Dr. Kahn was identified as willing and able. EIC members and DNREC management also supported the addition of Desmond Kahn.

5. Although all STAC members supported the addition of Dr. Kahn, the group discussed whether to add him as an elected representative or as a second standing representative of DNREC (Amy Jacobs is already the appointed DNREC representative). The group decided that only one person should be the official standing representative of an EIC-appointed group, and it is up to that group to appoint this one person. Therefore, the STAC felt that Dr. Kahn should be added as an elected member, but with a 2-year term retroactive to the formation of the STAC in June 2006 (i.e., term would end June 2008).

6. Mr. Soeder then initiated a discussion about term lengths, and the group was reminded that the terms for those elected members who were started on 1-year terms (i.e., 7/06 to 6/07) will be expiring on June 30th. Dr. Kreeger noted that there will be at least one more STAC meeting before the end of these terms, at which time more can be discussed about how to handle elections. However, Dr. Kreeger asked these STAC members whose terms are expiring to indicate before the next meeting whether they would consider staying on and participating in the next election.

7. (later in the morning) Dr. Kraeuter entered a motion to accept the nomination of Dr. Desmond Kahn as a new elected member of the STAC for a 2-year term, retroactive to July 1, 2006, and contingent on subsequent approval by the EIC. Dr. Kilham and Mr. Miller jointly seconded the motion. **VOTE:** The present members of the STAC then voted on the motion: 16

voted yes, 0 voted no. The motion was carried, and Dr. Kahn was accepted as a member of the STAC contingent upon EIC approval [*Update: The Estuary Implementation Committee met on January 10, 2007, and the addition of Dr. Kahn to the STAC was approved.*]

IV. STAC Review of Estuary News Articles (Dan Soeder, STAC Chair)

1. Mr. Soeder initiated a discussion about whether the STAC would be willing and able to look over upcoming newsletter articles that are science-themed. Dr. Kreeger noted that over the past year there has been an upswing in the science content of the newsletter, with each thematic issue having at least one to several pieces on topics that the STAC might comment on. There have also been a few criticisms of some of the content, which might have been less of an issue if we had provided some technical feedback/suggestions to the authors to potentially avert perceived problems.

2. Dr. Kreeger stated that PDE was not seeking formal peer review, since the newsletter is not a journal and we also prefer, at times, to provide opposing views on potentially controversial subject matter. Each issue carries a disclaimer that the views of the author are not necessarily shared by PDE or any of our partners. This being the case, PDE felt that it would be helpful to have the STAC look over things to identify any misstatements, faulty logic, and to point out red herrings that could cause problems. STAC feedback would then be considered by PDE and presented (anonymously) to the authors, which they (and PDE) could choose to accept. Dr. Kreeger reassured the STAC that they would not be credited for "blessing" any newsletter content, and so there would be no chance for problems.

3. The STAC asked about logistics and timing. Ms. Klein noted that the STAC could be sent science-themed articles approximately two weeks prior to printing, and if any STAC members were interested in responding they would have a fixed amount of time to provide input. The STAC agreed that this would be acceptable.

4. Dr. Kraeuter suggested that PDE put all the newsletters and article titles up on the website and provide a search function or some way to scan back issues for content of interest. Ms. Frizzera also suggested considering a limited-access portal for members. Dr. Kreeger noted that all the newsletters are currently available as downloadable PDF files; however, as yet we have not provided article titles and authors which would be easy to do. A searchable directory is something to work toward, possibly as part of the new web-based information gateway. And PDE is also considering ways to provide a members-only area for Board members, EIC members, STAC members, and possibly contributing "Friends of PDE."

5. Ms. Klein asked the STAC to volunteer ideas for future themes, and she agreed we should indicate the themes of past newsletters on our website.

V. Science Conference Update and Planning (Danielle Kreeger, Science Director)

Most of the STAC meeting was spent discussing the upcoming science conference and planning those areas of the program that were not yet scheduled. Much of this dialogue was not recorded in the minutes.

1. Science Conference Program. A draft of the program that was sent to the printer was circulated for review and comment. Since much of the daytime programming had already been set, this discussion focused on the evening programming.

2. All of the abstracts were reported to now be in, having received the last one the previous day. The current program draft containing all abstracts was circulated for comment. Dr. Kreeger reported that more than 100 presentations were now expected and we had received 175 registrations to date. Current projections are that 240-270 people would be attending as part of the combined science Conference and Environmental Summit.
3. The budget for the conference appears to be healthy and the registration rate was set to meet or slightly exceed the needs not covered by direct sponsorship. The overall budget was expected to exceed \$100,000; however, sponsorship exceeded \$50,000 and we also had some carryover funds from the 2005 meeting.
4. The STAC discussed giveaways and other amenities.
5. Dr. Kreeger reminded the STAC how this meeting is different from other science-themed meetings that are either programmatic or thematic in focus. The Delaware Estuary Science Conference fills a niche that helps to advance ecosystem- and watershed-based management and science by building linkages among the science, management and policy sectors. Participants have the chance to interact with, and give presentations to, individuals that they would never interact with otherwise. This discussion served to remind STAC members why the conference includes both general sessions as well as special sessions (e.g., the new policy session), which are designed to get managers talking with academic scientists for instance. It is also why the moderator teams were generally selected to pair up science and management individuals from different sectors.
6. Ms. Klein reviewed the program and principal goals of the Environmental Summit, which was planned to be held concurrently. There is interest in broadening the scope of the biennial meeting to capture on-the-ground practitioners and NGO's to address other CCMP needs.
7. The STAC then discussed how to handle the evening programming, particularly during the first night which had no formal presentations scheduled and which was designed to address goal-setting needs and the theme of linking between science, management and policy. Ms. Frizzera suggested this is an excellent opportunity to engage the Summit attendees. Dr. Gallagher suggested presenting challenge questions, the "more controversial the better," to get folks talking.
8. The STAC then worked together to draft challenge questions, and Ms. Frizzera and Dr. Kreeger captured these to be drafted for use at the meeting. Dr. Kraeuter, Ms. Frizzera, Ms. Klein, and others agreed to moderate the evening panel and present the challenge questions. These challenge questions might also form the basis for future discussions with both the EIC and possibly even as a focal point for a NEP Steering Committee meeting.
9. Mr. Soeder asked what products might be developed from this conference. Dr. Kreeger noted that there would not be another white paper, but a post-meeting proceedings was being considered.
10. Dr. Kraeuter asked whether a simple focus was needed in some challenge questions, such as "Who is managing the estuary, and are we doing a good job?" Dr. Kahn, Ms. Frizzera and others responded indicating that there are many groups managing resources in the estuary, some very well. A discussion ensued regarding the definition of ecosystem-based management and what it means to different people. A consensus emerged that while we do manage some resources well, others may not be managed as well or not at all. Asked for an

example, Dr. Kraeuter commented that channel deepening might be an example since most groups involved with that issue are collecting information but not really managing per se.

11. An ecosystem-based management approach was regarded as a good topic to follow-up with in the future, potentially as a focus for PDE as a NEP. Drs Sommerfield and Fikslin noted that there are some approaches, "wiring networks," that might help us define who is the "overall manager" or how "overall management" might be promoted. Dr. Gallagher suggested we follow-up with the wiring approach, considering that the different states add yet another layer of complexity, but it sounds like a decent approach. Mr. Hahn suggested that the same questions were relevant for the restoration session and for the future, that ecosystem-based restoration is also something to consider. Dr. Fox also suggested that we take a look at models for what has been done, or is being done, elsewhere (e.g., Puget Sound, Chesapeake, Hudson).

12. Dr. Kreeger suggested we re-visit this topic of ecosystem-based management in the future after the conference. She noted that PDE is very interested in these topics because they get to the C in CCMP (comprehensive) and they also should help us marshal limited resources towards key life-sustaining resources and factoring in natural capital valuation. PDE has considered ways to engage economists and national specialists to frame ecosystem-based management and ecosystem-based restoration around our conceptual framework and ecosystem matrix, for example.

VI. Report on Other PDE Science Initiatives and Opportunities (Danielle Kreeger, Science Director; Krista Laudenbach-Nelson, Watershed Restoration Coordinator)

1. State of the Basin/Estuary Report. Dr. Kreeger provided a summary of the status of the State of the Basin Report, which PDE is working on in support of DRBC. The data were noted to have been collected by participants from PDE, the University of Delaware, Rutgers University, Cornell University and Penn State University, and DRBC was working to merge datasets and determine the best way to present information regarding all of the previously selected indicators, much of which is very patchy and complex. At some point, we believe we will ask the STAC to provide a review of at least the estuary portions of the report, but the current timeline for this was unclear.

2. STAC members asked several questions about the working table of contents, considering there was no clear distinction of what would constitute an estuary-focused section. Dr. Kilham noted an executive summary for the estuary was listed. Dr. Kreeger noted that the table of contents had been revised significantly, and that an earlier draft had a specific estuary chapter. Dr. Fikslin noted that there are data questions that still need to be resolved with regard to water quality, and this indicates that there is still a way to go on this project. The STAC suggested that PDE get clarification on how the estuary information would be presented. Ms. Klein and Dr. Kreeger noted that the STAC would be given more information as it becomes available, and we may ask to have an estuary focus reinserted.

3. Environmental Goal-Setting. Dr. Kreeger noted that as a NEP, the Partnership is expected to facilitate development of environmental targets that are stretch goals but potentially reachable. Future STAC discussions will be needed to provide guidance on how best to do this, considering the realities of the current funding landscape and using the patchy data we have for many key indicators.

4. Website Plans. Dr. Kreeger provided an update on our progress in putting the Conceptual

Framework up on the PDE website as the basis for a new data clearinghouse named the Delaware Estuary Information Gateway (DEIG) (<http://www.delawareestuary.org/gateway.asp>). We've built in our own expertise to perform site updates and build our server capacity. We received a grant from USGS to hire an intern to start putting meat on the bones, and discussions are underway with IT specialists from Penn State to possibly help us build geospatial data platforms in the future.

5. Dr. Kreeger asked the STAC to furnish any reports, datasets, or links to such materials that might be built into the info node. The focus will be on publicly available information, but we would also like to indicate where additional information may exist, providing points of contact.

6. Regional Restoration Planning. Ms. Laudenbach-Nelson discussed current PDE interests in possibly shepherding a regional effort to coordinate how restoration work gets completed and prioritized (or lack thereof). Much of the current restoration and enhancement is conducted piecemeal, often in response to specific issues or impacts. This effort might pull in diverse partners to share ideas on restoration needs and opportunities, merge project directories into a comprehensive ecosystem matrix, thus highlighting areas where we perceive high needs and numerous opportunities, and also areas where there may be high need but fewer opportunities.

7. Taking cues from other areas of the country where they have attempted regional restoration planning (e.g. LA), we foresee the need to subdivide the watershed into regions, such as those highlighted in our conceptual framework brochure. Project directories and needs assessments would then be completed in each area, focusing on signature resources and key environmental functions provided by the different system components therein. An added benefit of coordinated restoration on a watershed or regional basis would include the possible ability to undertake larger projects or acquire lands that are too expensive for any one entity. And since land acquisition and restoration costs will continue to increase, this effort would consider options for undertaking "restoration up front." The Partnership is considering convening a workshop later in 2007 to explore these concepts, contingent on partner and STAC interest and depending on whether support is available.

8. Delaware Estuary Benthic Inventory. Ms. Laudenbach-Nelson provided a fact sheet on prospects for an integrated benthic assessment that PDE might assist in coordinating. Although this is only a concept at this point, this effort might help to address multiple management needs from a single product, or suite of interrelated products, rather than the current approach of assessing benthic conditions in response to specific questions. DEBI would build on the acoustic mapping efforts underway by DNREC characterize the substrate conditions of the Bay bottom, would link to historic datasets and other benthic studies currently underway, and would incorporate biological components along with physical conditions. Ultimately, PDE would like to see a comprehensive inventory and associated metadata that tallies and maps key physical and biological attributes of the benthic ecosystem.

9. The STAC asked several questions about this possible initiative, but time was constrained. Ms. Laudenbach-Nelson noted that PDE would be convening a 1-day workshop on March 15th, to explore who might be interested in this and why (i.e. a stakeholder workshop). She also noted that she would send the STAC follow-up materials on the workshop, a draft invitee list, as well as a revised DEBI fact sheet. Dr. Kreeger and Ms. Maxwell-Doyle reiterated that PDE is only exploring options at this point, based on a strong statement for the need for benthic ecosystem work at the last science conference and in the white paper - the STAC would be

engaged further if this effort gains any traction.

10. On-the-Ground Restoration Projects Planned for 2007. Ms. Laudenbach-Nelson briefly reported that PDE had received funding to perform two separate pilot restoration projects in 2007. These are not routine restoration projects, but rather, they are restoration science studies to demonstrate the effectiveness of new approaches that may help strengthen our region's tool kit for dealing with emerging problems such as sea level rise and tidal marsh erosion.

11. The first study, funded with a one-year grant from the National Fish and Wildlife Foundation, will support a project to stabilize eroding marsh edges using "living shoreline" approaches in which bivalve shellfish (e.g., mussels) are encouraged to recruit and form reefs, which armor and stabilize shorelines. These reef communities have been shown to be effective in this regard elsewhere in the U.S. (e.g. the lower Chesapeake Bay, Gulf coast), and they provide added benefits to water quality and fish habitat. The Haskin Shellfish Research Laboratory at Rutgers University is our partner in this project (PI's: Dr. David Bushek from Rutgers; Dr. Kreeger from PDE).

12. The second study, funded with a generous one-year grant from ConocoPhillips, will support a project to re-introduce species of freshwater mussels that appear to have been extirpated from the Brandywine River. Ms. Laudenbach-Nelson explained that these mussels provide important ecosystem services, much like their marine counterparts, by filtering the water, improving habitat for other organisms, and serving as excellent bioindicators. Currently, it appears that only one of the 7-8 native mussel species that were likely to have been native to the Brandywine River seems to be still abundant. This project will test whether the water quality and environmental conditions in the Brandywine are capable of supporting mussel species that still exist in nearby tributaries of the same basin, and if so, those species may be mass-propagated in future years if funding is obtained. In this project, we will gauge stream readiness for restoration by monitoring health of caged mussels transplanted from adjacent streams, relative to controls. We will also perform preliminary tests to establish propagation methodologies in preparation for future hatchery production. Besides PDE (PI: Kreeger), key partners in this effort will be the US Fish and Wildlife Service (PI: Dr. Catherine Gatenby), Cheyney University (Dr. Steven Hughes) and Drexel University (M.S. student).

13. Ms. Laudenbach-Nelson noted that we may ask for help from certain STAC members (and guests) to assist us as we seek permits and best approaches for conducting these new projects. She also noted that more information will be furnished at the next STAC meeting.

VII. Additional Items, Future Meetings & Other Business (Dan Soeder, STAC Chair)

The next meeting was scheduled for March 28th, 2007 at the PDE offices in Wilmington.

VIII. Adjourn. Mr. Soeder formally adjourned the meeting of the STAC at 2:25 p.m
