

**Site Review Team's**  
**Review of the**  
**Pennsylvania Sea Grant - Program**  
**April 27-28, 2011**

**Jonathan Eigen**

  
\_\_\_\_\_  
Chair, Federal Program Officer

6/13/2011  
Date

**Nancy Rabalais**

  
\_\_\_\_\_  
Co-Chair, National Sea Grant Advisory Board Member

13 June 2011  
Date



## INTRODUCTION

The Site review team (SRT) review of the Pennsylvania Sea Grant (PASG) Program took place from April 27-28, 2011.

The SRT members included:

Jonathan Eigen, Chair National Sea Grant College Program Bethesda, Maryland	Nancy Rabalais, Co Chair Sea Grant Advisory Board Baton Rouge, Louisiana
Dr. John Gannon Scientist Emeritus, U.S Geological Survey Fill in, Michigan	Dr. John Lyon National Regional Coordinator, NOAA Silver Spring, Maryland
Dr. Jeff Reutter Director, Ohio Sea Grant Program Columbus, Ohio	

Prior to the beginning of the SRT visit, and in conformance with National Sea Grant College Program guidelines, Pennsylvania Sea Grant issued a public notice of the upcoming SRT visit by inviting interested parties to send written comments to the SRT Chair. The public notice was posted on the PASG website. The SRT Chair did not receive any letters in response to the public notice.

The SRT review took place at the Tom Ridge Environmental Center in Erie, Pennsylvania. During the review, the SRT met with representatives from The Pennsylvania State University System, The Pennsylvania Department of Environmental Protection and The Pennsylvania Fish and Boat Commission, among others. The report of the SRT follows the guidelines of the Site Review Team Procedures Manual. The SRT reviewed and discussed broad issues related to the PASG Program's: 1) Organization and Management of the Program, 2) Stakeholder Engagement, and 3) Collaborative Network Activities. Within each of these areas, the SRT report presents the findings and recommendations of the SRT.

### I. ORGANIZING AND MANAGING THE PROGRAM

#### Leadership

The Pennsylvania Sea Grant program has demonstrated excellent growth and accomplishments since its founding in 1998. The program began with limited funding for a small extension effort dedicated to Lake Erie. The director and his staff have built PASG into a well-rounded statewide Sea Grant program encompassing all facets of the Sea Grant mission (Extension, Communications, Education and Research). The director's "freedom to fail" philosophy has encouraged the staff to be extremely innovative and entrepreneurial in seeking out and developing program opportunities and external funding. The Sea Grant Director is also

the senior associate dean for research, graduate studies and outreach at Penn State University's Behrend college, a status that has accorded the program access to certain campus facilities, such as in-kind funding, good access to the University administration and broadcast time on the campus radio station, resulting in mutual benefit to Sea Grant and the University. The director is cognizant of potential succession issues and has begun making plans for this eventuality by including opportunities for upward mobility within the program's staffing structure, as well as encouraging and providing support for the staff to pursue advanced degrees, offering mutual benefit to the employee and the Sea Grant program. The University is encouraged to develop future leadership within the program in a manner that maintains and builds upon the synergies that currently exist and to approach graduate education in support of a more developed program.

### **Programmed team approach**

The program's origins and emphasis have been on extension, primarily due to lack of funding for research in the original federal award. Despite this handicap, PASG has developed good linkages in various areas of applied research, such as avian botulism and bullhead tumors. The program staff is given the freedom to develop and participate directly in a number of applied research projects. Sean Rafferty and Eric Obert are continuing the program's work on bullhead, while Karla Kaczmarek has jointly developed a research effort on lake sturgeon in coordination with the Regional Science Consortium.

### **Support**

The Pennsylvania Sea Grant program is well supported by the Penn State system, particularly from its institutional home, Penn State Behrend. The University is clearly providing more support for the program than is shown on the federal grant award. The program benefits from being able to utilize the infrastructure of the Dean's office to minimize administrative costs. The program also benefits from direct financial and in-kind support from various state entities, including support from the Fish and Boat Commission for the program's offices in Harrisburg. The location of the main Sea Grant office at the Tom Ridge Environmental Center gives the program a unique platform from which to operate. Sharing an office location with the Department of Environmental Protection, The Department of Conservation and Natural Resources, the Regional Science Consortium and various other environmental NGOs has been advantageous to the PASG program in developing close working partnerships with the aforementioned groups.

The Chancellor of Penn State Behrend, Don Birx has a goal of doubling the research at his campus and sees the Sea Grant program as a critical component of his development strategy for the University. The SRT is pleased that the Chancellor's vision seeks to build the capacity of his campus through the development of graduate programs in a number of environmental fields, including biology, chemistry and engineering. The SRT sees that the Sea Grant program can act as a linchpin to help to bring these together. The SRT also sees the existence of an MBA program as an opportunity to link issues of the program with socioeconomic activities at Behrend.

## II. STAKEHOLDER ENGAGEMENT

The PASG's extension and advisory services on Lake Erie are exemplary. Each staff person is networked well within the community and all activities are well within Sea Grant's mission and address the priorities of local and regional stakeholders. As particular projects dictate, there has been strong involvement of scientific experts, agency representatives and stakeholders with the Sea Grant extension/advisory agent serving a central role as catalyst and communication hub. Repeatedly, partners lauded PASG for stepping up to the plate and pitching in at critical junctures, with assistance (personal help, small but important amounts of funds, or both) to keep a program or activity on track towards successful completion. One partner noted that, "PASG takes good ideas and finds ways to make them happen." Stakeholders especially appreciated PASG's flexibility in delivery of programs and activities and willingness to adjust quickly to needs. Such flexibility is an attribute and worthy of fostering as the program grows in succeeding years.

It is also noteworthy that funding has often gone both ways between PASG and partners on projects of mutual interest. Sometimes, a partner's fiscal policies or red tape made it difficult or too slow for the partner to fund an activity, but PASG was able to fund the project expediently. On other occasions, partners have provided PASG with funding to undertake work that would be difficult for the partner to do with existing personnel. Partners have also recognized that extension, outreach and education are PASG's strong suites, sometimes preferring to fund PASG to do this kind of activity. These kinds of partnerships, built upon personal relationships, mutual respect and trust, are meritorious.

The outreach activities with students and teachers also are exemplary. Each Educator has gone the extra step to ensure that activities are tailored to teachers' and students' needs. The weekly one-page "Learn about the Environment" series in the *Erie Times-News* is one of the best Newspapers in Education (NIE) examples that this SRT has seen. PASG is encouraged to share this success story and lessons learned with the Great Lakes Sea Grant Network. Similarly, the shipboard education programs for grade school and high school students appear to be highly successful. PASG is encouraged to exchange information with other Great Lakes shipboard-based programs (e.g., Inland Sea Education Association) to share lessons learned and continue pursuit of educational excellence and effectiveness.

Fewer staff and financial resources are being devoted to the Delaware and Susquehanna basins in comparison with the Lake Erie basin. Nonetheless, the extension services being provided in these areas appear to be of priority to these regional communities and appropriate to the Sea Grant mission. Work with teachers and students in Chester, PA (Delaware basin) are especially noteworthy. The development of the Aquatic Nuisance Species plan is not only applicable to the Susquehanna basin, but also statewide. Moving forward, the development of an extension /communications plan for PASG activities in the Delaware and Susquehanna basins is encouraged. A component of this plan should address the desired balance in allocation of human

and financial resources among the Lake Erie, Delaware and Susquehanna basins in the next 5-10 years.

Co-location with key partners has been beneficial to extension staff in the Lake Erie and Susquehanna basins. Such co-location should continue to be pursued in the Delaware basin to improve the potential for greater collaboration. In addition, opportunities to partner with the Chesapeake Bay Program and the mid-Atlantic Sea Grant programs should be pursued because of the importance of the upper reaches in PA of the Delaware and Susquehanna watersheds to downstream environmental quality.

### **III. COLLABORATIVE NETWORK/NOAA ACTIVITIES**

PASG's use of collaborative leadership and partnerships has yielded great value to the community. This has involved coordinated strategic planning on issues, cooperative resource accumulation and cost sharing, and partnering with a variety of entities.

Collaboration takes the form of research, extension, communications, outreach and education. The program has addressed a variety of state issues using collaboration to bridge the Great Lakes and marine coasts, estuaries and riverine systems, and watersheds that influence these coastal and marine resources.

PASG actively seeks out linkages. With the state agencies the program has shared issues, joint funding and proposal writing. State agencies have sought out PASG for its creditability with stakeholders in outreach and communications on ticklish issues. The program is seen as being able to overcome bureaucratic limits with flexibility and a 'can do' attitude.

An example of collaborative network activities rolling up from the regional to the national level and PASG's flexibility is in the research and the publication of a citizens' guide to Marcellus Shale gas extraction (*Marcellus Shale Citizens' Guide*, fall 2010, NSGLC-10-04-08). PASG's Ann Faulds and Sarah Whitney looked at water resources issues and saw the need for the guide for state stakeholder engagement. They approached the Sea Grant National Law Center to develop the citizens' guide, which has been used statewide and regionally, and is a focus of mock courts and other stakeholder education and extension efforts. Approximately six states are in the Marcellus shale region and all have water quality issues that could affect marine and coastal receiving waters. Other Sea Grant programs are evaluating the utility of the document for their issues.

PASG's involvement in the issue of Pharmaceuticals and Personal Care Products (PPCP) illustrates the program's ability to implement a national outreach effort at the state level, and to collaborate regionally with other Sea Grant programs. By utilizing information from the national media and from Illinois-Indiana Sea Grant education and extension efforts about PPCP issues and the influences on water quality and animal health, PASG has sought to facilitate this dialogue in PA. The program has used newspaper and other media education, and partnerships with local groups, to focus on this water quality problem and offer partial solutions through the

safe disposal of PPCP. Sea Grant has fueled community action with PPCP collection days (May 14 in Erie, PA) and by connecting with regional programs and the Sea Grant network.

These are two examples drawn from a number of collaborative efforts with the Sea Grant network. The program has developed products that it has made available to the Sea Grant network for broader use while also working with the network to share existing products and programs with PASG stakeholders—illustrating its ability to effectively leverage and share information and resources across programs.

To advance its mission, PASG also fosters collaboration among regional, state and local government, academic institutions throughout the state, NGOs and schools. These partners include NOAA's Coastal Zone Management Program, the Pennsylvania Department of Environmental Protection, the Department of Conservation and Natural Resources, the Great Lakes Restoration Initiative, the Centers for Ocean Sciences Education Excellence and more. Sea Grant, Pennsylvania State University and the U.S. Geological Survey's Water Resources Research Center collaborate on annual calls for research co-funded by each, a biannual meeting of water-oriented professionals, and advisory board activities.

The Tom Ridge Environmental Center and facilities provide a centralized location for collaborative efforts. Many of the Sea Grant and related state personnel have been involved in the development and construction of laboratories, museum facilities, classrooms and offices. Over ten years of collaboration resulted in the fruition of this dream. On site are approximately seven entities, including the state's Department of Environmental Protection, Coastal Zone Management, the Regional Science Consortium at Presque Isle and others. PASG's work in aquatic invasive species and fish tumors is also based at this environmental center. The availability of laboratories is important in further development of collaborative research projects. PASG has also engaged the NOAA Regional Collaboration Teams by participating in workshops and providing educational materials. This has included the Climate education and training materials developed by the Great Lakes Regional Team and Coordinator, Michigan Sea Grant and students at the University of Michigan as funded by National Sea Grant Regional Grant in 2010. These training modules focus on learning about Great Lakes climate issues and adaptation, and were a focus of workshops held in November 2010 with Ohio Sea Grant/Great Lakes Sea Grant Network. PASG and NYSG developed a set of workshops in 2011 and partnered on a proposal for a Great Lakes climate issues funded the National Sea Grant in 2011.

#### **IV. FINDINGS, RECOMMENDATIONS and SUGGESTIONS**

##### **Findings**

- Collaboration with state agencies and the Regional Science Consortium
  - The review team was very impressed with many examples of outstanding partnerships with state agencies and the Consortium and testimonials from their leaders including DEP, DCNR, the Fish and Boat Commission and state parks. This is a great strength of the program.

- Collaborative proposal development with state agencies and the Regional Science Consortium
  - PASG is viewed as a good partner by PA state agencies and the Consortium. These agencies frequently partner with, or provide grant funding to, PASG for research, education and outreach projects for the state (outstanding examples: Sarah Whitney's leadership of the AIS State Plan; the excellent collaboration between Jeanette Schnars, Executive Director of the Regional Science Consortium, and Karla Kaczmarek to advise a Ph.D. student from University Park studying sturgeon).
- Education program at all levels
  - The education program is clearly a strength of PASG. The review team saw numerous examples of outstanding educational efforts, including:
    - Ann Faulds education program for teachers and students in Chester, PA,
    - Climate change education led by Sara Grise, Marti Martz and Helen Domske (NY),
    - Pharmaceuticals led by Sara Grise and Marti Martz,
    - Bluff erosion led by Marti Martz and Don Benczkowski,
    - NIE weekly environmental page in the *Erie Times-News* by Anna McCartney,
    - Dave Boughton's fishing education and shipboard education programs aboard the US Brig Niagara, and
    - Sister Pat Lupo's Earth Action/Earth Force Programs.
- Collaborative RFPs and funding with Water Resources Research Center (WRRC)
  - The PASG Program has collaborated with the WRRC program at University Park to solicit and fund a number of small research projects. The review team found this to be a logical way to reduce costs for both programs and enhance their impacts. We encourage them to continue the practice.
- Pharmaceutical recycling program
  - PASG has taken a pharmaceutical recycling program developed by Illinois-Indiana Sea Grant, modified and added value to it and launched it very effectively in Pennsylvania. PASG also provided leadership for the Great Lakes Sea Grant Network in this area and led the development of a \$530,000 successful proposal to the U.S. EPA. PASG is now subcontracting with the other programs in the Great Lakes Sea Grant Network to complete the work.
- Responsiveness to emerging needs and opportunities
 

The program is very nimble and flexible and has demonstrated a great ability to rapidly respond to emerging needs and opportunities. This was a common theme the review team heard over and over again from representatives from state agencies who clearly appreciated this attribute.
- Preservation and maintenance of biological collections
  - PASG supports the maintenance of biological collections from Presque Isle Bay and northwest Pennsylvania in the natural history collections of the Tom Ridge

Environmental Center. They make these collections available to students and research scientists.

Recommendations (items the Program must consider)

- The SRT is encouraged that PASG is documenting performance measures. However, PASG is encouraged to develop or adapt a program-wide system for this activity.

Suggestions (ideas the Program may want to consider)

- While finding space for Ann Faulds' programs has been problematic and ongoing, the SRT recommends that these programs eventually be co-located with an appropriate agency in order to strengthen liaisons in this area of the PASG program.
- Moving forward an extension communications plan for PASG activities in the Delaware and Susquehanna is encouraged.
- PASG may wish to find more ways to engage with the estuarine programs into which Susquehanna and Delaware basin watersheds drain. It is more obvious for Delaware because the estuary is within the boundaries of the state. The importance of Susquehanna watershed work should be clearly linked with issues in Chesapeake Bay since the Susquehanna River accounts for 41% of the Chesapeake Bay Watershed and 80% of the area draining into the main-stem bay. (From Hagy et al. 2004, *Estuaries*)

## V. BEST MANAGEMENT PRACTICES

- NIE Program and one page/week in *Erie Times-News*
  - While Anna McCartney was a reporter with the *Erie Times-News*, she frequently interacted with and collaborated with PASG education and outreach specialists. When she retired from the newspaper, Bob Light hired her part-time as the PASG Communicator. For the past 1.5 years, she has served in this role and also continued to include an entire page, once/week, highlighting environmental issues. One week prior to the page appearing in the newspaper, she provides lesson plans for teachers about the upcoming page on the PASG website.
- Frequent coverage on college radio station
  - Bob Light uses his position as senior associate dean for research, graduate studies, and outreach very effectively to benefit the program, the University and the state. He has successfully encouraged the college radio station to cover and air Sea Grant education and outreach issues related to critical environmental issues affecting the Erie area.
- Multiple programs and organizations collaborating and housed together within one outstanding facility
  - The Tom Ridge Environmental Center was completed in 2005. It is a fabulous facility overlooking Presque Isle Bay. It houses an IMAX theater, biological

collections, research laboratories, science classrooms, a cafeteria and gift shop, meeting rooms, and offices for several other environmental organizations. The close proximity of these offices has greatly facilitated collaboration.

- Sea Grant staff leading program to enhance public shoreline access through Lake Erie Land Conservancy
  - PASG staff member Dave Skellie provides leadership for the program's coastal lands efforts and has written every proposal for the Lake Erie Land Conservancy to enhance public access to the Lake and its tributaries to support the steelhead fishery. This includes 17 proposals resulting in the preservation of over 1,400 acres, 2 miles of Lake Erie shoreline, and 4 miles of tributary shoreline. This is a partnership with Sea Grant, DEP, DCNR and municipalities.
  
- Designation of Presque Isle Bay as an "Area of Recovery" (AOC) and the significant role played by PASG staff in assessing and documenting the reduction in fish tumors and lesions.
  - PASG staff members Eric Obert and Sean Rafferty developed strategies and protocols with support from U.S. EPA to document the occurrence of lesions and tumors in bullheads in Great Lakes AOCs. Their work was approved by the region, and they led a collaborative effort with DEP and USGS to document the recovery of the Presque Isle Bay AOC.

---

SRT AGENDA