



A Survey of the Sea Grant Education Network



Diana L. Payne, Ph.D.
NOAA Education Council, Washington D.C. – August 19, 2009



Presentation Overview



- **NOAA Sea Grant structure and philosophy**
- **Overview of the 2008 Sea Grant Education Network (SGEN) survey**
- **Survey results**
- **Summary**
- **Future plans**

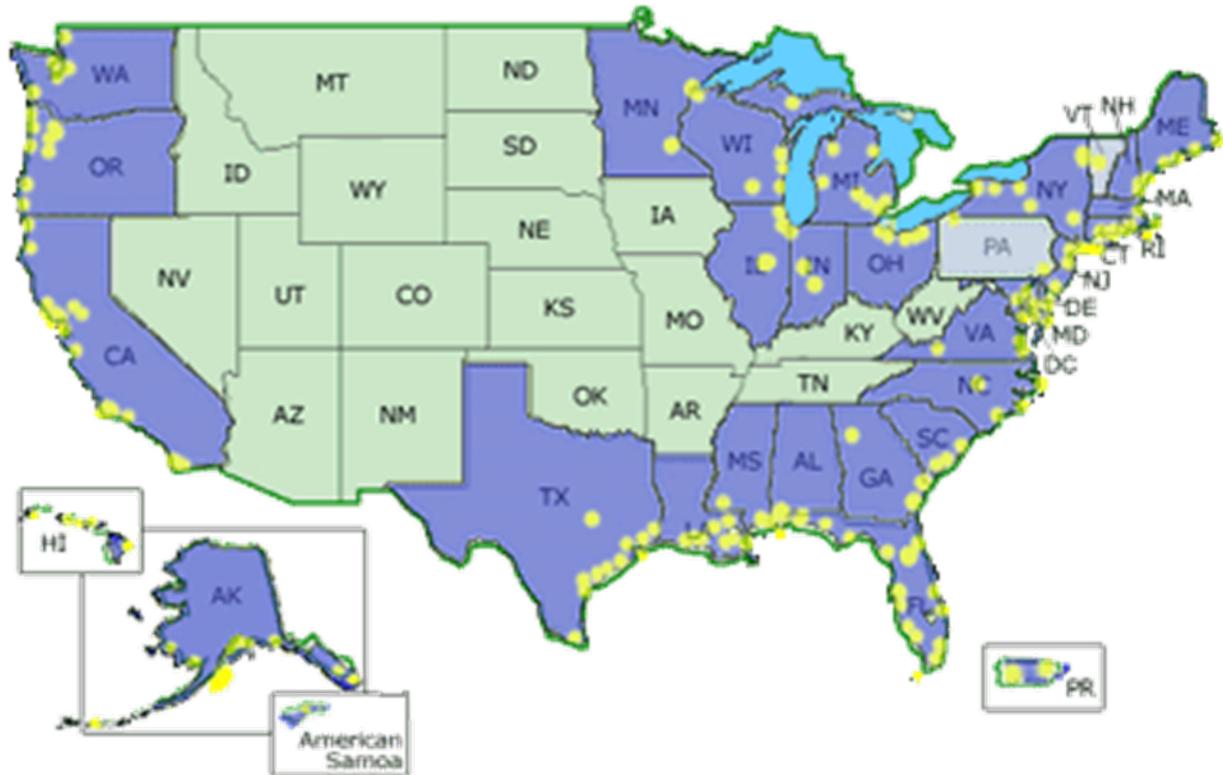


Program Overview



NOAA Sea Grant Infrastructure

- Modeled after the Land Grant system
- In partnership with universities
- Performance-based evaluation process
- Regional networks
- Locally-based infrastructure





The Sea Grant Education Network (SGEN)



The SGEN is a group of 63 professionals, a significant number of whom do not represent 100% educational FTEs. The SGEN is the oldest network of coastal and marine educators in the country. Expertise within our ranks may be equaled by a few groups but surpassed by no one. In addition to leading a wide range of local activities, many individuals in the SGEN are regularly sought—as highly respected leaders in the marine and aquatic science education—to participate in activities that have a broader, national impact.



NOAA Sea Grant Education Philosophy



NSGO

**“Tell me, I forget,
Show me, I remember,
Involve me, I understand”**

-Ben Franklin



NSGO



NSGO



NSGO



Overarching Goal



The SGEN enhances the awareness & understanding of marine and aquatic environments by developing & implementing multidisciplinary instruction & learning among audiences ranging from children to adults. Educational delivery focuses on science-based content which is reinforced through hands-on activities.



Overview of the SGEN survey



- **Survey items developed by SGEN Ex Com; administered via Survey Monkey**
- **Included Likert scale, short answer and multiple choice items**
- **Data collected April 9 - May 7, 2008**
- **Final n=46; at least one response from all but 2 of the 32 Sea Grant programs**

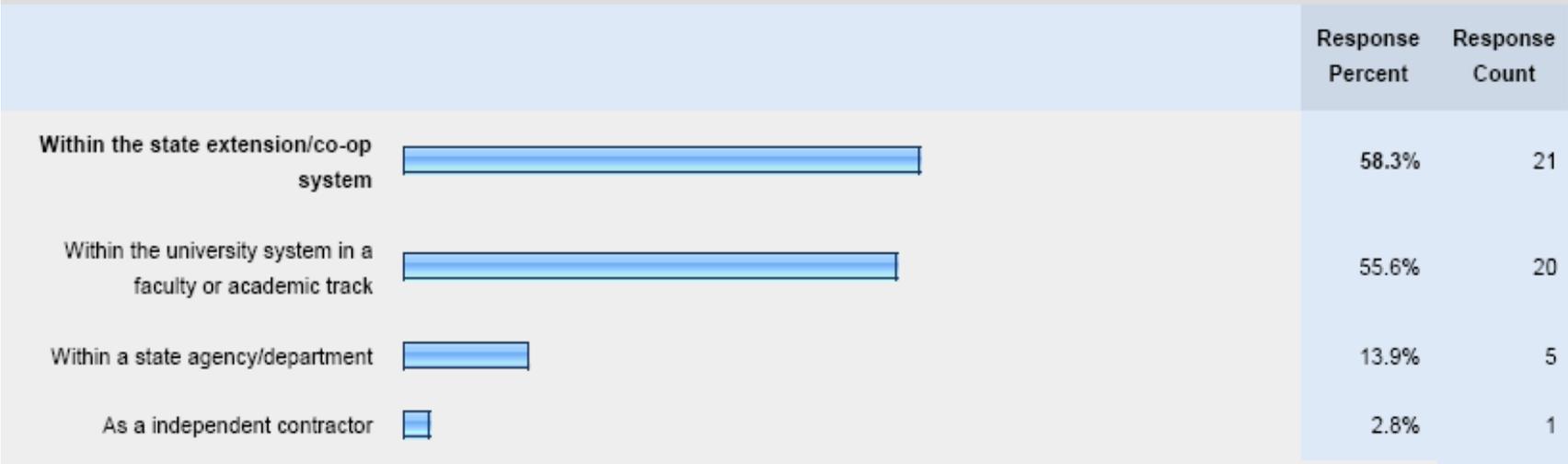




Results: Describe Your Job



5. How do you describe your work position? Check all that apply.





Results: Describe Your Job



- Although several members of the SGEN are a part of Extension, nearly as many claim an academic or faculty position
- Most Sea Grant Educators report either to their Director or program Extension Leader
- A surprising percentage of Sea Grant Educators completing the survey (more than 20%) do not receive any Sea Grant funding for their position



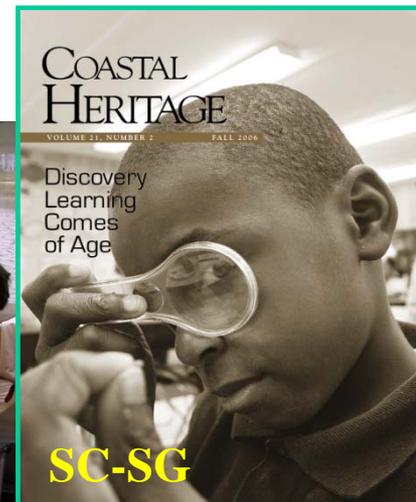
RI-SG



HI-SG



GA-SG



COASTAL
HERITAGE

VOLUME 29, NUMBER 2 FALL 2009

Discovery
Learning
Comes
of Age

SC-SG



Results: Interactions within Sea Grant



6. To what degree do you interact with other Sea Grant components?

	Never	Sometimes	Frequently	Always	Response Count
Communicators	8.7% (4)	34.8% (16)	45.7% (21)	10.9% (5)	46
Extension Specialists/Agents	0.0% (0)	21.7% (10)	56.5% (26)	21.7% (10)	46
Researchers	6.5% (3)	43.5% (20)	43.5% (20)	6.5% (3)	46
Regional Sea Grant Educators and/or Regional Projects	8.7% (4)	56.5% (26)	28.3% (13)	6.5% (3)	46
National Sea Grant Office	23.9% (11)	67.4% (31)	8.7% (4)	0.0% (0)	46



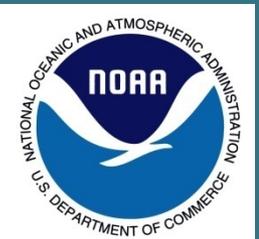


Results: Audiences Served



- *Frequently* work with high school teachers (51.1%) and middle school teachers (42.2%)
- *Sometimes* work with undergrads (61.4%), grad students (55.6%), families (55.6%), K-12 students (54.5%), informal educators (53.3%), elementary teachers (50%), visitors at informal education venues (47.7%), and other audiences, including resource managers, aquaculturists (40%)





Results: Activities Conducted

- *For educators:* observing systems (91.3%), coastal/Great Lakes ecosystems (89.3%), water quality (82.9%), invasive species (75.7%), marine debris (72.7%), fisheries (73.5%), climate change (72.2%), natural hazards (66.7%)
- *For families/public:* invasive species (64.9%), marine debris (63.6%), natural hazards (61.1%), ecosystems (60.7%)
- *Ecosystems topics for students:* K-12 (64.3%), undergrad & graduate (42.9%), scientists/other professionals (42.9%)
- Majority (90.7%) align activities w/Ocean Literacy Principles





Results: Activities Conducted



- **Many activities fit within the Sea Grant Healthy Coastal Ecosystems focus group, inclusive of topics such as ocean observing systems, coastal and Great Lakes ecosystems, water quality, invasive species, fisheries, marine debris, and climate change**
- **As many Sea Grant Educators frequently work with middle and high school teachers, the focus on Healthy Coastal Ecosystems is appropriate, as it fits into state and national education standards, which, along with state and national assessments, drive curriculum and instruction**





Results: Collaboration within NOAA



- **SGEN members report direct involvement with:**
 - National Estuarine Research Reserves (62.5%)
 - Office of Education (55.0%)
 - National Marine Sanctuaries (42.5%)
 - Coastal Services Center (42.5%)
 - National Marine Fisheries Service (40%)
 - National Weather Service (32.5%)
 - Office of Ocean Exploration (30%)





Results: Professional Affiliations



- **NMEA (95.1%); NMEA Chapter (90.2%)**
- **NOSB (89.3%)**
- **NSTA (48.8%); NSTA affiliate (48.8%)**
- **NAAEE (36.8%); NAAEE affiliate (24.4%)**
- **Coastal Ecosystem Learning Ctr. (22.6%)**
- **Int'l Assoc. for Great Lakes Research (19.5%)**





Results: Professional Affiliations

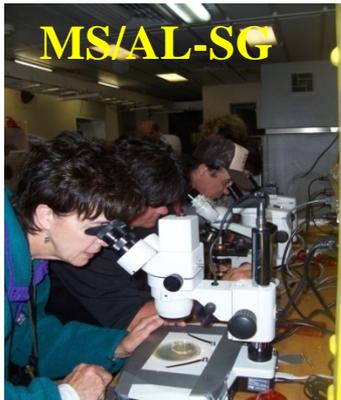


- **Sea Grant Educators reflect their commitment to bringing Sea Grant research and outreach to educators by their involvement in and leadership of national and local entities of NMEA, NSTA and NAAEE**
- **Sea Grant Educators are also a vital link in bringing coastal and Great Lakes sciences to teachers and high school students through the NOSB, thus annually bringing new generations of students into the coastal and Great Lakes science career pipeline.**



Results: Program Planning & Evaluation

- Majority (57.5%) utilize the logic model and/or gap analysis
- Evaluation strategies include:
 - Likert scale surveys (48.7%)
 - Pre/post tests to document change (48.8%)
 - Post-program evaluation (46.5%)
 - Interviews/qualitative assessments (46.5%)



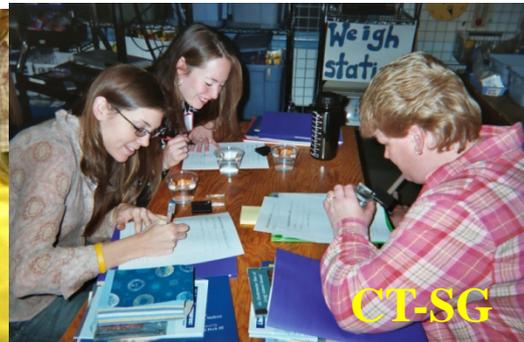


Results:

Program Planning & Evaluation



- As appropriate, informal assessment and evaluation techniques are utilized to quickly and easily provide information to make minor changes to a specific project mid-stream (e.g., a “show of hands” to identify participants with previous exposure to a sub-topic or to determine which participants are elementary, middle, high school or informal educators in a workshop)
- Long-term (longitudinal) evaluation are incorporated when feasible and as funds are available





Results: Indicators of Program Success



- **Frequently:**
 - Increase in participant knowledge (54.5%)
 - Skills learned (54.5%) [e.g., real time data access]
 - Change in behavior (45.5%) [e.g., implementation of a teaching strategy]
 - Use of workshop materials in the classroom (35.9%)
 - Increase in the use of materials (35.7%)
- **Sometimes:**
 - Participant presentations/articles (48.7%)





Summarizing Thoughts

- Although the SGEN is one of the smallest networks within the Sea Grant family, its members have consistently produced significant results and affected enduring change in the communities with which we work
- SGEN members are recognized leaders and innovators in coastal and Great Lakes education, and are often called upon as experts in marine and aquatic science literacy at local, regional and national levels
- SGEN demonstrate positive results and affect change in knowledge, skills, attitudes and behavior through a variety of activities and projects which reach a variety of audiences

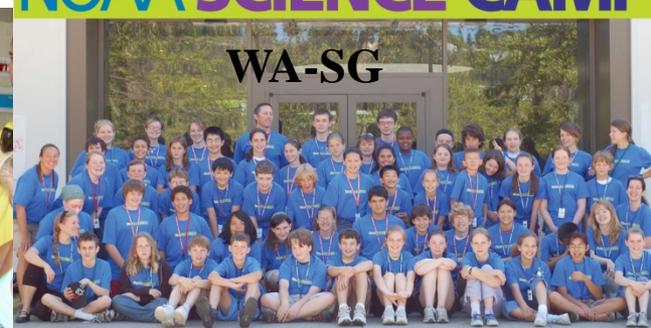




Looking Ahead



- **SGEN survey will be revised based on future needs and re-administered (~ every 3 years)**
- **Restore the position of a full time Education Director in the National Sea Grant Office**
- **Provide professional development funds for SGEN regionally and/or nationally**
- **Solicit an Ocean Literacy NSI within Sea Grant**





Contact Information

Questions?

Diana L. Payne, Ph.D.
Assistant Professor/ Education Coordinator
Connecticut Sea Grant
University of Connecticut – Avery Point
1080 Shennecossett Road
Groton, CT 06340

Email: diana.payne@uconn.edu

Phone: 860.405.9248

Fax: 860.405.9109





Backup Slide

- **Formal Education:** Learning that takes place within a structured educational system in which children or adults are required to demonstrate proficiency, i.e., tested and graded, in the process of reaching a certain level of achievement, degree, certification, continuing education credits, or similar goal.
- **Informal Education:** Learning outside the established formal system that meets clearly defined objectives through organized educational activities. This mode of education may be voluntary, self-directed (e.g., a museum or aquarium exhibit), or systematic and guided (e.g., a field trip).
- **Outreach:** Opportunities designed to build awareness, develop relationships, and inspire action (e.g., pursuit of further learning opportunities, behavioral change). Involves information exchange between provider and target audience. Frequently designed to reach diverse audiences, but can be personal and interactive, designed to identify and appeal to an individual's personal interest or motivation for information.