



## **APNEP Education & Engagement Workgroup Meeting Notes**

10:00 am – 3:00 pm  
March 26, 2015

Center for Marine Sciences and Technology  
303 College Circle  
Morehead City, NC

<http://portal.ncdenr.org/web/apnep/educationengagement>

Attendees: Jess Whitehead (NC Sea Grant, STAC representative), Liz Baird (NCMNS), Terri Kirby Hatthaway (NC Sea Grant), Dia Hit (NC Aquarium on Roanoke Island), Lori Davis (NERRS), Pat Curley (Science House at CMAST), Renee Strnad (NCEE), Mickey Jo Sorrell (Aquatic Nuisance Species Management Plan)

Staff Present: Bill Crowell, Jim Hawhee, Marie English

Pat Curley, Director of Education and Outreach at CMAST and the Science House welcomed the workgroup. CMAST houses many entities including 3 colleges: The College of Agriculture runs the NC seafood laboratory, sustainable fisheries and sustainable fish production; The College of Veterinary Medicine houses the turtle hospital; and The College of Sciences. There is also the NC Marine Biotechnology Center. CMAST collaborates with other agencies and schools specifically schools in counties that touch Carteret County. Pat mentioned the coastal connections grants that he used to survey teachers. How do we get education out to teachers? The results showed that teachers didn't know about resources other than the aquariums. Teachers should know about the courses they can take at CMAST, IMS (water quality), Duke (genetics), and that they can take a trip to the reserve with Lori.

### **APNEP education and engagement updates**

Jim gave an overview of APNEP's education and outreach over the next couple of months. APNEP has two teacher institutes. One is at the Trinity Center in Salter Path and will be run by UNC. There will be a lot of educators coming in for presentations. APNEP is also providing funding for a second institute at NCCAT run by Sara Hallas of NC Coastal Federation. Shad in the Classroom events are coming up including Roanoke River days. Teachers who participate in shad in the classroom can incorporate science, math, and language arts topics. The week is concluded with the release. There is also a float trip down the Roanoke River to get teachers engaged. Our new AmeriCorps member Katia starts on Monday. She is a Duke graduate and spent time at the Center for Documentary

Studies and will be helping with general engagement but also education initiatives through video. If you are interested in working with her, contact us.

Jess mentioned the option of working with decision makers rather than with teachers. She is doing this through weather and climate decision making. She is currently working with Hyde Co. to develop a flood resiliency plan. Jim has helped some with this effort and they use the VCAPS process which provides a facilitated environment to learn about science and immediately apply the science to vulnerabilities and adaptation options for the different communities. In particular, they talked to famers about salinity intrusion. One of her projects this summer is a flood resiliency guide that can be locally tailored. She is starting a long term project with Nags Head to get them started on the VCAPS process. This summer she will be spending time interviewing fishermen about topics related to weather and climate. The state climate office already develops products for farmers, and she is trying to figure out what would be useful for fishermen.

Liz mentioned Shad in the Classroom and the “We are the River” film, a fabulous piece focusing on the Roanoke that is played in the inflatable dome during Roanoke River Days. The teacher trek is overnight and the teachers spend the night on camping platforms, sometimes it’s the teacher’s first camping trip.

Terri mentioned that Sea Grant’s Coastal Conference is on April 14<sup>th</sup>. If you know students or other people, we are looking to get professors to sponsor students to attend. There is a video called Deepwater Canyons that takes place off of Chesapeake Bay and highlights how trash is getting in the canyons. That work has led to a proposal for looking at trash and a partnership with Litterati ([www.litterati.org](http://www.litterati.org)), a group that uses Instagram and hashtags like #litterati #starbucks cup to create a digital landfill looking for patterns to point fingers. The person who started it is the brother of Jonathon Frederick who runs the NC Science Festival. She said the Seeds to Shoreline has a date set for a teacher workshop in August and they need 10 teachers for this. Pat mentioned that he has money to pay teachers to participate. Bill hopes Terri and Lori will do a guest Soundings post on the Seeds to Shoreline project.

Dia mentioned the Sea to Sound day trip for 5<sup>th</sup> graders, a program that includes hands-on experiments. Some of the students have never been to the sounds.

Bill mentioned that APNEP has a major task of implementing the CCMP and since the workgroup members are also implementing the CCMP, APNEP wants to provide support for their activities.

Lori described NERRs as part of a national program with 28 sites. They are having a TOTE (Teachers on the Estuary) workshop in June that will focus on the national curriculum. The workshop is a little different than the traditional coastal explorations workshop she leads and focuses on estuaries in general, water quality, and stewardship. In addition to

two teacher workshops this summer, NERRS has summer camps with the Maritime Museum and many school field trips scheduled.

Pat Curley mentioned that CMAST has several teacher workshops around place-based education to show educators how to use resources right here. They have money to pay teachers. Right now, they are recruiting 20 teachers for a cohort to develop instructional units using local resources. The Burroughs Wellcome grant- Coastal Inquiries helps 4 middle schools-Pamlico, Beaufort, Newport, and Hunters Creek- take 5<sup>th</sup> graders through Earth Force training where they are taught about environmental problems and then research what resources they can develop to address these problem. He also mentioned a club for kids called Sea Wolves which host teen coastal science cafes. Quarterly, on Friday nights, they meet with scientists and this has been pretty popular. There is also an online science fair where kids submit presentations on topics like where does marine debris come from and how can we get rid of it. The first place prize is \$1200. Next year we will be looking for a good question. We hold a coastal connections on Saturday mornings for teachers. There are also bird walks in Croatan in May with Mike Campbell.

Renee mentioned that Katherine Stevens at N.C. State applied for Sea Grant grant on climate literacy. Project Wet dropped out of a grant on writing climate literacy and PLT already has a curriculum. She is submitting a pre-proposal to train teachers and wants to tie in community projects and service learning to show teachers that these are the types of projects your students can do as an alternative of teachers having to find those types of projects, we will bring them to the teachers.

Renee mentioned that the NCEE-NAAEE was asked by Bora Simmons (national) to work with North Carolina to put together a proposal for a grant with coastal outreach. EENC's eastern section has the lowest attendance, so there is a need to do teacher training and provide more resources in this area. We applied for two regional EPA grants as the Southeastern Environmental Education Alliance (SEEA) and just got a foundational grant. A lot of funding groups like the regional cooperation of SEEA. EENC's statewide conference is being held at the eastern 4H center in Columbia, NC with the theme "Making Sound Decisions in EE". Group camping is reserved at Pettigrew state park.

Mickey mentioned that the North Carolina Science Festival is April 10<sup>th</sup>-26<sup>th</sup>. Roanoke River Days is also happening in April and they will visit 5 schools in 5 days. She is working as the Aquatic Nuisance Species Management Plan office assistant and they are approaching their final draft which should go out for public comment soon and be on the Governor's desk in June.

Jim mentioned the potential citizen science opportunities surrounding hydrilla and the value of this data for managers. He also encouraged everyone to participate in APNEP's Marsh Madness online event.

Bill gave an update of APNEP's finance structure and its relationship to education and engagement initiative funding. Teacher institutes and Shad in the Classroom are recurring line items related to education, while other projects have been funded through requests for proposals (RFPs). APNEP is seeking to move away from RFPs and fund workgroup-generated projects that implement CCMP. Each of the workgroups will then compete for the money that APNEP has. Each workgroup will have a representative to serve on the implementation committee making funding decisions. Workgroups could also request an RFP for a specific project. He indicated that APNEP was interested in providing approximately \$20,000 in education and engagement workgroup support, which would have to be spent by September.

Renee mentioned that EENC is having a conference in September and would be interested in having a sponsor.

Jim mentioned that APNEP understands that the traditional grant season has passed, so you may not have time to do heavy applications. This would be an opportunity to enhance funding you already had planned for the summer. We will internally receive short applications, review these next month, and be ready to go with funding in May. These mini-grants will be in the amount of around \$4,000 and applications are due at end of April. An example of a mini-grant like this is two state parks that APNEP just funded to plant bald cypress trees and Atlantic white cedar. Shad in the Classroom is another good example of projects we would like to fund because it extends down the watershed. Projects that link the whole system together are really beneficial. The money cannot fund substitute pay or transportation.

Bill mentioned the importance of collective influence and metrics. We want to tell a broader story and keep track of metrics because we are the managers. We need to report impact. The CCMP is evidence-based management so we need help figuring out what metrics are best for the action items.

Liz mentioned conducting a survey of educators to find out which areas of the CCMP they want information on. Bill mentioned that the WRRRI needs assessment led to the Watershed Stewardship Network.

Pat mentioned that elementary and middle schools are looking for math and literacy connections. They don't have the content to make those connections, so any we can give to them is great.

Bill mentioned thinking about what administrators want and deciding if we are only focusing on teachers and students or also towns and governments? For example is a watershed workshop for legislators a possibility? He also mentioned that proposals that meet multiple CCMP actions are desirable.

Pat mentioned coastal marine science competitions that propose questions like how do you warn the public about water quality concerns without scaring tourists. Action D2.3.

Liz mentioned that the Shad in the Classroom project is thinking about expansion because right now the museum is at capacity.

Terri mentioned PCPPs (personal care and pharmaceutical products) and water quality lesson plans. P2D2 is a program in Michigan used for education regarding pollutants. Places have started advertising drug take back program so that people can properly dispose of these potential contaminants. For example, there is a large incinerator in Greensboro that accepts drugs.

Some people are very interested in a survey that is tied to program goals. We could tap into teachers that we already have contact with. One question is why are teachers so busy and how can we help them get more time? Do we need to revamp things like giving them take home kits instead of just paper materials?

Jess mentioned that if teachers are oversaturated, there are other actions within the CCMP engagement section where we could focus.

Dia mentioned that the N.C. Coastal Federation does a lot of work with farmers. There are other groups we could target. Bill gave the example of another National Estuary Program (NEP) that went into Lowes and put up signs on how to use fertilizers. Environmental vs. agricultural outreach? Jess has some relationships in Hyde Co. and Renee is connected to 4H.

Jim is working with Dr. Dan Rittschof from the Duke Marine Lab on education at Lake Mattamuskeet.

Pat mentioned bringing field trips to rural areas. We could create kits or crates to bring to areas without the resources to travel to the coast. An example of this is the Virginia Aquarium macro marsh. It would be great to put together a trailer like this.

Asheboro hosts an annual teacher conference that helps expose teachers to available resources. Commercial agencies attend, 4H was there, and APNEP has participated in the past. It would be cool for this workgroup to host one of these. The Office of EE used to host this kind of event. DENR agencies had representatives providing resources, there were snacks, and it was held at community colleges. Many early childhood programs at community colleges are looking for EE experiences. The RISA meetings with the Department of Public Instruction are similar and are a great way to get resources to teachers.

The APNEP money needs to be spent by the end of September. When can you maximize survey results? Bill mentioned that there is some limit to doing regional meetings. More

importantly, the funding for this group will be ongoing, so be thinking about larger projects.

Renee asked for ideas for keynote speakers at the EENC conference in September. Someone suggested Mike Piehler to speak on human and estuarine health.

Jim started the discussion on metrics by asking about metrics that people are already keeping track of.

Terri mentioned the metrics that Sea Grant reports to nationals: how many students are impacted directly and indirectly, the number of publications, and how many students are funded.

Jess mentioned that she measures how many people attend presentations. For the climate projects, they collect the number of communities that have changed policy based on your work.

These metrics are not always a great representation of what is going on. Are we reaching more students, are we helping more teachers?

Bill mentioned that metrics are important to know if you're completing your mission.

Pat mentioned the MISO (maximizing the impact of stem outreach) technique which can be modified and has a 3<sup>rd</sup> party evaluator out of Wilmington. It includes a monthly report of what we are doing and how many people we are impacting. There is a tool for students and one for teachers and these give quantitative and qualitative results.

Jess mentioned the difference between impact and accomplishment goals. Impacts are more long term than accomplishments. One impact every five years is good.

Lori keeps measures for NOAA including return on investment, attendance, grants applied for and successful, number of programs, and satisfaction of programs.

It is good to do pre- and post assessments and then 6-month follow-ups. It is always good to bring teachers back together after some time.

Jim mentioned finding a metric to show the impact that we have had collectively throughout our region. You want an indicator that is sensitive to changes so if there are changes in funding levels or programmatic efforts, then you can measure the impacts of that change.

One study of 300 teachers asked them about their background, about what motivated them to go to workshops, and about using the workshop after in their classroom. The responses showed that teachers ignored all other materials except what they used

during the workshop. They were also asked how they are using the workshop in their classroom and if not, why not. Responses showed that stipends weren't a big deal for motivation. Background was the biggest motivation and having outdoor experiences.

Jim asked for any quantitative or qualitative metrics that are currently being used to be sent to him.

Renee mentioned that PLT used to use a number-based annual report. Now they use outcomes and objectives and this has helped facilitators focus on what they're doing. Can we tie metrics to the RFP process? She will share how national Project Learning Tree is handling large scale metrics. They take what the programs are collecting and plug it in to a google form. How do you get good qualitative information?