

## NOAA Education Council Meeting

Date/Time: May 20, 2009 (1:00–4:00 pm)  
 Location: SSMC3, Room 10836  
 Dial-in: 866.901.0711  
 Passcode: 8134683  
 Contact: Luis Leandro - work: (202) 482-3139, cell: (843) 696-9572

### AGENDA

- 1:00 Welcome/Opening Remarks
- 1:10 Implementation Plan Seminar: STEM Workforce – Dr. Roosevelt Johnson (*informational*)  
 (20 minutes presentation/35 minutes facilitated discussion)
- 2:05 Implementation Plan Seminar: Formal Learning and Assessment – Jodi Peterson (*informational*)  
 (20 minutes presentation/35 minutes discussion & questions)
- 3:00 Implementation Plan Retreat: Guidelines for Attendees – Christos Michalopoulos (*input requested*)  
 (presentation & discussion)
- 3:30 Updates & Announcements

### Upcoming Council Meetings:

June 17, 2009

July 15, 2009

### Attendance

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**In person:** Louisa Koch (Chair – LK), Lexie Brown (LB), Ron Gird (RG), Jennifer Hammond (JH), Molly Harrison (MH), Atziri Ibanez (AI), Nina Jackson (NJ), Judy Koepsell (JK), Roosevelt Johnson (RJ), Michiko Martin (MM), Paulo Maurin (PM), Christos Michalopoulos (CM), Jodi Peterson (JP), Bronwen Rice (BR), Irelene Ricks (IR), Jacqueline Rousseau (JR), Stacey Rudolph (SR), Steve Storck (SSt), Sharon Walker (SW) Paula Keener-Chavis (PKC), Carla Wallace (CW)

**On the phone:** Kirk Beckendorf (KB), Carrie McDougall (CMd), Sarah Schoedinger (SS), Ambrose Jearld (AJ)

### Announcements

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- LK:
  - Update on implementation plan retreat.
  - last time meeting on 10<sup>th</sup> floor, after this 14<sup>th</sup> floor
  - Dr. L had great intro to Estuaries Live, and attended TAS reception. Looks good for her support of NOAA Ed. Keep us posted on any events you get her to.
  - More members showed up to her Ocean Conservancy hearing on hill, strong new leader, hope she will strongly promote education
  - Moving up on implementation plan retreat
- CM:
  - Reminder, presentations today part of topical discussions on important topics as we prepare for retreat, prepare for org priorities for next 5 years
  - Brief intro of presenters, 20 min pres, then discussion with emphasis on specific role of science agencies such as ours, how can we move forward and address these issues

### Implementation Plan Seminar: STEM Workforce – Dr. Roosevelt Johnson (*informational*)

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- JR: Welcome, career at NSF working on AGEP, promoting grade education in stem disciplines. On loan to AAAS where he is working on advancing STEM on national agenda, specifically on the “Rising Above The Gathering Storm” (RATGS) report. Please hold questions until end of discussion.
- Dr. Johnson’s presentation.
  - Experience broad with respect to education, but not as strong in K12, but good sense of collaborations of all types, context of his expertise
  - Advises groups on strategic thinking they should be doing, Strategic plan and EPP report gives the sense that we are on the right track. A good model for something that can be done at other agencies. But there are other things at other agencies that we could tap into. Let’s brainstorm some of these options, linking research and education.

- Message learned after 20 years with NSF, especially in tough economic times, you get more bang for your buck by partnering with others with similar priorities and objectives.
- We are a nation at risk. We are behind in education; other countries have mimicked us and done it a little better.
- Need to build support systems for teachers and teaching
- Survey of recent reports from 2000 on, addressing the workforce issue
- RATGS pulled together a lot of data on actual numbers of teachers etc... but leaves open the question of WHO will implement the tasks outlined (we need to do something about increasing the talent pool)
- K-12 is a hard target because of the political issues, school districts/ states are different
- Summary of RATGS findings and the challenges of addressing these and implications
- Measuring the effectiveness continues to be important in the Obama Administration
- There are charts in the presentation, we can discuss
- Take home: workforce comes from many disciplines and schools, target demographics are women and minorities, need interdisciplinary approaches, need more marketing opportunities
- See slide on leveraging current NOAA activities
- Visualize what you are doing in another context: individually well-managed, but how connected are your programs? Community of scholars in your programs? Best innovation you can do is connect effective things to make them even more effective.
- SW : Appreciate this presentation, helps better focus where I hope the retreat is going, we have a lot of effective programs, need guidance to develop an effective 5 year plan for implementing this vision
- RJ: Work with your strengths. Early on you recognized the need to collect data early on, so that down the road you have data on what you did to understand the impact. This is very difficult to do after the fact. You should strategically be looking at data as you go. Sometimes you need to collect other information as well (i.e. PHDs take a long time through school).
- SST: Is there some initiative/movement you could see us tapping into?
- RJ: NSF traditionally funds individuals, not the institutions. Moving beyond fellowships to look at the graduate education enterprise, then lay more minorities on top of this. One leverage point: while you are in these institutions with scholarship money and internship opportunities to get involved in the institutions themselves, curriculum, retention, etc. take an interest in the enterprise that you are funding. You might be surprised by the amount of influence you have. Leverage this respect.
- RG: Through the alumni associations in some cases, potential tool.
- RJ: Deference given to you when you visit universities, people expect you to know your discipline. Providing information is a powerful tool. You can use your investment in these programs to get to the table
- CM: Goal 2 is Workforce, Goal 1 is Environmental Literacy. What we have not done is connect dots to ensure that the environmental literacy investment is connected to investment in higher education. How can we ensure this?
- RJ: STEM is important for the Obama Administration. Making STEM education more accessible and at a higher level for more students. Elements of new admin budget are increasing, but money itself means nothing unless it is well directed. Look at the Dept of Ed budget and see where there is overlap with NOAA, and see where we can help guide these areas being increased. If the economy gets better relatively quickly, then we will start cutting the budget, more pressure to cut budgets. Education is one of the first to go. Public literacy is critical to maintain support of education. Also, bachelor's degrees aren't always enough for success, need masters etc... making this push is part of the argument.
- AJ: How can we find a way to connect and gain support for what we can do regionally, and also support and enhance the more centralized approach? How to we not kill enthusiasm in the field but also find support for what we are doing?
- RJ: Tough and recurring question. Analogy: Obama's campaign. Locally established and then branched out... Think locally as much as possible to strengthen base of leadership and resources, and then branch out as naturally possible, regional is reasonable if everyone locally is on board with central purpose. Key is core champions at local level. Take it one step at a time with expansion. NOAA should be supportive of this branching, and use the power of convening groups to make this happen. Working groups, steering committees, communications infrastructure. Need not be physical, IT linkages. Sharing resources and information with components of regional core.

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#### **Implementation Plan Seminar: Formal Learning and Assessment – Jodi Peterson (*informational*)**

- SR: Jodi is with NSTA, does legislative affairs and outreach and advocacy, press and media relations. She is here today to talk about the present state of science education in the context of a classroom. She is a registered lobbyist.
- Jodi's presentation
  - Review of survey conducted with teachers (K-16, public and private teachers)
  - Can provide survey questions, multiple choice
  - Identification of key challenges
  - CM: Does "lack of materials" include lesson plans?
  - JP: No, class supplies etc, not lesson plans
  - CW: What about lack of time to teach?
  - JP: That is more of a problem at elementary level teaching science because it does not count in the AYP

- CM: There is a sense that the administration wants federal agencies to play a role in this?
  - JP: Yes, see STEM Education and Coordination act of 2009. Still has different flavor, what are the administration's views on the role of science agencies in promoting STEM Education? This hasn't changed yet.
- SW: Duncan at NSTA talked about the importance of extended school years, after school programs. Would be entrepreneurial and innovative if we got together with Aquariums on new competition for after school programs. Real opportunity to leverage schools for programming. Why isn't this a challenge in your presentation?
- JP: A challenge clearly, not one of our top.
- SW: But a good opportunity.
- JP: Unions may get involved as well in the year round school proposition
- CW: Montgomery county schools are having advanced classes forced on them in middle school without adequate preparation.
- JP: Not adequate preparation at elementary level.
- MM: Top concern "student motivation" what does this mean?
- JP: This was one of a multiple choice answer, has been an ongoing issue, not new.
- IR: Year round teaching all well and good, but what about the quality of teaching?
- JP: Arnie Duncan has other ideas to address...
- PKC: Did you see differences when you broke out by grade level groupings?
- JP: Yes, elementary teachers wanted national standards, high school teachers did not.
- PKC: These challenges were challenges 15 years ago, aside from isolated pockets of excellence, we are still having the same issue, at what level is real change going to be accomplished to rally reform the system
- JP: Rhetoric from administration isn't matching the funding levels yet.
- LK: What is the prospect for national standards? In terms of real world situation challenges in the classroom, how can we get involved?
- JP: You will see a lot of work in the next year on content standards; have had discussions on science's place in this. Language, Arts and Math are emphasized, then Science. One second question: have been paying lip service to getting scientists in the classroom, but where is this happening on a large scale? Engineering week etc...? Oversight body of federal agencies to advise as well...
- MM: What does NSTA see as our niche?
- JP: We lobby CJS for more money for the STEM programs through NOAA
- CM: NSTA is focused on teachers, but is a long term objective to promote more students getting into STEM fields? We also have a workforce goal. What are best practices we can utilize to motivate teachers to motivate students to get into these fields?
- MM: Does NSTA do any work on teaching science to develop scientists?
- JP: We don't get into this. There is no focus on science career development within NSTA. We take best practices and support them.
- CM: We have a lot of investment in K-12 and workforce, but it's hard to connect the two. How do we make this connection?
- JP: NCLI legislation, for example, we support, but right now teachers are not doing a good job directing students into STEM careers.
- AJ: How is the guidance department connected to this?
- JP: Not enough staff for this, overworked, definitely an issue.
- PKC: One year considering attending a guidance counseling conference, we may want to consider taking on a role like this as a council.
- CM: I agree, this is something we haven't done. How to articulate what makes a teacher better prepared to guide students into STEM fields?
- RJ: Pennsylvania's creative approach you mentioned?
- JH: TAS teachers from PA have so much support from state.
- CW: Position on MA, aligned schools with universities
- JP: Good model, technology and engineering on the curriculum early
- JP: Plan to do this survey annually.
- CW: What about teacher involvement in these surveys?
- JP: Just started Science Matters initiative to help include this
- NJ/MM: Can we suggest/ contribute to survey?
- JP: Absolutely
- LK: How do we leverage the Dept of Ed stimulus money? There is not a natural connection between the agencies. How do we work this? Going out to field networks to work at state level?
- JP: Steve Robinson at Dept of Ed would be the person to discuss this with. They are looking at best practices,
- CM: Dept of Ed has not been working effectively with fed agencies, now we have more of a role, how do we act on this?
- JP Steve Robinson, working with OSTP, NSF
- LK: Steve was not on subcommittee call. OMB seemed to want us to work with Dept of Ed, but Ed rep encouraged to do this at the state level
- AI: Reserves are state fed partnerships, disconnect with NCLI.
- JP: Start looking at student achievement, this is what they will be basing this on
- CW: NSTA is good with K-12, but how do we close the loop? (Workforce issue again?)

- JP: We have teacher educators on board, but our focus is on K-12 teaching and learning. NSF may play more of a role here.
- RJ: AAAS has a significant role in k-12, a number of initiatives, unifying players, some of the questions about where the Dept. of Ed. money might be going, AAAS may be able to inform.

### **Implementation Plan Retreat: Guidelines for Attendees – Christos Michalopoulos (*input requested*)**

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#### Intro summary

- CM: Thank you to Steering Committee and Evaluation WG members.
- LB: Thanks everyone for the work on the matrices! Send questions to Lexie. Please turn in ASAP, by the end of the week at the latest.
- CM: Overview of retreat objectives (see handout).
- AI: Are we not using the inventory of thematic priorities?
- CM: There will be more than we can address at the retreat. We could map these themes onto the strategies, but we don't have time to do this in the retreat. But we will use them conceptually.
- SSt: Overview of agenda of retreat, logistics (see handout)
- SW: Will a summary be produced from each day of the workshop?
- SST: That is the hope.
- Direct questions to Steve, Lexie, Christos or Luis
- Will get more communications on agenda

### **Updates and Announcements**

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- PM: Matrix was a useful exercise, we will be creating goals and objectives for coral education program
- NJ: Matrix was painful but a good exercise, after retreat we hope to do our own strategic and implementation plans. Upcoming events: w/NASA on MD space day/ Science day, Mikulski and Lubchenco May 29/30<sup>th</sup>. Also participating in Career day
- JR: Next week is student orientation
- MM: Update on two things: 1) plans on Sept leadership team meeting and education coordinators annual meeting for Sanctuaries, and Ocean literacy summit, Kate Thompson is POC on this. 2) Also, on track with best practices manual, video, graphics, interpretive design, etc. developed over last couple years, lots of momentum. Audience is Sanctuaries, but based on broader research so may be useful. (LK: Present on this at future Ed Council meeting? MM supports this, could have broad applications)
- AI: Just completed the Estuary Live broadcast, no stats yet, but quite interesting, in the past have done it in Fall with advice to do in Spring, but in some cases computers we co-opted for tests so interesting relevant to JP's presentation. Hard to say audience size/impact yet. But pre/post test with students we had 1000, much larger number than before. Using more electronic formats. Thanks to the B-WET grant two TOTE projects in reserves. More teachers than expected, lots of demand.
- JH: Reception last week on hill, recognizing latest teacher at sea book, brought 4<sup>th</sup> grade students down from NY. Spoke at reception. Motivated, elementary school level, got to see real world problems at work in the classroom based on cruise. Impact of enthusiasm was the focus of the speech. Season under way. 3 teachers have sailed. Also piloting the teacher in the lab program around the country.
- MH: Fisheries communication meeting happening in June. Focus on web 2.0 tech. Not sure about the education component of this. May be back in touch for more info as this develops.
- SW: Matrix was a lot of work, major time commitment. Especially hard to break out extension and outreach. Preparing summer programs for teachers and students, NMEA SeaGrant national meeting prep. (LK: Thank you for the work and I am pleased you provide feedback on how this process can be less onerous. SW, AI, PM have some strategies/approaches to improve this, also may help programs classify their data.
- SSt: Please provide feedback on revising the matrix as a mechanism for collecting data, the role of Evaluation WG potentially.
- BR: B-WET update: FY09 Competitions projects recommended for funding: 3 awards in NE/2 in GOM/3 in PNW. Notifying applicants now. Conference assistance needed: Thursday July 16<sup>th</sup> science sessions and resource fair. Invites/Save the Date to come.