

Education & Outreach Committee
Annual Meeting
Cedar Creek LTER
22-24 August 2013

- I. Introductions: Robert Bohanan (NTL); Ross Boucek (GRAD Comm Rep); Kim Eichhorst (SEV); Katya Hafich (NWT); David Lagomasino (Grad Comm. Chair); Alex Mass (MCM Grad); Nicholas Oehm (FCE); Art Schwartzchild (VCR); Beth Simmons (PAL); Scott Simon (SBC); Pamela Snow (HFR); Elena Sparrow (BNZ); Mary Spivey (CDR); and Meredith Welch-Devine (CWT)

Google+ Monica Elser, Jill Haukos (KNZ)

II. Working Group Updates

- a. The LTER Education Digital Library (LEDL), Beth Simmons—
- i. LEDL was only EO proposal after ASM and intends to consolidate LTER resources from across the LTER and ILTER. The submission process is open to all LTER partner organizations and the final product will allow visitors to: browse LTER resources; join the LTER EO community; view a resource profile containing a thumbnail, description, and teaching tips.
 - ii. Design—Beth Simmons (PI), Mary Spivey and Nick Oehm (Co-PIs) led the effort. The final design decisions were made after extensive conversations with Teresa Mourad (ESA SEEDS), Anne Gold (CLEAN) and Bryan Cooper (EDL). The CLEAN review tool was contracted for the vetting of 45 resources and LNO designed the web platform. It has become clear through the review process that many excellent LTER resources exist, but not all fit the learning lessons review criteria used during the first round of review. Several resource categories have arisen and each will require a unique review criteria. The initial LEDL will ingest MSP resources, use Climate Standards/Next Generation Science Standards, track download numbers, and highlight featured lessons. The LEDL will be launched in September.
 - iii. Future of LEDL—Funding provided for the initial review of resources and development of the webpage. Future calls for resources will require additional funding and could be expanded to include other resource types. multimedia, posters, etc.
- b. Citizen Science, Elena Sparrow
- i. There are currently 12 LTER sites with citizen science programs. Although a cross site program does not currently exist, one could be developed with a focus on phenology
 - ii. Ross Boucek introduced CAST—Coast Angler Science Team. The CAST citizen science project at FCE currently consists of 20 participants that are working closely with scientists to estimate population size and movement during different water management strategies in the Everglades. PIE has a similar program and will be discussing at CERF Coastal Estuarine Research Federation
- c. Higher Ed, Art Schwartzchild
- i. National Meetings—We are requesting that students use LTER as a keyword in all posters and papers. Art is compiling a list of all presentations/posters.
 - ii. Subcommittee is hosting LTER Happy Hours at meetings. The budget has been set at \$250/meeting and VCR is covering first year of meetings and will target ESA, CERF, and ASLO. The future of this program is contingent on soliciting other LTER sites to raise funds and serve as hosts in subsequent years.

- iii. Cross-site student exchanges are being arranged to allow LTER grad students to visit and participate in annual meetings at related sites. In order to minimize cost, students will be paired with LTER sites in the same geographic region. Currently VCR, FCE, and GCE plan to participate. The subcommittee is working to develop a selection model/action plan and a calendar of events that will include dates of site annual meetings and other meetings with substantial LTER presence to post on the LTER EO webpage.
 - d. Undergraduate Students, Art Schwartzchild on behalf of Clarisse Hart
 - i. The Undergrad Subcommittee is also working to establish cross site exchanges through REUs. FCE & VCR have already committed to exchange with plans to solicit participation from other sites—GCE and PIE likely to be next. Opportunities could be posted on LNO Ed page as a “match.com”, or students could be pre-vetted by sites
 - ii. Diversity survey will soon be rolled out.
 - e. Professional Development, Kari O’Connell was unable to attend and sent word that not much has happened since 2012 ASM
 - f. Research Experience, Jason Love was unable to attend
- III. Working Group Planning Session
 - a. Citizen Science, reported by Elena Sparrow
 - i. Citizen Science programs described as “organized research in which members of the community engage in the process of scientific investigation”
 - 1. Citizen Science Programs need some, but not all of the following characteristics
 - a. training
 - b. situated in communities
 - c. goal of a better community
 - d. generate long term data
 - e. imbedded within community or natural resource interest
 - 2. Expected outcomes
 - a. Community development
 - b. Education and outreach
 - c. Influence arguments and decisions
 - d. A priori or long term records
 - e. Transform scientific literacy of citizen scientists
 - f. Long term link with undergraduates/graduates
 - ii. Needs
 - 1. Write up a few case studies
 - 2. Develop updated list of CS programs
 - 3. Submit Citizen Science protocols to LEDL
 - 4. Categorize CS programs—maybe using Frayer model
 - 5. Publish CS article(s) in newsletter
 - 6. Discussed revising the term Citizen Science to Participatory Science Programs to be more welcoming and inclusive of non-US citizens to be divided into
 - a. K-12 Student Research Experience
 - b. Community Research Experience
 - b. LEDL, reported by Pam Snow
 - i. LEDL is still under development and will be posted to LNO website. Beth, Mary, and Nick will have admin rights to make any necessary changes.
 - ii. Still need to flesh out description of environmental literacy standards
 - iii. LEDL will eventually include investigations for grades 3-5.

- iv. Beth and the co-PIs on the LEDL will develop a presentation to be used across the network as a professional development tool when sharing the resource with teachers.
- c. Professional Development (K-12), group discussions
 - i. The PD blub for webpage needs to be revised.
 - ii. PD resources need to posted/shared resources via. Intranet. Over the next several months, subcommittee will come up with some examples of good PD materials that can be shared/posted with Ed Reps from across the network.
- d. Student Research (K-12) Experiences, group discussions
 - i. The largest challenge to research experience is teacher training—teachers are not researchers. Professional development is needed that helps teachers get involved in LTER research or LTER-like research
 - ii. Use grad/undergrad as mentors for teachers similar to program at SEV. One possibility is to offer course credit (similar to GK12) or require students to complete a defined K-12 “community service” component as a degree requirement associated with LTER programs (similar to JRN). Another possibility is to work with Education programs to offer a certificate or research course for pre-service and/or professional teachers
 - iii. Depending on the future of the RAHSS program, a cross site research symposia could link students.
 - iv. The JRN Desert DataJam is looking to expand. Current plans include the FCE Everglades DataJam.

IV. Show and Tell

- a. LEDL, Beth Simmons
 - i. The LEDL subcommittee has been working since January to develop and launch the library. A total of 8 sites have participated, 46 lessons have been submitted, 21 lessons have been reviewed, and 10 have been approved. Many lessons were not accepted because they did not fit the “learning lessons” review criteria, but are worth creating additional categories and review criteria to include a wider range of resources.
 - ii. Vision—The objectives of this initial step was to: collect and peer review learning activities; build the LEDL interface; and launch by September 2013. Future plans are to secure additional funding to build the collection and include a broader range of materials
 - iii. Vetting process—After materials are received, they are assigned a catalog number and assigned to reviewers. Each resource goes through two rounds of review and are presented at third round of review at a “Review Camp” including a: scientist; education professional; and an instructional developer. Final annotations are consolidated and if accepted are uploaded to the LEDL. Those resources that are not accepted are returned with suggestions for improvement.
 - iv. Several needs have arisen throughout the process
 1. Revise/edit layout
 2. Revise announcements
 3. Identify additional participants
 4. Secure funding to review additional materials and develop new guidelines for other types of materials
 5. Development of a suggested template
- b. Journey to El Yunque, Steve McGee (LUQ)--“The Journey” examines the effects of hurricane disturbance. Research results found no difference in level of interest between expository and narrative versions of readings. Students using “Journey” are more interested in science, ecology and reading. Students with a high level of interest by 3rd day no diff in usefulness

between expository and narrative approach. However, low interest students found the expository form more useful

V. EO Committee Plans

a. Conduct monthly meetings on schedule rotating between subcommittees to provide updates/professional development for EO Committee. Proposed topics:

i. Professional Development

1. Posting PD materials to intranet
2. Cross-site RETs

ii. LEDL

1. Using the LEDL
2. Preparing submissions for LEDL
3. Promote LEDL

iii. Graduate Programs

1. LTER Happy Hours
2. Cross-site ASM Exchanges

iv. Undergraduate Programs

1. Diversity Survey
2. Cross-site REUs

v. Student Research

1. Leveraging mentorships for K12
2. Cross site symposia

vi. Citizen Science

1. Case Studies: NTL Urban Ecology and Restoration
2. Case Studies: BNZ Meli Bee Project
3. Case Studies: FCE CAST: Coastal Angler Science Team
4. Case Studies: FCE Predator Tracker

b. Conduct quarterly meetings for EO Executive Board

VI. Business Meeting

a. Elections

i. Slate

1. Mary Spivey, EB Co-Chair
2. Scott Simon, Professional Development Subcommittee Chair

ii. Voting in favor (present)

1. BNZ Sparrow, Elena
2. CDR Spivey, Mary
3. CWT Welch-Devine, Meredith
4. FCE Oehm, Nicholas
5. HFR Snow, Pamela
6. KBS Syswerda, Sara
7. LUQ McGee, Steven
8. MCM Mass, Alex
9. NTL Bohanan, Robert
10. NWT Hafich, Katya
11. PAL Simmons, Beth
12. SBC Simon, Scott
13. SEV Eichhorst, Kim
14. VCR Schwartzchild, Art

iii. Voting in favor (by proxy)

1. CAP Elser, Monica
2. GCE Butler, Venetia
3. HBR Wilson, Geoff

4. JRN Bestelmeyer, Stephanie
 5. MCR Anderson, Andy
 6. PIE Duff, Liz
- iv. Not voting
 1. AND
 2. ARC
 3. BES
 4. CCE
 5. KNZ
 6. SGS
- b. Remaining Terms
 - i. Nicholas Oehm, EB Co-Chair
 - ii. Subcommittee Chairs
 1. Art Schwartzchild, Higher Ed—2 years remaining
 2. Clarisse Hart, Undergraduate—2 years remaining
 3. Jason Love, Student Research—1 year remaining
 4. Elena Sparrow, Citizen Science/Community Participation—1 year remaining
 - iii. Mary Spivey, Rep to EB—2 years remaining
 - iv. Ad hoc Subcommittees
 1. Daniel Nidzgorski, Diversity
 2. No chair, Evaluation
- c. Still needed
 - i. LEDL
- d. Plans for upcoming year—monthly meetings will be held on the first Wednesday of each month. Subcommittee Chairs will take turns setting the agenda and will focus on topics related to their committee/working group.