Executive Report and Accounting

Of the

2015 CEEF Teacher Institute:

“Best Practices of Environmental Education and Stewardship”

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July, 2015
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Dedication
On behalf of the California Environmental Education Foundation (CEEF) this Executive Report is gratefully dedicated to the California Department of Water Resources, the Los Angeles Department of Water and Power, the Sandia National Laboratory, and the Metropolitan Water District for their generous support of the 2015 teacher institute on “Best Practices of Environmental Education and Stewardship.”

Purpose
The purpose of this 2015 Executive Report is to highlight the objective findings derived from both the internal participant feedback and the electronic pre- and post-surveys conducted throughout the institute, as well as provide an accurate accounting of all institute income and expenditures related to the institute through June 30, 2015.

Inquiry-Focused Learning: 5-E Lesson Design
In 2015, the CEEF teacher institute implemented a constructivist learning approach, (similar to the 2011 and 2013 CEEF teacher institutes), to strategically sequence the presentations and activities in Day One and Day Two of the institute. This learning approach was implemented because evaluation data from the 2011 and 2013 institutes indicated that the CEEF had successfully increased teacher-participant understanding of ecological concepts and increased usage of best practices in inquiry-focused pedagogy. Given the excellent evaluation results from the prior institutes, the teachers were, once again, actively engaged on Day One of the 2015 institute in two research-based environmental education (EE) activities that pedagogically illustrated the 5-E Lesson Design. The presentation of the two EE sample activities emphasized the importance of sequencing student learning in the following five steps: Engage, Explore, Explain, Extend, and Evaluate [see attached Day One and Two agendas].

Figure 1: Melissa Smith, Adjunct Regional Director of the K-12 Alliance, reviews the 5-E Lesson Design [©City of Los Angeles Department of Water and Power. Used with permission.]
The hands-on EE activities were selected from two nationally respected EE activity guides: *Project WET*, and *Project Aquatic WILD*. Prior to beginning the WET activity, the teachers were asked about their current understanding of “where their water comes from?” [Engage]. Next, two presenters from the Los Angeles Department of Water and Power (LADWP) provided in-depth scientific background information: Cathleen Chavez-Morris, a Conservation Specialist, who spoke about “Present and Future Water Resources for Los Angeles,” and Mark Gentili, a Senior Utility Services Specialist, who described in detail “How to Do a Water Audit at School and at Home” [Explore].

This technical information was useful to the teachers as they completed the *Project WET* activity entitled “Water Audit,” where they were challenged to explain ways to conduct a water audit at home and complete a worksheet on “Personal and Family Water Use.”

![Figure 2: Cathleen Chavez-Morris, Conservation Specialist with LADWP, describes future water resources for Los Angeles](©City of Los Angeles Department of Water and Power. Used with permission.)
Later, the teachers met in grade-group cohorts to discuss and suggest procedural modifications to the Project WET student activity to further enhance student learning. [Extend].
Additional reinforcement of the 5-E Learning Design came when the teachers engaged in the *Project Aquatic WILD* activity entitled “What’s in the Water?”, led by John Zavalney, an environmental educator representing The Jane Goodall Institute. At the beginning of the activity the teachers shared their pre-conceptions on the “effects of water pollution on wildlife,” and then listened to a presentation on “Meeting Today’s Drinking Water Quality Standards” by Nathan Aguayo, Utility Services Specialist from LADWP.

Both the WET and Aquatic WILD activities reinforced the teachers’ understanding and appreciation of the effectiveness of this pedagogical approach.

To ensure all the EE activities presented in the institute were strong exemplars of constructivist/inquiry-focused pedagogy, CEEF contracted a science education and pedagogy expert from the K-12 Alliance to review and edit each of the EE activities prior to its use in the Institute, and to verify that the 5-E’s were embedded in each EE activity. The Institute director conferred with the presenters about any requested pedagogical changes in their activities. During the Institute the teachers eagerly participated in the EE activities and received additional information via PowerPoint presentations, demonstrations, and written hand-outs from the expert speakers.
In addition to emphasizing sound pedagogy, the speakers from the K-12 Alliance also lectured on eight science practices (particularly science practices #6 and #8) described in the recently state-adopted *California Next Generation Science Standards (NGSS)* and contrasted them with the NGSS engineering practices.
On Day 2, the teachers experienced 5-E pedagogy once again by participating in the “Energy Sleuths” activity found in the nationally renowned *Project Learning Tree (PLT) K-12 Curriculum and Activity Guide*. At the onset of the activity the teachers stated their current understandings about renewable and non-renewable energy resources before hearing a technical presentation from Greg Huynh, Structural Engineering Associate from LADWP on the aforementioned topic.

Following the EE activities, the teachers met in grade-group cohorts [Elementary, Middle grade, and High school] to extend and evaluate the activities that they had participated in earlier in the day.

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**Figure 8:** Walter Zeisl and Greg Huynh, both from LADWP, present information about future energy needs for the city of Los Angeles [©City of Los Angeles Department of Water and Power. Used with permission.]

**Figure 9:** Bill Andrews, Institute Director, facilitates a cohort discussion on the accuracy of the teacher’s preconceptions on renewable and non-renewable energy resources [©City of Los Angeles Department of Water and Power. Used with permission.]
The teachers reviewed, and later “reported out” their preconceptions and modified them to make them more accurate. They also critiqued the EE activities from *Project WET*, *Project Aquatic WILD*, and *Project Learning Tree* and suggested alternative procedural steps to enhance student understanding and environmental stewardship.

In the wrap-up of both Day One and Day Two, the pedagogical expert reviewed the specific constructivist learning strategies that were used throughout the entire day, and within each EE activity, both to reinforce the teachers’ understanding of inquiry-focused learning, and to help them apply the same approach to the one EE activity that they were expected to implement back at their school. Each teacher submitted a copy of their EE activity to the Institute Director. The teachers were invited to seek free pedagogical advice on their EE activities from the pedagogy expert (contracted by CEEF) between Day One and Day Three of the institute.

**Instructional Resources Supplied by CEEF Institute**

To further support the teachers in the planning and implementation of their student’s environmental stewardship project, the teachers were introduced to a powerful array of instructional resources (including human, technological, and written) that they would receive over the next four and a half months of the Institute. First they were introduced to their regional environmental education (EE) Coordinator, whose services were contracted by CEEF, in conjunction with their role in the California Regional Environmental Education Community (CREEC) Network. The Coordinator demonstrated how to access and utilize the on-line CREEC Network resource directory [www.creec.org](http://www.creec.org) to provide them with high-quality education resources for their EE activity and stewardship project. In addition to the human and technological resources,
each teacher received a copy of the “Environmental Stewardship Handbook: A Handy Guide for Stewardship Made Simple.” The chapters of the Handbook were meticulously highlighted by Melissa Smith, Adjunct Regional Director in the K-12 Alliance, to provide the teachers with step-by-step instructions for developing a student-driven stewardship project.

Place-based stewardship was modeled for the teachers by inviting them to help plant a native Toyon tree on the grounds of the institute site at the Los Angeles Department of Water and Power (LADWP) headquarters. The tree and mulch were donated by LADWP and the planting facilitated by a veteran tree-planting expert representing a highly respected environmental education organization called TreePeople.

![Image](image.jpg)

*Figure 11; On Day 1, teachers helped plant a native Toyon at the site during lunch [©City of Los Angeles Depart of Water and Power Used with permission.]*

The most highly rated presentation of the Institute, with 97.3% of the teachers agreeing it was “excellent,” was delivered by Mary Ford, Senior Manager of Citizen Science with National Geographic. Ms. Ford presented an impressive and highly accessible array of no-cost, on-line resources to support K-12 environmental literacy and to participate in real-time environmental stewardship programs around the world.
CREEC Network Coordinator Follow-up Support and Evaluation
Each teacher received up to four hours of follow-up support and collaboration with their Region 11 CREEC Network Coordinator. The Coordinator worked closely with the teachers between Day One and Day Three of the Institute to provide them with detailed information about current high quality EE resources available to help with the implementation of both their class EE activity and their environmental stewardship project. Moreover, the Coordinator assisted the teachers in preparing their Day Three PowerPoint presentations. In several cases, the Coordinator helped the teachers summarize and graphically depict the outcomes of their students’ stewardship projects.

The teacher’s PowerPoint presentations were initially seen by faculty at each teacher’s respective campus, thereby seeding the interest of at least 836 other school teachers in environment-based education [Note: signatures of the faculty-in-attendance were collected and submitted by the teacher-participants to the Institute Director to verify dissemination]. These same PowerPoint presentations were viewed by all the members of the institute on Day Three. An impressive 100% [28 out of 28] of teacher-participants successfully completed their stewardship projects and submitted their PowerPoint (PPT)
and/or video presentations to the Institute director. Electronic copies of the PPT’s were transferred to the teacher’s flash-drives [given to each Institute participant] before they departed on Day Three.

**Internal Evaluation of CREEC Network Coordinator**

The internal evaluation conducted by CEEF Director on the last day of the institute indicated the teachers regarded the quality of assistance received from their CREEC Coordinator in planning and implementing their EE activity as “very good,” with an average score of 82% (See Item “H” in Appendix A.5 and A.6).

**Evaluation and Research of the Institute**

**Internal Evaluation Results**

The teacher-participants completed formative and summative evaluations which were developed by the CEEF Institute Director to determine whether the instructional needs and overall professional expectations of the participants were being fulfilled. At the end of each of the three eight-hour days of the Institute, participants completed a Participant Feedback Form (See the Feedback Forms at Appendices A.1, A.3 and A.5, and the corresponding Summary Analysis for Days One, Two and Three at Appendices A.2, A.4, and A.6). Results from the Feedback Forms provided immediate insights on the quality of the participant’s experience and helping to determine whether there were any unanticipated needs for program improvement. A five point Likert-type scale was used to measure the teacher’s responses to approximately 15-20 questions concerning their instructional needs and meeting their expectations [See Appendix A]. It was encouraging that, based upon the Day One Participant Feedback Form, four out of five teachers responded that the EE activities would indeed “help their students gain a deeper understanding of concepts found in the Next Generation Science Standards and the Common Core State Standards (CCSS).”

Overall, the Institute participants indicated an extremely high level of enthusiasm on their final Day-Three Feedback Form in response to the following topics:

- 96.7% plan to “integrate an environmental stewardship project into their classroom curriculum in the future”
- 95.5% plan to “pursue future funding for an environmental stewardship project”
- 96.3% indicated they would “recommend the Institute to a fellow teacher”
- 94.6% was the average “overall rating of the Institute”

Clearly, the high quality of the presenters and the research-based curriculum, in combination with the CREEC Coordinator follow-up support, all contributed to the
teacher’s significant enthusiasm for integrating an environmental stewardship project into their curriculum and pursuing future stewardship project funding.

External Research of Institute Participants
In addition to the internal “participant feedback” described above, the CEEF contracted the professional services of two education researchers to conduct research on the teachers participating in the Institute. This research effort was primarily in response to interest and support from the state Department of Water Resources. The researchers were contracted by CEEF to determine, over the course of the institute: 1) how teacher self-confidence changed; 2) in what ways did teachers instructional approaches change in regards to environmental stewardship and their incorporation of California’s Next Generation Science Standards (NGSS) science practices six and eight; 3) how teachers’ conceptions of the connection between NGSS science practices and California’s Common Core State Standards (CCSS) and stewardship changed; and 4) in what ways did teacher philosophy toward environmental stewardship/action competence change over the course of the institutes.

The survey instruments were constructed to answer the aforementioned research questions, and then field-tested prior to administering them to the teachers. The pre- and post-surveys administered on Day One and Day Three, respectively, consisted of three sections: Science Instructional Practices Plus Stewardship, Instructional Confidence, and Philosophies. On Day Two, the survey focused entirely on project reporting, where the teachers described their classroom practices on their one required EE activity and their student’s environmental stewardship project. The instruments used with the teachers on Day 1, 2 and 3 are found in Appendix C.

All the teacher surveys were electronically completed on-site in a computer lab at the Los Angeles Department of Water and Power (LADWP) where all three days of the institute were convened. The survey data were collected “on-line” through Survey Monkey. Following the electronic collection of the survey data, the co-researcher provided a descriptive analysis of the pre- and post-surveys taken by 28 teachers on the first and third days of the CEEF Institute (Appendix B).

Significant Findings of the Pre- and Post-Survey Results
Based upon the data collected from the pre- and post-surveys taken by the teachers on January 31 and on May 16, 2015, the CEEF Institute was highly successful in both empowering the teachers to integrate stewardship into their curriculum, as well as enhance their instructional use of “reasoning, explanation and argumentation.” In fact, the researcher noted that the increases were “quite substantive.” (Appendix B) Furthermore, the researcher stated there were “significant and substantive increases” in five out of six factors regarding the teachers’ science instruction practices and stewardship, including: stewardship integration; data collection and analysis; reasoning, explanation and argumentation; discourse and communication; prior knowledge; and
traditional instruction. As implied above, the surveys revealed the greatest increases, over the four-and-a-half month duration of the Institute, were in “stewardship integration and reasoning,” and in “explanation and argumentation.”

The survey results on the teacher’s confidence were equally positive: in fact, all factors increased significantly and substantively. The greatest increases occurred in the teacher’s confidence in “incorporating stewardship” into their curriculum and in their “action competence” (e.g. engaging their students in critical thinking about the effects of their actions (positive and negative) on the environment). Lastly, elementary teachers demonstrated the greatest increases in confidence.

As expected, there were no significant differences in philosophy overlap before and after the CEEF Institute. In other words, teachers came in to the Institute with philosophies that were already fairly aligned with CEEF philosophies. Philosophy 4, involving students in activities demonstrating the relationship between action and environmental effect, and Philosophy 3, empowering students to take positive action for sustainability, demonstrated the most overlap between teachers and CEEF philosophy. The researcher attributed that the aforementioned results indicated that the CEEF Institute “provided tools that helped teachers carry out their environmental philosophies into practice.”
Teacher Reports on Student’s Stewardship Projects

As was mentioned earlier, 28 out of 28 teachers developed detailed PowerPoint presentations which photo-illustrated their student’s stewardship projects. The following outcomes of the stewardship projects highlight the significant benefits to the natural and human-built environment, as well as the educational benefits reaped by the students as a result of their participation in the environmental educations activities and the stewardship projects.

![Figure 14: Day 3 PowerPoint by a CEEF Institute teacher-participant on his 5th grade student’s water conservation project](©City of Los Angeles Department of Water and Power. Used with permission.)

**Benefits to the Natural Environment**

- Saved water on campus by replacing dead vegetation, which died from the drought, with native plants which require less water
- Germinated native oak acorn seeds and planted them with help from TreePeople
- Collected recyclable bottles and paper, twice a week, on campus
- Planted a campus vegetable and herb garden and used recycled plastic water bottles for containers
- Re-purposed plastic water gallon jugs as planter boxes for growing collard greens, tomatoes, kale and herbs
- Collected and tested Los Angeles river water for pH and dissolved oxygen, participated in a river cleanup, and then educated the community
- Developed and implemented an action plan to address identified areas of student’s weaknesses in knowledge, and engaged in environmentally friendly practices regarding water use, trash disposal, transportation, and recycling

**Benefits to the Human-Built Environment**
- Collected plastic bottles and aluminum cans and sold them to make money to buy plants
- Collected and traced the origin of campus and community trash that often pollutes watersheds
- Adapted *Project Aquatic WILD* activity, “What’s in the Water,” to raise awareness of the pollutants in the Los Angeles River
- Studied landfills and made posters about hazards of leaching pollutants into groundwater and then did experiments on decomposition rates of organic and inorganic objects in soil.
- Conducted audits on water, paper, and electricity use on campus and then drew qualitative posters on water audit results and promoted recycling to other students
- Learned about low-flow shower heads and how to obtain them from local utility for free
- Designed energy efficient home floor plans using architectural technology and constructed a to-scale model to show fellow schoolmates
- Constructed solar cells and tested them using UCLA’s nanoscience materials
- Tracked use of electricity at home and presented the results to other students at their school
- Placed plastic bottles along edge of school landscaping to prevent soil and water runoff.
- Conducted student surveys to determine campus-wide needs and found that the lack of bathrooms was the number one concern: only four bathrooms for 1,900 students! So students calculated walking time to bathrooms, wait time to use the facilities, analyzed their data and wrote petitions, held stakeholder meetings, and advocated the campus needs to their school principal, coaches, faculty, as well as their fellow students.
- Created posters about street runoff pollution and made class presentations to younger students in their school

**Teacher’s Observations of Students in EE Activity and Stewardship Project**
- Held a parent Eco Night and an Earth Day Fest for students and parents and shared the results of their stewardship projects
- Created a “Digital Storybook on the Birds of Lake Balboa” and shared it with schoolmates.
- Applied California’s Common Core Standards by having students “make claims about what they might see and why?” in their lab experiments on landfill decomposition
- Engaged in rich discussions about how precious our water resources are and how we need to preserve it on campus
- Created posters on environmental topics and gave presentations on Earth Day to fellow students
- Promoted a school-wide poster contest on Planet Earth which generated widespread participation on earth-friendly topics such as: “Explore then Restore;” “Mulch;” and “Bottled Water is Wasteful”
- After Earth Day, school campus became cleaner as students took more responsibility and did more recycling
- Generated student PowerPoint presentations and gave oral presentations on water quality, emphasizing biomagnification
- Posters were made from recycled bottle caps: one said “Every Day Counts”
- Categorized water usage at home and school, conducted personal and family water use audits, interviewed school administrators about water use practices, and wrote statements on what they could do to conserve and save water
- Students decided to form an Environmental Club for 2016 as a result of participation in this year’s stewardship project
- Students issued “green tickets” to teachers who remembered to turn off their lights and “red tickets” for those who forgot
- Students sponsored an “everyday morning public announcement” on campus
- Through a garden project, students learned about life science concepts, such as photosynthesis, pollination, ecosystems, global warming, and caring for the environment
- Re-purposed plastic forks and made a trellis to grow blackberries and snap peas
- Students contacted and collaborated with Friends of the Los Angeles River, Audubon Society, National Recreation and Parks Association, and other organizations to implement their LA River stewardship project
- Students identified trees on their school campus and posted the tree’s GPS coordinates, as well as the condition of the trees, and then shared their knowledge with 4th and 5th grade students on their campus
- Gathered and analyzed Los Angeles precipitation data and participated in activism and outreach, including writing the Los Angeles Mayor’s office to encourage him to speak more about the current drought in the news media
- Assessed arguments and solutions from multiple viewpoints regarding the use of single-use petroleum products (i.e. plastic bags) and gained deeper understanding of global citizenship and responsibility
- Art and biology teachers swapped classes. They introduced a lesson in ecology to the art students, and a lesson in watercolor painting to the biology students after taking the students on campus nature walks, conducting research, holding discussions, and writing about losing a species from an ecosystem.
- Campus audit was performed through soil testing, temperature data collection, cloud observation and gardening.
- A School Beautification Day was held after tallying trash around the campus during different times of the day and week with the help of the student council. Then posters and flyers were circulated on campus, and in the community, to encourage greater participation in Beautification Day.
- Followed the Project Citizen Model to identify the current problem of water shortage, examine alternative solutions, design a policy, and implement an action plan.
- Students researched CA state redwood parks and created a collaboration Google Map and drew lines of the park border and included descriptions and pictures.
- Created a climograph of Redwood Park and plotted its temperature and precipitation data using Google Spreadsheet, and then compared the climograph with the local area climate data to engage other students on campus through Google Moderator to design realistic solutions to maintaining a campus redwood grove.
- Participated in student-generated song/word contest about EE and Stewardship.
- Created a one-act vignette for 20 kindergarteners, “How the Wolf Learned to Save Water.”
- Conducted a campus-wide assessment to determine the beautification needs and mapped the surrounding community to determine who could help rectify the campus problems of trash and refuge and obtained a grant from the Jane Goodall Foundation to buy plants and other building supplies to re-purpose salvageable materials.
- Made bird feeders and bird baths from recycled materials and educated the school community about how litter can harm birds.
- Conducted laboratory tests on sources of drinking water from around their campus.
- Participated in a Recycling Article Jigsaw, made “Infographic” poster presentations, set up and distributed recycling bins donated by Tree People and placed them next to school library and classrooms.

**Financial Accounting: CEEF Institute Income and Expense Tracking FY 2014-15**
The Treasurer of CEEF tracked all income and expenses associated with the 2015 CEEF teacher institute and supplied a comprehensive accounting in Appendix D entitled “CEEF Institute Income and Expense Tracking: FY 2015.” The Executive Director cross-checked all the deposits and expenditures listed in Appendix E and found that all the entries were accurate and properly described and categorized. The current grand total of expenditures for the 2015 Institute, including the 5% indirect charged by CEEF, is $21,623.99. This grand total does not include the future anticipated costs for paying the contractors connected with the research article writing, editing, and administrative...
oversight, nor CEEF’s remaining indirect costs. The Research article which should be completed in fall, 2015.

Closing
In closing, on behalf of the CEEF Board of Directors, I would like to express the deepest appreciation to all the funders and partners of the 2015 CEEF Teacher Institute, and in particular the state Department of Water Resources, the Los Angeles Department of Water and Power, the Sandia National Laboratories, and the Metropolitan Water District for their generous support of the Institute. Because of their visionary investment in the institute, an estimated 3,308 students in grades K-12, and their 28 teachers greatly increased their personal environmental literacy and their confidence to steward the environment.

If one were to judge the success of the 2015 CEEF Teacher Institute based upon the Day 3 Participant Feedback Forms, which indicated an “Excellent” average score of 94.6% for the “overall rating of the Institute,” then it would appear that CEEF has succeeded in its original goal to respond to a statewide survey that indicated teachers wanted CEEF to provide high quality professional development on the topic of “Best Practices of Environmental Education and Stewardship.” There can be little doubt that hundreds of teachers and administrators, after listening to the outstanding teacher-participants’ PowerPoint presentations, were deeply inspired by the profound and exciting results of the students’ stewardship projects.

After providing three successful Institutes over the past five years, CEEF can stand proud in its on-going legacy of inspiring its teacher-participants to pick up the torch of environmental literacy and illuminate the minds and hearts of their students to become thoughtful care-takers of our precious planet.
APPENDIX A.1: DAY 1-EVALUATION FORM

2015 Teacher Institute on
Best Practices of Environmental Education and Stewardship
Participant Feedback Form-Day 1

Thank you for your participation in the CEEF Institute. The sponsors and the CEEF Board of Directors would like to ask your assistance in evaluating the quality of today’s Institute. We would appreciate your forthright feedback to help us know if we are meeting your instructional needs, providing you with good food and refreshments, and giving adequate time to move about and interact with your fellow Institute participants. Please circle the number that best represents your thoughts in response to each question. Feel free to write additional information on the back to any of the questions posed on these two pages. Additional comments are welcome.

### Evaluation Scale: Key

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<td>Very Good</td>
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### Part I: Did the Institute Meet Your Instructional Needs?

A. Is the content of this Institute appropriate for the grade level you teach?

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B. The likelihood of your integrating the environmental activities presented today into your classroom curriculum?

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C. The likelihood that today’s two environment-based activities, from Project WET and Project Aquatic WILD, would help your students gain a deeper understanding of concepts found in the Next Generation Science Standards (NGSS) and Common Core State Standards (CCSS)?

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D. The degree to which your students would easily relate to the environment-based content information and activities presented today?

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E. How useful was it to identify the NGSS Engineering Standards that focus on environmental issues in the Earth, life, and physical sciences?

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F. How beneficial was it for the K-12 Alliance speaker to review instructional strategies/pedagogy that promote constructivist learning and inquiry?

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G. The likelihood that today’s two environment-based activities would help your students gain a deeper understanding of California’s *Common Core State Standards*?

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**Part II: Did the Institute Meet your Need for Meals and Breaks?**

H. How would you rate the overall quality of the food and refreshments for **breakfast**?

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I. How would you rate the overall quality of the food and refreshments for **lunch**?

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J. How would you rate the overall quality of the food and refreshments for **breaks**?

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K. Was there an adequate amount of time allocated to the two breaks and lunch?

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**Part III: Did the Institute Meet Your Expectations?**

L. How would you rate the quality and expertise of the guest speakers?

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</table>

M. How would you rate the overall organization of the institute and flow of the agenda?

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</table>

N. Was there adequate time allotted for interaction with your fellow participants?  
   [i.e. Part 2: Water Audit activity; Part 3 WET activity; Parts 5 & 6, between 3:10 P.M. and 4:40 P.M.]

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O. How would you rate the ease of use of the teacher SurveyMonkeys done in the lab?

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</table>

P. Given your commitment to complete a student-driven stewardship project, how useful will the “CEEF Environmental Stewardship Handbook” be to you and your students?

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</tbody>
</table>

Q. What is your expectation of the quality of assistance you will receive from your CREEC Coordinator in planning and implementing one EE activity and your stewardship project?

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<td>2</td>
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<td>5</td>
</tr>
</tbody>
</table>

*Thank you for completing the evaluation! Please give this form to the Director today.*
APPENDIX A.2

2015 CEEF Institute Participant Feedback Form—Day 1

Summary Analysis
N=29; Total Points assigned by teachers/145 points possible = Average %
Overall Average %= 2,060 pts/2,465 pts x 100%= 83.6%

Evaluation Scale: 1=Poor; 2=Below Average; 3=Average; 4= Very Good; 5=Excellent

A  Is the content of this Institute appropriate for the grade level you teach?  
129 89%

B  The likelihood of your integrating the environmental activities presented today into your classroom curriculum?  
132 91.0%

C  The likelihood that today’s two environment-based activities would help your students gain a deeper understanding of concepts found in the Next Generation Science Standards (NGSS) and Common Core State Standards (CCSS)?  
116 80.0%

D  The degree to which your students would easily relate to the environment-based content information and activities presented today?  
120 82.8%

E  How useful was it to identify the NGSS Engineering Standards that focus on environmental issues in the Earth, life and physical sciences?  
121 83.4%

F  How beneficial was it for the K-12 Alliance speaker to review instructional strategies/pedagogy that promote constructivist learning and inquiry?  
117 80.7%

G  The likelihood that today’s two environment-based activities would help your students gain a deeper understanding of California’s Common Core State Standards?  
117 80.7%

H  How would you rate the overall quality of the food and refreshments for breakfast?  
118 81.4%
<table>
<thead>
<tr>
<th>Question</th>
<th>Rating</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I  How would you rate the overall quality of the food and refreshments for lunch?</td>
<td>122</td>
<td>84.1%</td>
</tr>
<tr>
<td>J  How would you rate the overall quality of the food and refreshments for breaks?</td>
<td>110</td>
<td>75.9%</td>
</tr>
<tr>
<td>K  Was there an adequate amount of time allocated to the two breaks and lunch?</td>
<td>99</td>
<td>68.2%</td>
</tr>
<tr>
<td>L  How would you rate the quality and expertise of the guest speakers?</td>
<td>130</td>
<td>89.7%</td>
</tr>
<tr>
<td>M  How would you rate the overall organization for the institute and flow of the agenda?</td>
<td>126</td>
<td>86.9%</td>
</tr>
<tr>
<td>N  Was there adequate time allotted for interaction with your fellow participants?</td>
<td>116</td>
<td>80.0%</td>
</tr>
<tr>
<td>O  How would you rate the ease of use of the teacher SurveyMonkeys done in the lab?</td>
<td>125</td>
<td>86.2%</td>
</tr>
<tr>
<td>P  Given your commitment to complete a student-driven stewardship project, how useful will the CEEF Environmental Stewardship Handbook be to you and your students?</td>
<td>126</td>
<td>86.9%</td>
</tr>
<tr>
<td>Q  What is your expectation of the quality of assistance you will receive from your CREEC Network Coordinator in planning and implementing one EE activity and your stewardship project?</td>
<td>136</td>
<td>93.8%</td>
</tr>
</tbody>
</table>
Thank you for your participation in the CEEF Institute. The sponsors and the CEEF Board of Directors would like to ask your assistance in evaluating the quality of today’s Institute. We would appreciate your forthright feedback to help us know if we are meeting your instructional needs, providing you with good food and refreshments, and giving adequate time to move about and interact with your fellow Institute participants. Please circle the number that best represents your thoughts in response to each question. Feel free to write additional information on the back to any of the questions posed on these two pages. Additional comments are welcome.

**Evaluation Scale: Key**

1  2  3  4  5
Poor Below Average Average Very Good Excellent

**Part I: Did the Institute Meet Your Instructional Needs?**

A. The content of today’s Institute is appropriate for the grade level(s) I teach.
   1  2  3  4  5

B. Your level of understanding in how to access and apply environment-based resources found on the websites of National Geographic, the Jane Goodall Institute, and Project Learning Tree?
   1  2  3  4  5

C. Today’s environment-based activity would help my students gain valuable knowledge and/or skills described in California’s Content Standards.
   1  2  3  4  5

D. Your level of awareness of the pros and cons of developing and utilizing renewable and non-renewal energy sources, and how this information can be effectively taught through the PLT activity “Energy Sleuths?”
   1  2  3  4  5

E. How useful was the brainstorming activity on “Solutions to School-Site Challenges”
   1  2  3  4  5

**Part II: Did the Institute Meet your Need for Meals and Breaks?**

F. The overall quality of the food and refreshments for breakfast.
   1  2  3  4  5
G. The overall quality of the food and refreshments for lunch.
1 2 3 4 5

H. The overall quality of the snacks and refreshments for breaks.
1 2 3 4 5

I. Was there adequate time allocated to the two 15 minute breaks and the 45 minute lunch?
1 2 3 4 5

Part III: Did the Institute Meet Your Expectations?

J. The quality and expertise of the LADWP presenter on the Renewable and Non-Renewal Energy Sources?
1 2 3 4 5

K. The quality and expertise of the presenters on the Project Learning Tree activity, “Energy Sleuths?”
1 2 3 4 5

L. The quality and expertise of the presenter on PLT Green Works! School Grants for $1,000 & $2,000; Free PLT Activities; and "Walk in the Forest – A Guide for Promoting Forests and Forest Management”?
1 2 3 4 5

M. The overall organization of the institute and flow of the agenda.
1 2 3 4 5

N. The amount of time allotted for interaction with your fellow participants [i.e. Parts 4 and 5 between 2:45 P.M. and 4:10 P.M.]?
1 2 3 4 5

O. The amount of time allotted to complete the electronic surveys in the computer lab?
1 2 3 4 5

P. The likelihood that you will pursue fund support for future environmental stewardship projects, such as that offered by the Jane Goodall Institute and from Project Learning Tree?
1 2 3 4 5

Q. The quality and expertise of the presenter on exploring EE and stewardship from Nat Geographic?
1 2 3 4 5

R. How do you rate the quality of assistance you have received from your CREEC Coordinator in planning and implementing your EE activity and stewardship project?
1 2 3 4 5

S. How do you rate your level of confidence in applying the 5-E pedagogy to environmental education activities, such as “Energy Sleuths?”
1 2 3 4 5
T. How do you rate the quality and expertise of the presenters from the Jane Goodall Institute and usefulness of the Roots and Shoots technology?

1  2  3  4  5

U. Your level of understanding of the ways both California’s NGSS Science Practices (especially #6 and #8) and California’s Common Core State Standards (CCCSS) connect to environmental stewardship projects?

1  2  3  4  5

Thank you for completing the evaluation! Please give this evaluation to the Director today.
APPENDIX A.4

2015 CEEF Institute Participant Feedback Form—Day 2

Summary Analysis

N=22; Total Points assigned by teachers/110 points possible = Average %
Overall Average %= 2,043 pts/2,420 pts x 100%= 84.4%

Evaluation Scale: 1=Poor; 2=Below Average; 3=Average; 4= Very Good; 5=Excellent

A  Is the content of this Institute appropriate for the grade level you teach?  
   99  
   90%

B  Your level of understanding in how to access and apply environment-based resources found on the websites of National Geographic, the Jane Goodall Institute, and Project Learning Tree?  
   105  
   95.5%

C  Today’s environment-based activity would help my students gain valuable knowledge and/or skills described in California’s Content Standards.  
   97  
   88.2%

D  Your level of awareness of the pros and cons of developing and utilizing renewable and non-renewal energy sources, and how this information can be effectively taught through the PLT activity “Energy Sleuths?”  
   105  
   95.5%

E  How useful was the brainstorming activity on “Solutions to School-Site Challenges”  
   83  
   75.5%

F  The overall quality of the food and refreshments for breakfast.  
   103  
   93.6%

G  The overall quality of the food and refreshments for lunch.  
   100  
   90.9%

H  The overall quality of the food and refreshments for breaks.  
   100  
   90.9%

I  Was there adequate time allocated to the two 15 minute breaks and the 45 minute lunch?  
   93  
   84.5%
J  The quality and expertise of the LADWP presenter on the Renewable and Non-Renewal Energy Sources?

95  86.4%

K  The quality and expertise of the presenters on the Project Learning Tree activity, “Energy Sleuths?”

105  95.5%

L  The quality and expertise of the presenter on PLT GreenWorks! School Grants for $1,000 and $2,000; Free PLT Activities; and “Walk in the Forest—A Guide for Promoting Forests and Forest Management”?

98  89.1%

M  The overall organization of the institute and flow of the agenda.

98  89.1%

N  The amount of time allotted for interaction with your fellow participants [i.e. Parts 4 and 5 between 2:45 PM and 4:10 PM]?

89  80.9%

O  The amount of time allotted to complete the electronic surveys in the computer lab?

100  90.9%

P  The likelihood that you will pursue fund support for future environmental stewardship projects, such as that offered by the Jane Goodall Institute and from Project Learning Tree?

102  92.7%

Q  The quality and expertise of the presenter on exploring EE and stewardship from Nat Geographic?

107  97.3%

R  How do you rate the quality of assistance you have received from your CREEC Coordinator in planning and implementing your EE activity and stewardship project?

83  75.5%

S  How do you rate your level of confidence in applying the 5-E pedagogy to environmental education activities, such as “Energy Sleuths?”

91  82.7%
T  How do you rate the quality and expertise of the presenters from the Jane Goodall Institute and usefulness of the Roots and Shoots technology?

101  91.8%

U  Your level of understanding of the ways both California’s NGSS Science Practices (especially #6 and #8) and California’s Common Core Standards (CCCSS) connect to environmental stewardship projects?

89  80.9%
Thank you for your participation in the CEEF Institute. The sponsors and the CEEF Board of Directors are asking your assistance in evaluating the quality of today's Institute. Your forthright feedback is necessary to help us know if we are meeting your instructional needs, and meeting your professional expectations. Please circle the number that best represents your thoughts in response to each question. Feel free to write additional information to any of the questions posed on these two pages on the reverse side of this survey.

**Evaluation Scale: Key**

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<tbody>
<tr>
<td>Poor</td>
<td>Below Average</td>
<td>Average</td>
<td>Very Good</td>
<td>Excellent</td>
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**Part I: Did the Institute Meet Your Instructional Needs?**

M. The focus of today’s Institute was appropriate for the grade level(s) you teach.

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N. The likelihood of your integrating an environmental stewardship project into your classroom curriculum in the future.

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O. The usefulness of today's web exploration activity on “Funding Environmental Stewardship Projects.”

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P. The likelihood of your pursuing future funding for an environmental stewardship project?

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E. The usefulness of today’s “Mini-Round Table Discussions.”

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</tbody>
</table>
Part II: Did the Institute Meet Your Expectations?

F. The ease of use of today’s three electronic survey instruments?
1 2 3 4 5

G. The usefulness of today’s PowerPoint presentations on student-driven stewardship projects?
1 2 3 4 5

H. The quality of assistance you have received from the CREEC Network Coordinator in planning and implementing your EE activity?
1 2 3 4 5

I. If you contacted Jody Sherriff for assistance on pedagogy, the quality of her assistance? Please skip if you never contacted her.
1 2 3 4 5

J. The level of professional benefit from modifying your EE activity to reflect the 5-E pedagogy?
1 2 3 4 5

K. The interest and reaction of your fellow faculty in your student’s stewardship project?
1 2 3 4 5

L. The likelihood of you recommending this Institute to a fellow teacher?
1 2 3 4 5

M. Your overall rating of this institute?
1 2 3 4 5

Thank you for completing the evaluation! Please give this evaluation to the Director today.
APPENDIX A.6
2015 CEEF Institute Participant Feedback Form—Day 3

Summary Analysis
N=27; Total Points assigned by teachers/135 points possible = Average %
Overall Average % = 1475.2/1620 = 91%*

Evaluation Scale: 1=Poor; 2=Below Average; 3=Average; 4= Very Good; 5=Excellent

A. The focus of today's Institute was appropriate for the grade level(s) you teach.
   125.5 92.9%

B. The likelihood of your integrating an environmental stewardship project into your classroom curriculum in the future.
   130.5 96.7%

C. The usefulness of today's web exploration activity on “Funding Environmental Stewardship Projects.”
   116 89.2%

D. The likelihood of your pursuing future funding for an environmental stewardship project?
   129 95.6%

E. The usefulness of today's “Mini-Round Table Discussions.”
   122 90.4%

F. The ease of use of today’s three electronic survey instruments?
   124 91.8%

G. The usefulness of today’s PowerPoint presentations on student-driven stewardship projects?
   130 96.3%

H. The quality of assistance you have received from the CREEC Network Coordinator in planning and implementing your EE activity?
   102.5 82.9%

I. If you contacted Jody Sherriff for assistance on pedagogy, the quality of her assistance?
   Please skip if you never contacted her.
   27/30 90%
J. The level of professional benefit from modifying your EE activity to reflect the 5-E pedagogy?

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<tbody>
<tr>
<td>115</td>
<td>85.2%</td>
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</table>

K. The interest and reaction of your fellow faculty in your student’s stewardship project?

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>123</td>
<td>91.1%</td>
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</tbody>
</table>

L. The likelihood of you recommending this Institute to a fellow teacher?

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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>96.3%</td>
</tr>
</tbody>
</table>

M. Your overall rating of this institute?

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<thead>
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</thead>
<tbody>
<tr>
<td>127.7</td>
<td>94.6%</td>
</tr>
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</table>

*Overall average does not include item “I” since not all teachers utilized the services of Jody Skidmore*
Appendix B: Research: Descriptive Analysis of Teacher’s Pre- and Post-Surveys

CEED institute pre-survey preliminary analysis

Kathryn Hayes

This paper provides a descriptive analysis of the pre- and post- surveys taken by 28 teachers at the first CEEF Institute on January 31, 2015, and by 27 teachers on May 16, 2015. The survey consisted of three sections, Science Instructional Practices Plus Stewardship, Instructional Confidence, and Philosophies.

Main takeaways:

- Science Instructional Practices Plus Stewardship Survey:
  - All factors increased significantly except Traditional instruction.
  - Stewardship integration and Reasoning, explanation and argumentation demonstrated the greatest increase pre- to post-.
  - These increases are quite substantive.
  - Stewardship integration and Data collection and analysis remain the lowest mean score.

- Confidence Survey
  - All factors increased significantly and substantively.
  - The greatest increases occurred for Stewardship integration and Action competence.
  - Elementary teachers demonstrated the greatest increases in confidence.

- Philosophy Survey
  - In pre-surveys, philosophy alignment is fairly high, especially regarding teaching the relationship between students taking action toward sustainability (philosophy 3) and action and environmental effects (philosophy 4) (both related to action competence).
  - No philosophy overlaps increased pre- to post-.
  - Together these indicate that teachers came in with highly aligned philosophies, and that philosophies are difficult to change.
  - Practice/philosophy overlap ratings were consistently lower across the philosophies, indicating that teachers felt restricted in their ability to implement their philosophies.
  - However, teacher’s practices/philosophy overlap increased for two constructs in the post-survey (philosophy 3 and 4), indicating that CEEF provided tools that helped teachers carry their environmental philosophies into practice.
  - Elementary teachers demonstrated the greatest increases in philosophy/practice overlap (pre- to post-).

Science Instructional Practices Plus Stewardship

The modified SIPS+Stewardship survey was analyzed based on selected factors from the original SIPS survey (Hayes, et al., 2015) along with one additional factor having to do with integrating stewardship and science (or subject specific) education (see Table 1). Teachers were asked to respond to the prompt: “How often do your students do/do you do each of the following in the class(s) in which you will be conducting CEEF projects: Never, Rarely (a few times a year), Sometimes (once or twice a month), Often (once or twice a week), Daily or almost daily.” Because our sample is relatively small, we rely on the reliability coefficients from past research (Hayes, et al., 2015); however we also report current
reliability statistics in Table 2. In pre-surveys, the factor with the lowest mean was Stewardship integration (2.73), followed by Data collection and analysis (3.14) (Table 2, Figures 1 and 2). The lowest rated items were *use the outdoors to teach (science) content* (2.43) and *incorporate environmental stewardship projects into your curriculum* (2.46). The factor with the highest mean was Traditional instruction (3.89), followed closely by Prior knowledge (3.88). Prior research is consistent with CEEF teachers’ high mean in these areas (Hayes, et al., 2015). The high rating for both may be due to teaching approaches that are very familiar to teachers (e.g., discussing students’ prior knowledge, leading class discussion). The highest rated items were *Go over vocabulary* (4.28) and *Use open-ended questions to stimulate whole class discussion (most students participate)* (4.37).

### Table 1: SIPS+Stewardship constructs, NGSS Science and Engineering Practice (if applicable), definition, and example item.

<table>
<thead>
<tr>
<th>Construct name</th>
<th>NGSS SE practice</th>
<th>Definition</th>
<th>Example item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Data collection and analysis</td>
<td>3, 4, 5</td>
<td>Opportunities for students to collect, organize, and analyze data</td>
<td>Organize data into charts and graphs</td>
</tr>
<tr>
<td>2. Reasoning, explanation and argumentation</td>
<td>2, 6, 7</td>
<td>Opportunities for students to engage in explanation, argumentation, and the use of evidence.</td>
<td>Supply evidence to support a claim or explanation</td>
</tr>
<tr>
<td>3. Discourse and Communication</td>
<td>8</td>
<td>Opportunities for students to present, write, and engage in science related discourse</td>
<td>Assign writing wherein students communicate their (scientific) ideas</td>
</tr>
<tr>
<td>4. Traditional Instruction</td>
<td></td>
<td>Content focused, teacher centered instructional approaches</td>
<td>Go over vocabulary</td>
</tr>
<tr>
<td>5. Prior Knowledge</td>
<td></td>
<td>Instruction that incorporates student prior knowledge and experiences.</td>
<td>Apply (science) concepts to explain natural events or real-world situations.</td>
</tr>
<tr>
<td>6. Stewardship integration</td>
<td>New</td>
<td>Instruction that integrates stewardship or environmental issues with inquiry and science content</td>
<td>Incorporate environmental stewardship projects into your curriculum</td>
</tr>
</tbody>
</table>
In the post-survey, the lowest rated factors were again Stewardship integration (3.54 and Data collection and analysis (3.69) (Table 2, Figures 1 and 2). However, the average rating on these factors increased considerably and significantly (Stewardship integration t = -4.625; p < .001; Data collection and analysis t = -3.291; p < .01). Discourse and communication (4.09) also increased significantly pre- to post (t = -3.382; p < .01), as did Reasoning, explanation and argumentation (4.13; t = -4.390; p < .001). As in the pre-survey, the highest rated factors were also Prior knowledge (4.41) and Traditional instruction (3.95). Use of Prior knowledge increased significantly (t = -3.499; p < .01); traditional instruction did not differ significantly from the pre-survey. The lack of change in Traditional instruction makes sense given that increasing use of traditional pedagogical methods was not the target of the CEEF Institute, and that teachers are fairly routine in their use of traditional instruction (1). The greatest changes were in Stewardship integration and Reasoning, explanation and argumentation (Figure 1), a positive outcome given the focus of the CEEF Institute. In addition, the standard deviation (variation in scores) decreased for all factors, indicating teachers were becoming more similar in their instructional approaches.

Table 2: SIPS+Stewardship constructs, items, internal consistency, and descriptive statistics (N = 28)

<table>
<thead>
<tr>
<th>Factor name</th>
<th>Items</th>
<th>Mean pre</th>
<th>SD pre</th>
<th>Mean post</th>
<th>SD post</th>
<th>Hayes, et al. 2015 α</th>
<th>Current study α</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Data collection and analysis</td>
<td>1, 5, 6</td>
<td>3.14</td>
<td>0.78</td>
<td>3.69</td>
<td>0.68</td>
<td>.831</td>
<td>.769</td>
</tr>
<tr>
<td>2. Reasoning, explanation and argumentation</td>
<td>4, 7-11</td>
<td>3.42</td>
<td>0.80</td>
<td>4.14</td>
<td>0.70</td>
<td>.875</td>
<td>.823</td>
</tr>
<tr>
<td>3. Discourse and Communication</td>
<td>2, 6, 10, 11</td>
<td>3.63</td>
<td>0.74</td>
<td>4.10</td>
<td>0.59</td>
<td>.714</td>
<td>.737</td>
</tr>
<tr>
<td>4. Traditional Instruction</td>
<td>3, 1-4</td>
<td>3.89</td>
<td>0.63</td>
<td>3.96</td>
<td>0.47</td>
<td>.743 (without 3, read)</td>
<td>.654</td>
</tr>
<tr>
<td>5. Prior Knowledge</td>
<td>7-9</td>
<td>3.88</td>
<td>0.90</td>
<td>4.41</td>
<td>0.55</td>
<td>.827</td>
<td>.812</td>
</tr>
<tr>
<td>6. Stewardship integration</td>
<td>5, 12-16</td>
<td>2.73</td>
<td>1.01</td>
<td>3.54</td>
<td>0.74</td>
<td>.898</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1: Change in average score pre to post for each factor in the SIPS + Stewardship Survey
As demonstrated in Figure 2, Stewardship integration and Data collection and analysis were low overall, whereas Traditional instruction was relatively high across subjects. Initial low ratings on Data collection and analysis could be due to the presence of three teachers who do not teach science at all, and the four elementary teachers. Figure 1 demonstrates that elementary teachers had the lowest rating on most pre-survey factors, except Traditional instruction. Their ratings increased considerably on the post survey, leaving non-science teachers as having the lowest ratings. It is possible that elementary teachers simply had very little exposure to CEEF Institute instructional methods prior to the Institute, especially those regarding science instruction (). Teachers who taught science or science and another subject rated the SIPS+ factors most highly on the pre-survey, and they remained high on the post-survey.
Regarding Confidence items, three constructs for the first prompt and two constructs for the second prompt emerged based on qualitative analysis, item origination, an Exploratory Factor Analysis, and reliability analysis (see Table 3 and 4). The first prompt asked teachers to “rate your confidence in your ability to...” The second prompt asked the teachers to “rate your confidence in your own ability to teach...” Measures of internal consistency were consistently high across the constructs (Cronbach’s alpha ranged from .925-.939). High internal consistency may be partially due to the nature of confidence or self-efficacy, which tends to be consistent in the individual ()

Table 3: Teacher Confidence constructs, definition, and example item.

<table>
<thead>
<tr>
<th>Construct name</th>
<th>Definition</th>
<th>Example item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Science/NGSS practices</td>
<td>Supporting student scientific sense-making</td>
<td>Help students distinguish between claim and evidence</td>
</tr>
<tr>
<td>2. Incorporating stewardship</td>
<td>Incorporating effective stewardship into the curriculum</td>
<td>Facilitate student involvement in selecting and carrying out stewardship projects</td>
</tr>
<tr>
<td>3. Action competence</td>
<td>Student critical thinking connecting their actions to environmental sustainability</td>
<td>Engage students in critical thinking about the effects of their actions (positive and negative) on the environment</td>
</tr>
<tr>
<td>4. Teaching content</td>
<td>Teaching curriculum specific to the CEEF institute</td>
<td>About major sources of aquatic pollution</td>
</tr>
<tr>
<td>5. Teaching connections</td>
<td>Teaching the links between environmental causes and effect</td>
<td>The links between cause, effect, and actions to reduce environmental impact</td>
</tr>
</tbody>
</table>

For the Instructional Confidence items, the construct with the highest mean rating regarded science approaches and NGSS practices (3.52). The lowest regarded Incorporating stewardship (2.82) (Table 4, Figure 3). The latter rating is consistent with reported behaviors on the SIPS+Stewardship survey, and may be informative in terms of increases. However, relatively higher ratings of confidence incorporating science practices and sense-making may either be an indication of overconfidence in comparison with behaviors, or an indication of the role of external structures (pacing guides, curriculum, accountability pressure) in what teachers teach. In other words, they may be confident engaging students in scientific sense-making, yet not often do so due to organizational constraints and priorities.
Table 4: Teacher Confidence constructs, items, internal consistency, and descriptive statistics (N = 28)

<table>
<thead>
<tr>
<th>Factor name</th>
<th>Items</th>
<th>Mean pre</th>
<th>SD pre</th>
<th>Mean post</th>
<th>SD post</th>
<th>Current study α</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Science/NGSS practices</td>
<td>1-6</td>
<td>3.52</td>
<td>0.83</td>
<td>4.24</td>
<td>.63</td>
<td>.925</td>
</tr>
<tr>
<td>2. Incorporating stewardship</td>
<td>7-13</td>
<td>2.82</td>
<td>0.91</td>
<td>3.84</td>
<td>.86</td>
<td>.939</td>
</tr>
<tr>
<td>3. Action competence</td>
<td>14-17</td>
<td>3.20</td>
<td>0.98</td>
<td>4.15</td>
<td>.82</td>
<td>.929</td>
</tr>
<tr>
<td>4. Teaching content</td>
<td>1-3</td>
<td>3.18</td>
<td>0.94</td>
<td>4.03</td>
<td>.86</td>
<td>.933</td>
</tr>
<tr>
<td>5. Teaching connections</td>
<td>4-7</td>
<td>3.30</td>
<td>0.85</td>
<td>4.19</td>
<td>.73</td>
<td>.937</td>
</tr>
</tbody>
</table>

All confidence factors increased significantly pre- to post (Table 4, Figure 3). T statistics were all between 4.1 and 4.7, p values were less than .001. As in the practices items, standard deviations also decreased, demonstrating that teachers became more similar in their confidence. Stewardship integration and Action competence demonstrated the greatest increase (over one standard deviation in both cases).

Figure 3: Change in average score pre to post for each factor in the Confidence Survey
As seen in Figure 5, confidence also varied by subject, with elementary teachers expressing the least confidence in pre-surveys, particularly in Stewardship integration. Interestingly, non-science teachers expressed the greatest confidence pre-survey, but their confidence decreased pre- to post (this should be interpreted with great caution since $N=2$). Their confidence was likely artificially inflated before the institute because of lack of exposure to the concepts. When teachers begin to learn about particular
concepts of which they previously had only a vague idea, confidence often drops before demonstrating increase. All other teacher groups demonstrated an increase in confidence, but elementary teachers demonstrated the greatest increase. By the end of the institute, teachers of different subject areas were similar in their confidence.

**Philosophies**

As expected, factor analysis of the current philosophies and current teaching practice revealed a bifurcation along the lines of philosophy and practice. Teacher philosophy (3.26) demonstrated slightly more overlap with CEEF philosophies than teacher practice (3.04). Most instructive is that the distribution of practice overlap is so much higher than the distribution of philosophy overlap (SD .78; 1.23 respectively). It will be interesting to note whether the distribution decreases over the course of the institute (in other words, teachers’ practice becomes more similar).

<table>
<thead>
<tr>
<th>Factor name</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
<th>Current study α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current philosophy</td>
<td>1.60</td>
<td>4.00</td>
<td>3.26</td>
<td>.78</td>
<td>.920</td>
</tr>
<tr>
<td>Teaching practice</td>
<td>1.25</td>
<td>5.00</td>
<td>3.04</td>
<td>1.23</td>
<td>.944</td>
</tr>
</tbody>
</table>

Table 5: Philosophy constructs, items, internal consistency, and descriptive statistics (N = 28)

Table 6 lays out the wording of each philosophy. As demonstrated in Figure 6a, 6b and 7, the philosophy overlap was consistently fairly high for all philosophies pre and post. There were no significant differences in philosophy overlap before and after the CEEF Institute. In other words, teachers came in to the Institute with philosophies that were already fairly aligned with CEEF philosophies. Philosophy 4, involving students in activities demonstrating the relationship between action and environmental effect, and Philosophy 3, empowering students to take positive action for sustainability, demonstrated the most overlap between teachers and CEEF philosophy.
Table 6: Philosophies and mean rating.

<table>
<thead>
<tr>
<th>Philosophy</th>
<th>Mean pre</th>
<th>SD pre</th>
<th>Mean post</th>
<th>SD post</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The role of teachers should be shifted from being the source of knowledge to a facilitator of learning. This requires consistently involving students in asking questions and making decisions about their investigations and stewardship projects. Environmental literacy, including understanding of concepts and issues, cognitive skills, and stewardship strategies, is key to a student's well-rounded education. It must be taught at every grade level to ensure they become responsible stewards of the environment.</td>
<td>3.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. An important aim of education is to empower students to take positive action toward an environmentally sustainable future (i.e., ensure that we have and will continue to have, the water, materials, and resources to protect human health and our environment). Students need to be actively involved in educational activities that demonstrate the relationship between their actions and environmental effects, positive (stewardship) and negative (e.g., pollution).</td>
<td>3.96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Students need to be actively involved in educational activities that demonstrate the relationship between their actions and environmental effects, positive (stewardship) and negative (e.g., pollution).</td>
<td>4.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. However, the ability of teachers to carry out the philosophy in practice differed considerably from the philosophy overlap both pre- and post (figures 6 and 7). This may be an indication of structural issues that prevent teachers from carrying out their philosophies in practice. That said, there was a significant difference pre- to post- for two practice/philosophy overlaps, Sustainability (philosophy 3) (t = 2.686; p &lt; .05) and Environmental effects (philosophy 4) (t = (Figure 7). The philosophy overlap was the most highly rated for these two as well, indicating that the CEEF Institute provided tools that enabled teachers to teach more closely to their internal philosophies.</td>
<td>4.36</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 6a: Average overlap of philosophy versus practice pre-survey

Figure 6b: Average overlap of philosophy versus practice post-survey
Figure 7: Difference pre- to post- for philosophy overlap (pink) and practices overlap (orange).
Figures 8a and 8b: Pre- and post-survey philosophy overlap by subject
Like ratings on instructional practices and confidence survey items (above), elementary teachers were consistently lower in their rating of the overlap of their practices with CEEF philosophy (Figure 9a). However, it is interesting to note that elementary teachers are not always lower than other subject areas in the overlap of their philosophies with CEEF philosophies. This discrepancy sheds some light on the source of elementary teachers’ relatively low ratings of science and stewardship practices. Their confidence in those areas is relatively low (compared to other grade bands), but their philosophy alignment is relatively high. This means that confidence as well as other predictors of instruction, such as curriculum or pacing guides, may be influencing their instruction.
APPENDIX C.1: 2015 CEEF INSTITUTE AGENDA-DAY 1

2015 Teacher Institute on
Best Practices of Environmental Education and Stewardship

CEEF Teacher Institute Day #1 Agenda, January 31, 2015

Location: Los Angeles Department of Water and Power (LADWP); 111 N. Hope Street, Los Angeles, CA 90012
Logistics/Equipment: Walter Zeisl, Host; Tel: 310/519-1150; Cell: 213/923-6468
Institute Program Contact: Bill Andrews, Institute Director; Cell: 916/759-1518

Check-in [7:30 - 7:55 a.m.]: LADWP Lobby - Please pick up your nametag, Institute binder, and enjoy a complimentary breakfast in the Cafeteria

Morning Session, Part 1 [8:00 - 10:15 a.m.]: Cafeteria Conference Room

➢ Welcome!
➢ Introduce special guests and speakers
➢ Review Saturday agenda and logistics Q & A
  ✓ Participant self-introductions at your table (60 seconds/person): name, school name, grade level(s)/course(s) you currently teach, and one way you and/or your students care for the environment.
➢ Overview of CEEF Institute Research and Teacher Survey by Deborah Tucker, Ed.D., Independent Science Education Consultant

Please move to LADWP Computer Lab - 2 min
  ✓ Orientation to the SurveyMonkey by Deborah Tucker
  ✓ Teachers complete on-line CEEF Institute Teacher Survey in Computer Lab - 20 min

➢ Activity (Engage)*: Participant’s Preconceptions — Use the Lab computers to describe your current understandings -10 min

Please return to Cafeteria Conference Room - 2 min

➢ Presentation (Explore): “Best Pedagogical Practices: Strategies That Promote Quality Learning Experiences for Students” by Melissa Smith, Adjunct Regional Director, K-12 Alliance; Canyon Lake Middle School

BREAK [10:15 - 10:25 a.m.]: Snacks in Cafeteria

*Note: This Engage Activity marks the beginning of the “content” of the Institute

Morning Session, Part 2 [10:25 a.m. - 12:00 p.m.]: Cafeteria Conference Room
LUNCH BUFFET [12:00 - 12:30 p.m.]: Cafeteria

Please move outdoors and arrive at the corner of Temple & Hope by 12:35 to participate in our Stewardship Project. (Note: Participants are encouraged to wear tennis shoes and put on gloves for planting the tree)

Stewardship Project [12:35 - 12:55 p.m.]: Planting a drought-tolerant Toyon on LADWP property, at corner of Temple and Hope Streets. Special thanks to LADWP for preparing the planting site and buying the tree. Thank you to Michelle Bagnato, TreePeople, and to Sandy Derby, State PLT Coordinator, for assisting in the tree planting.

Please return to the Cafeteria Conference Room by 1:00 p.m.

Afternoon Session, Part 3 [1:00 - 2:45 p.m.]: Cafeteria Conference Room
- Presentation (Explore): “Meeting Today’s Drinking Water Quality Standards” by Nathan Aguayo, Utility Services Specialist, LADWP
- Activity (Explore) - Project Aquatic WILD: “What’s in the Water?” by John Zavalney, Environmental Educator, The Jane Goodall Institute

BREAK [2:45 - 2:55 p.m.]: Snacks in Cafeteria - 8 minutes + 2 minutes transition

Please move to LADWP Computer Lab – 2 min

Afternoon Session, Part 4 [2:55 - 3:10 p.m.]: Reflection (Explain) - LADWP Computer Lab
- Teachers type their reflections on changes in their preconceptions, which they recorded in the morning - 15 min

Afternoon Grade-level Break-outs: Participants walk to the break-out room that corresponds to the grade-level they teach - Elementary (Grades 4-6) meet in Cafeteria Conference Center Room C; Middle (Grades 7-9) meet in Room A-5-A; High School (Grades 10-12) meet in Room A-5-B – 5 min transition
Afternoon Session, Part 5 [3:15 - 3:50 p.m.]:
- Challenge (Explain) Activity: Grade groups prepare “share-sheets” by recording brief, bulleted, answers to the two questions below regarding today’s two EE activities. Each cohort appoints a facilitator, timekeeper, recorder, and reporter. Reporter should post the share sheets on the walls of the Cafeteria Conference Room for the next session.

**Question #1** Based upon your knowledge and the information you learned from today’s speakers and EE activities, which of the institute participant’s pre-conceptions were accurate and which need to be modified? Provide alternative language for inaccurate statements to make them accurate. - 15 min

**Question #2** Which of the procedural steps in the two EE activities could be changed to enhance the learner’s conceptual understanding and deepen their sense of stewardship? - 15 min

- Participants return to the Cafeteria Conference Room to post their share-sheets - 5 min

Afternoon Session, Part 6 [3:50 - 4:40 p.m.]: Cafeteria Conference Room
- Group Sharing (Explain): Three 5-minute grade-group cohort presentations (3 minute summary+ 2 minute discussion
- Presentation (Explore): Connecting the Classroom: Teacher Support and Resource Development for Environmental Stewardship by Candice Russell, CREEC Network Coordinator, Region 11, Tree People
- Presentation (Explore): “Environmental Stewardship Handbook: A Handy Guide For Stewardship Made Simple” by Melissa Smith, Adjunct Regional Director in K-12 Alliance
- Group Cohort Discussions (Extend): Participants, in cohorts, reflect on how to apply today’s presentations to their instructional practices. How would you enhance or re-design one of today’s sample EE activities (change pedagogy/content?) for implementation at your site?

Participant Feedback, Part 7 [4:40 - 4:45 p.m.]: Cafeteria Conference Room
- Participants complete their hand written “Participant Feedback Form” (Found in 3-ring Institute binder, under “Institute Feedback Form” tab - two-page form).
- Please turn in your “Participant Feedback Form” to the Director before leaving today.

Wrap-up, Part 8 [4:45 - 5:00 p.m.]: Cafeteria Conference Room
Pedagogical Review of Today’s Institute by Melissa Smith, Adjunct Regional Director in K-12 Alliance
- Assignment for Institute Day #2
Work with your Regional EE Coordinator to:
  ▪ develop and implement your EE activity
  ▪ scan and send your EE activity to Bill via email - w.andrews2930@comcast.net
  ▪ facilitate and document the planning and implementation of a student-generated action plan for your class/school environmental stewardship project
  ✔ Consider utilizing the pedagogical expertise of Jody Sherriff, Regional Director in K-12 Alliance, on your EE activity via email - jskidmo@wested.org

➢ Acknowledgements by Bill
➢ Final Q & A by Bill

Adjournment and safe travels home!
APPENDIX C.2: 2015 CEEF INSTITUTE AGENDA-DAY 2

2015 CEEF Teacher Institute on

Best Practices of Environmental Education and Stewardship

CEEF Teacher Institute Day #2 Agenda, March 28, 2015

Location: Los Angeles Department of Water and Power (LADWP); 111 N. Hope Street, Los Angeles, CA 90012
Host/logistics/equipment: Walter Zeisl, Tel: 310/519-1150; Cell: 213/923-6468
Institute Program Contact: Bill Andrews, Institute Director Cell phone: 916/759-1518

CHECK-IN [7:30 - 7:55 a.m.]: LADWP Lobby
- Please pick up your name tag and sign in at the Institute welcome table located in the lobby at LADWP Headquarters.
- **Hand in your flash-drive** at the registration table so we can load it with new handouts. If your name is not on it, please write your name on a piece of tape and attach it to the flash-drive. Your flash-drive will be returned to you at the end of the day.
- **Sign up** at the Registration table for your PowerPoint presentation time on May 16--first come-first served
- Enjoy complimentary food and refreshments in the Cafeteria and complete the following prior to 8:00 a.m.

  Print your initials at the top of the 4” x 6” index card (available at the registration table), and write the word “Success” in the upper left-hand corner of the card. Half way down the card write the word “Challenge”. **Read and complete the following sentences** and record your answer on the appropriate section of the index card:

  1. *In my EE activity and/or stewardship project, I have been most successful in:*
  2. *My biggest challenge, that I have yet to solve, is:*

When finished, please leave your answer card at the registration table.

Morning Session, Part 1 [8:00 - 10:00 a.m.]: Cafeteria Conference Room
- Welcome!
- Introduction of special guests, speakers
- Review Saturday agenda, logistics, and Day 2 learning outcomes
- Please move to LADWP Computer Lab - 3 min
Activity *(Engage)*: Participants complete on-line Day #2 Survey: “Project Reporting: Reporting Classroom Practice” - 15 min

Please return to Cafeteria Conference Room - 2 min

Activity *(Engage)*: Provide your insights on the ways both California’s NGSS Science Practices (especially #6 & #8) and California’s Common Core State Standards (CCCSS) connect to Environment Stewardship Projects

Presentation *(Explore)*: “Exploring Environmental Education and Stewardship with National Geographic” by Mary Ford, Senior Manager, Citizen Science, National Geographic Society

BREAK [10:00 - 10:15 a.m.]: Snacks in Cafeteria

**Morning Session, Part 2 [10:15 a.m. - 12:15 p.m.]: Cafeteria Conference Room**

Activity *(Engage)*: Participants state current understandings about renewable and non-renewable energy sources

Presentation *(Explore)*: “Renewable and Non-Renewal Energy Sources” by Greg Huynh, Structural Engineering Associate from LADWP

Activity *(Explore)*: Project Learning Tree (PLT) “Energy Sleuths,” by Carrie Raleigh, CREEC Network Coordinator, Region 10, and Sandy Derby, PLT State Coordinator

Presentation *(Explore)*: “Project Learning Tree Resources: GreenSchools! Service Learning Program, GreenWorks! Grants, and NEW online tools!!” by Sandy Derby, PLT State Coordinator

LUNCH BUFFET [12:15 - 1:00 p.m.]: Cafeteria

**Afternoon Session, Part 3 [1:00 - 2:30 p.m.]: - Cafeteria Conference Room**

Presentation *(Explore)*: “Environmental Stewardship: A Natural Way to Teach California’s NGSS and Common Core” by Jody Sherriff, Regional Director, K-12 Alliance at WestEd

Presentation *(Explore)*: "Growing the Next Generation of Jane Goodall - Community Mapping with Jane Goodall's Roots & Shoots for Meaningful Environmental Stewardship" by John Zavalney, Environmental Educator, The Jane Goodall Institute, and Erin Viera-Orr, Associate Vice President, Roots & Shoots, The Jane Goodall Institute

BREAK [2:30 - 2:45 p.m.]: Snacks in Cafeteria

Afternoon Grade-level Break-outs: Participants walk to the break-out room that corresponds to the grade-level they teach. Elementary (Grades 4-6) meet in
Cafeteria Conference Center Room C; Middle (Grades 7-9) meet in Room A-5-A; High School (Grades 10-12) meet in Room A-5-B

Afternoon Session, Part 4 [2:45 - 3:15 p.m.]: Cafeteria Conference Room

- Activity (Explain/Elaborate): Grade groups prepare “share-sheets” by recording brief, bulleted, answers to the three questions below regarding today’s one EE activity. Each cohort appoints a facilitator, timekeeper, recorder, and reporter. Reporter should post the share sheets on the walls of the Cafeteria Conference Room for the next session.

  Question #1) Based upon your knowledge, and the information you learned from today’s speakers and EE activity, determine which of the institute participant’s pre-conceptions were accurate and which ones need to be modified? Provide alternative language for inaccurate statements to make them accurate.

  Question #2) What procedural steps in the activity could be changed to enhance the learner’s conceptual understanding, particularly of the NGSS practices and CCSS?

  Question #3) How would you adapt this lesson to include a stewardship component?

Afternoon Session, Part 5 [3:15 - 3:30 p.m.]: Cafeteria Conference Room

- Group Sharing (Explain): Each grade-group cohort will have five (5) minutes to make a summary presentation on their answers to the three Challenge Activity questions.

Afternoon Session, Part 6 [3:30 - 4:10 p.m.]: Cafeteria Conference Room

1. Activity (Explain): Brainstorm Solutions to School-site Challenges: Take 25 minutes to read everyone’s challenges (posted around the room) and suggest realistic/practical solutions to the challenges described by your colleagues. [TIP: write your solution on a post-it and then stick your solution next to the 4” x 6” card.]

2. Activity (Evaluate): Each participant will have 5 minutes to collect, read, and evaluate the merit of the suggested solutions posted next to your challenge.

3. Activity (Elaborate): You will be invited to share your thoughts on the suggestions.

Afternoon Session, Part 7 [4:10 - 4:25 p.m.]: Cafeteria Conference Room

- Review of today’s agenda through a 5-E Inquiry Model and NGSS/CCCSS lens – Jody

- Please move to LADWP Computer Lab - 2 min

Afternoon Session, Part 8 [4:27 - 4:42 p.m.]: LADWP Computer Lab

- Reflection (Explain): Teachers type their reflections and submit answers to Institute
researchers

- Please return to Cafeteria Conference Room - 3 min

Participant Feedback, Part 9 [4:45 - 4:50 p.m.]: Cafeteria Conference Room
- Participants complete their hand written two-page “Participant Feedback Form,” found in their Institute pocket folder, and hand it to Bill when it is completed.

Wrap-up, Part 10 [4:50 - 5:00 p.m.]: Cafeteria Conference Room
- Acknowledgements – guest speakers, sponsors, volunteers
- Please turn in your Participant’s Feedback Form to Bill before leaving today
APPENDIX C.3: 2015 CEEF INSTITUTE AGENDA-DAY 3

2015 CEEF Teacher Institute on
Best Practices of Environmental Education and Stewardship

CEEF Teacher Institute Day #3 Agenda, May 16, 2015

Location: Los Angeles Department of Water and Power (LADWP); 111 N. Hope Street, Los Angeles, CA 90012
Host/logistics/equipment: Walter Zeisl, Tel: 310/519-1150; Cell: 213/923-6468
Institute Program Contact: Bill Andrews, Institute Director Cell phone: 916/759-1518

CHECK-IN [7:30 - 7:55 a.m.]: LADWP Lobby
- Please pick up your name tag and sign in at the Institute welcome table located in the lobby at LADWP Headquarters.
- **Hand in your flash-drive** at the registration table so we can load it onto a master flash-drive. If your name is not on it, please write your name on a piece of tape and attach it to the flash-drive. Your flash-drive will be returned to you after it has been loaded onto master.
- Enjoy complimentary food and refreshments in the Cafeteria.

Morning Session, Part 1 [8:00 - 9:15 a.m.]: Cafeteria Conference Room
- Welcome!
- Review of Institute Outcomes
- Review Saturday agenda and logistics
- Stewardship Project Presentations: Bernice Krieger (8:15) and Tom Porter (8:25); Jennifer Pointer (8:35) and Dinah Jocson; (8:45) Agnes Caseres (8:55); Sarah Ishida (9:05)

BREAK [9:15 - 9:25 a.m.]: Snacks in Cafeteria

Morning Session, Part 2 [9:25 a.m. - 9:40 p.m.]: Cafeteria Conference Room
- Activity: Mini-roundtable Discussion (in grade-group cohorts: HS, MS, Elem)
  [Everyone should have about 1-2 minutes to speak]; **Recorder takes bulleted notes to post.**

  **Topic:** What was one teaching strategy which worked particularly well with the EE activity that you implemented with your students?
Morning Session, Part 3 [9:40 a.m. - 10:40 p.m.]: Cafeteria Conference Room
  ➢ Stewardship Project Presentations: Sarah Molina (9:40); Joe Hartley (9:50); Alex Celemin (10:00); Dan Horowitz (10:10); Cheyanne Tran (10:20); Sarvenaz Morshedi (10:30)

BREAK [10:40 - 10:50 a.m.]: Snacks in Cafeteria

Morning Session, Part 4 [10:50 a.m. – 11:05 a.m.]: Cafeteria Conference Room
  ➢ Activity: Mini-roundtable Discussion (in grade-group cohorts: HS, MS, Elem)
    [Everyone should have about 1-2 minutes to speak]; Recorder takes bulleted notes to post.

  Topic: On your faculty presentation, what aspect of the environmental stewardship project generated the most interest from your colleagues?

Morning Session, Part 5 [11:05 - 12:05 p.m.]: Cafeteria Conference Room
  ➢ Stewardship Project Presentations: Gail Turner-Graham (11:05); Dennis Hagen-Smith (11:15); Stephanie Minor (11:25) and Cynthia Felix-Mercado (11:35) and Gabriela Gutierrez (11:45); Juan Amezcua (11:55)

LUNCH BUFFET [12:05 - 12:35 p.m.]: Lunch in Cafeteria, then meet in Computer Lab

Afternoon Session, Part 6 [12:35 - 12:50 p.m.]: LADWP Computer Lab

Afternoon Session, Part 7 [12:55 - 2:05 p.m.]: Cafeteria Conference Room
  ➢ Stewardship Project Presentations: Helen Bottum (12:55); Farah Hirsh (1:05); Charlene Guss (1:15); Louis Tartaglia (1:25); Marco Ruiz (1:35); Qin Huang (1:45) and Bill Vanderberg (1:55)

BREAK [2:05 - 2:15 p.m.]: Snacks in Cafeteria

Afternoon Session, Part 8 [2:15 - 2:30 p.m.]: Cafeteria Conference Room
  ➢ Activity: Mini-roundtable Discussion (in grade-group cohorts: HS, MS, Elem)
    [Everyone should have about 1-2 minutes to speak]; Recorder takes bulleted notes to post.

  Topic: What was a key component or experience that led to the success of your student’s stewardship project?
Afternoon Session, Part 9 [2:30 – 3:00 p.m.]: Cafeteria Conference Room
- Stewardship Project Presentations: Edna Esquerra (2:30); Begona Berasaluce (2:40); Pamela Stiles (2:50)

BREAK [3:00 - 3:10 p.m.]: Snacks in Cafeteria, then meet in LADWP Computer Lab

Afternoon Session, Part 10 [3:10 - 3:45 p.m.]: LADWP Computer Lab
- Presentation and Discussion: “Funding Environmental Stewardship Projects” by Candice Russell, CREEC Network, Region 11, Tree People—(Donors Choose, Coastal Commission, Save the Redwoods, Bright Ideas PG&E Grant, California Releaf, Ocean Guardians, Bright Schools Program, and Tree People)

Afternoon Session, Part 11 [3:45 - 4:30 p.m.]: LADWP Computer Lab
- Activity: Complete the on-line Post-Survey and Reflection Questions
- Return to Cafeteria Conference Room when you finish your on-line survey

Participant Feedback, Part 12 [4:30 - 4:40 p.m.]: Cafeteria Conference Room
- Participants complete their hand written two-page “Participant Feedback Form” and hand it to Bill with it is completed.

Wrap-up, Part 13 [4:40 - 5:00 p.m.]: Cafeteria Conference Room
- Acknowledgements – guest speakers, sponsors, volunteers
- Stipends; CEU’s, Complimentary Passes
- Please turn in your Participant’s Feedback Form to Bill before leaving today

ADJOURNMENT [5:00 p.m.]: Thank you for participating in the Institute!
Assignment for Institute Day #3 (May 16):
- Sign up today for your PowerPoint presentation time on May 16
- Utilize the pedagogical expertise of Jody Sherriff on your EE activity via email at jskidmo@wested.org
- Continue collaborating with Candice Russell, your CREEC Network Coordinator, to:
  1. Implement your EE activity
  2. Complete your environmental stewardship project
  3. Prepare a five-minute PowerPoint presentation that illustrates and summarizes the results of your project. Pictures are worth a thousand words!
REMINDER: You must transfer your PowerPoint presentation onto your flash-drive as LADWP does NOT allow laptops to link with their AV system

4. Give your faculty presentation on your stewardship project and document the faculty who attend through a sign-in sheet. **Send Bill a photocopy of your sign-in sheet.**

➢ Final Q & A - Bill

**ADJOURNMENT [5:00 p.m.]: Safe travels home!**