Attachment A (Part I & Part II)
REAP Conservation Education Program
Part I—Midterm and Final Report Form

Please submit this completed form, along with Part II, via e-mail to **Salterberg@uni.edu**.
If you include other documents, if possible please paste them at the end of this report rather than as a separate attachment.

Grant Recipient (organization name): Iowa Academy of Science

Project Title: Iowa Project WET Preservice Workshops

Report Prepared by: Marcy Seavey

Project Number: 07-13 **Date Submitted: January 14, 2008**

Check one:
__Midterm report (covering Jan. 2007-June 07 activities) **DUE: July 15, 2007**
_X_ Final report (covering July 07-December 07 activities) **DUE: January 15, 2008**
Note: Your Final Project Billing Form and back-up documentation will be due to Susan Salterberg (CEP contract monitor) on **Feb. 28, 2008**. Mail the billing information to: Susan Salterberg, 4059 Stewart Rd., Iowa City, IA 52240. See Grant Agreement, Attachment B, for the Billing Form.

1) Objectives and activities
The REAP CEP Board expects all work outlined in your original proposal to be completed. At a minimum, briefly explain activities completed to date for the following, as well as the percent of total work completed to date. Include what is going well, and explain. Also include challenges, and explain. Add other objectives as you deem appropriate.

EXAMPLE **#1:** Market REAP CEP and workshops (i.e., public communications) **Activities:** 1) Seven news releases published in: Iowa Reading Association, Iowa Middle Level Educators and Iowa Recycling Association newsletters as well as in the Creston, Clear Lake, Dubuque and Davenport newspapers. 2) Two workshop announcements published in Iowa Environmental Council listserv and in Iowa Conservation Education Council newsletter **Additional explanation:** The releases sent to local newspapers generated a lot of inquiries, and subsequent registrations from teachers. I will definitely do this again. The challenge is to get more middle school teachers enrolled, as they are the target audience, but seem to be more pressured than el ed teachers with NCLB requirements.	**Percent completed to date** 80%
#1: Schedule and prepare for workshops **Activities:** Contacted facilitators and faculty, scheduled workshops. Purchased 400 Project WET Books. Printed workshop handouts, evaluation forms, report and sign-in forms, and blank certificates. Confirmed dates, times, locations. Purchased KIDS! Books sampler packs, Healthy Water Healthy People Water Monitoring Manuals, and Macroinvertebrate Mayhem Posters for facilitators for reference and use in workshops. Prepared, packed and shipped materials. **Additional explanation, if needed: Materials for a secondary workshop at UNI have been prepared. The workshop was canceled and is being rescheduled for this spring. Handouts for additional participants up to the goal of 400 have been printed but not assembled into workshop packets for shipping.**	90%
#2: Conduct workshops	80%

Activities: To date, IAS has completed seven workshops for a total of 318 preservice participants at 6 institutions. One workshop (for UNI Secondary education majors) was scheduled, but had to be canceled due to a conflict. This workshops is currently being rescheduled. **Additional explanation, if needed:** The project goal is to reach 400 preservice participants. We are currently 82 participants short of this goal. There are two reasons for this. The first is the cancelation of the UNI Secondary education majors workshop. The second is that UNI experienced a significant drop in enrollment in the science education methods courses in 2007. In previous years enrollment in this course has ranged from 140-160 per semester with IAS training 98% of these students. In spring of 2007 IAS trained 131 students, about a dozen less than average. In the fall, there were less than 95 students enrolled in the course and IAS trained 89 of them. Enrollment is back up to over 120 students this spring. With an extension from REAP-CEP, IAS will be able to train the 'missing' 82 participants and make the goal on our new grant.	
#3: Plan and implement Make a Splash and related extended preservice workshops **Activities:** In late May of 2007, IAS learned that Nestle Waters North American had decided to discontinue the Make a Splash program. For the past 6 years, IAS has conducted the Make a Splash Water Festival using preservice students from the University of Northern Iowa and Hawkeye Community College as session leaders. The experience extends their workshop experience into real world application of Project WET activities, thus strengthening the impact of the project. In discussions with the former festival planning committee and participating teachers, it was decided to encourage the workshop participants to use Project WET activities during their field experiences by making the festival activity kits available to the students. Four of the kits (2 for Incredible Journey and 2 for Common Water) are now on permanent loan to the UNI science methods instructors so that the students have easy access. **Additional explanation, if needed:** This solution was the best given the timing for the Make a Splash announcement.	100%
#4: Present at ISTS **Activities:** Program Director, Marcy Seavey, presented a session titled: Splash into Project WET. Participants experienced an activity, learned about the Preservice workshops funded by REAP-CEP and other workshop options, and broke into groups to review and discuss various resources available form Project WET. Over 20 participants attended the session and 1 preservice workshop was scheduled as a result. The remainder of the conference, Ms. Seavey staffed a booth for Project WET and the GLOBE Program in the exhibit hall. Iowa Facilitator, Ginny Elliot also represented Project WET at the conference. **Additional explanation, if needed:** The project budget includes $600 of REAP-CEP funds to fund travel to this workshop for facilitators representing Project WET. Since Ms. Seavey's participation in the conference is financially covered by the Academy and Ginny Elliot's participation was covered by a grant she received as a classroom teacher, IAS will not be using this part of the budget. We will be 'returning' this $600 to REAP-CEP.	100%
#5: Evaluate workshop and project, interview instructors **Activities:** End of workshop evaluations forms have been processed for all workshops. The results of the quantitative questions closely match those of other years (see the three attached pie graphs). Participants leave the workshop feeling that the experience was worth while and excited to implement the program in their future classrooms. Results to this survey similar to those of past participants indicates that	100%

implementation rates will likely be similar as well. This is good, as follow-up survey's indicate that 58% of participants implement the program at a mechanical or higher stage of implementation and another 15% were in the preparation stage 1-2 years after completing the workshop. Select partner faculty were surveyed and interviewed to determine and describe the benefit of this workshop to formal education. The results indicate that the workshop plays multiple rolls, especially as a way to integrate environmental education into the preservice educators' preparation, to provide a practical classroom resource and to encourage a life-long commitment to professional development. See 7A for more information. **Additional explanation, if needed:**	
#6: Publicize project, grant award, etc. **Activities completed at midpoint:** Announcement was included in IAS Newsletter and send as a press release to the Des Moines Register and Waterloo Courier. Neither paper picked up the story. Marcy Seavey and Craig Johnson spoke about REAP-CEP support for Project WET preservice workshops and REAP-CEP in general in a radio interview for KXEL 1540 weekend program. The program was recorded on Dec. 19th 2006 and aired on Dec. 23rd, 2007. An article summarizing the activities of the past year and highlighting the comments of the part school faculty has been written and will be published in the next issue of the IAS Bulletin.	100%

2A) Are there changes in the direction of your project (i.e., something different than outlined in your grant proposal)?

__Yes _X_No

Special Note: IAS had contacted the Board through Susan to ask permission to use some of the funding to hold an in-service workshop for Sac-Fox educators as an outreach to that community. Permission was granted. Marcy and Project WET Facilitator, Ginny Elliot, went through the process of setting up a workshop, however our contact at the settlement failed to follow through and so we are canceled the request at the Mid-term report and stuck with the original proposal plans.

3A) Is the project on schedule? __Yes _X_ No

3B) If no, please explain: We are 82 participants short of our goal. We request an extension until June 1, 2008 in order to reschedule the UNI Secondary education major's workshop and an additional workshop and reach these 82 new participants.

5) Final report only: Please describe the contributions of third parties and of your organization to this project. List the contributors and their estimated financial contribution. Explain each contribution, if a non-cash contribution.

Name of organization	Cash contribution	Matching contribution (non-cash)	Explanation, if non-cash
Project WET USA		$800	KIDS! Books and Springs: Gathering Places Children's books given to workshop participants and to classrooms they visit. These are materials that would have been used at the Water Festival.
University of Northern Iowa College of Education		$600	Facilitator Linda McCartney completes 1/3 of the workshop for all UNI Elementary Education Majors in their regular scheduled classes. This involves trading class periods with the other 2 science methods instructors so that students in all sections receive the same experience. As a result, she teaches only 2/3s of the workshop outside of regular working hours and we pay her only 2/3 of a facilitator stipend.
UNI Students		$650	Normally, UNI students volunteer to lead sessions at the Make a Splash Water Festival. Since the festival was cancelled, the students were encouraged to present Project WET activities during their field experiences. IAS estimates that each student taught one Project WET activity totaling 1 hours time at 7.25/hour. This helps the project in 2 ways. First, reinforcing the workshop experience for the individual student and second sharing the works of Project WET with the cooperating teachers.
Iowa Academy of Science	$6,985	$620	The budget illustrates an in-kind contribution of 2 hr/week from the Executive Director and Office Manager. IAS also contributes postage for general mailings (est. at $500 for the year) and the Program Director's telephone (1/4 of $40/month). The Iowa Academy of Science provides office space, equipment (copy/fax/phone) and services as an in-kind contribution to the project. The in-kind donation of space and equipment is not reflected in the budget.
TOTALS:	$6,985	$2670	= **$9655**

6A) Final report only. Please provide at least one concrete example of how your project met one or more of the environmental education goals listed below.

- Understand environmental processes and systems (such as the earth as a physical system, the living environment, humans and their societies, and/or environment and society)
  Through participation in the Project WET Activity: *Incredible Journey*, all participants gained an understanding of the earth as a physical system, specifically an understanding of the movement of water through the Earth's system, including through plants and animals. All participants developed a definition of a cycle (in this case the water cycle) which included an understanding that each unit or molecule in a cycle completes it's own journey through the cycle (thus dealing with the common misconception that a cycle is a circle with all units/molecules passing through all components in the same order). All participants discussed with their facilitator how the assessment stage of this activity could assist them in understanding their student's understandings and mis-conceptions about cycles, and in particular the water cycle.

80% or more of the participants also participated in the Project WET Activity: *Common Water*. Participants model human water use in Iowa over the last 165 years. In this activity participants learn how changes in human population, population distribution, advanced in technology, unintended consequences of human actions, legislation, and other factors play a roll in the quantity and quality of water available for human use. Participants gain an understanding that the relationship between humans and the resources we use are complex and impacted by individual and 'societal' actions. Participants brainstorm actions they and their students can personally take to positively impact water quality and/or quantity available. This activity also includes understanding that human well-being is tied to environmental quality and understanding personal and civic responsibility. The reason all participants do not complete this activity during the workshop is that it requires an outdoor space or a large indoor space with access to water. Some of our workshops take place in winter in college classrooms that do not fit these requirements.

- Develop skills for understanding and addressing environmental issues
  Secondary Education Majors (approximately 20% of participants) complete the Project WET Activity: Perspectives in which they analyze public values toward various water issues to help them evaluate approaches to managing water resources. Participants recognize that people have differing values and learn to evaluate the strengths and weaknesses of proposed solutions. Recognizing the views of all stakeholders is a key skill in understanding and addressing environmental issues.

- Understand personal and civic responsibility
  Participants who are elementary majors (approximately 80%) complete the activity "Easy Street" in which they calculate their own water use over a period of time and then develop a plan for reducing their use by 10%-20% or more.

- Conserve and protect Iowa's resources

In a 6 hour workshop, we do not get to the level of practicing conservation and protection of Iowa's resources, however all of our participants are introduced to the REAP-CEP program, and encouraged to participate in state conservation efforts like IOWATER, NatureMapping, and ICEC. They learn that such programs exist and who to become personally involved and/or involve their future classrooms.

6B) Final report only. Testimonials from people influenced through your project help the CEP Board substantiate the need for this program. Please provide one but no more than three testimonials that address one or more of the environmental education goals listed in 6A. If possible, include identification information such as name, grade and subject taught, school and city. If you provide this information, you are responsible to secure written permission from the person quoted for use of the testimonial by REAP CEP.
(Example: "My reactions … were feelings of reward as I witnessed all my students (even the students who are toughest to keep on task and to keep motivated), totally involved and excited to perform a positive service for others. I will definitely do the…research and reporting project next year, along with another project related to waste management with my seventh graders."—Margaret Hogan, 7th grade, Dyersville-Beckman High School, Dyersville)

"The Project WET workshop goes beyond theory and puts practical applications into practice."

"The students [preservice teachers] have a lot of fun. Now here is the truth about fun. If they don't have fun, they will never use it in their own classrooms."

"The science content covered in the activities is new to them. The chemical and physical properties concepts are new, not for the all, but for the vast majority of the students. They estimate the amount of water they use daily…they estimate WAY low and they are surprised. But then someone in the class always volunteers stories about low flow showerheads and new washers. Someone will share about their grandparents washing in rain water. When we talk about these subjects it becomes more real to these students as adults and as citizens."

- Linda McCartney, Faculty member, University of Northern Iowa

"[The Project WET workshop] provides resources and practical applications of science concepts. It provided them with many valuable resources they will be able to use." – Instructor of Social Studies and Science Methods & Practicum, Morningside College.

"Project WET provides different activities compared to the regular tasks to make learning more meaningful by relating it to Iowa and it is a fun way to learn." – Workshop participant & Junior, Morningside College

"I plan on using it [the guide] extensively to help my students practice various skills and learn about important science concepts" – workshop participant & Grad. Student, Iowa Wesleyan College

"I will use it [the guide] to teach the importance of water. I will use it to create hands on lessions that engage & inform the students. " – workshop participant & Senior student, University of Northern Iowa

7A)

Project title: Iowa Project WET Preservice Workshops
Project number: 07-13

Organization's name: Iowa Academy of Science
Contact person: Marcy Seavey, Program Director
Website: www.iacad.org
Phone and e-mail: (319)-273-2021, iowawet@sunny.uni.edu

- **Project's purpose and targeted audience:**

The Iowa Academy of Science (IAS) proposes to provide environmental education (EE) workshops for Iowa preservice educators using Project WET (Water Education for Teachers). Preservice teachers will learn about Iowa's water resources and issues while experiencing activities developed with sound environmental education methods. The target audience is Iowa Preservice Educators.

The goals of this project are to:
1. Provide a guided experience in teaching about water issues using Project WET activities by providing 400 Iowa preservice teachers with methods and materials necessary to involve their students in EE beginning in their first year of teaching.
2. Evaluate the roll of the Project WET workshop in the preservice educators' professional development by interviewing participating methods instructors about why they allow us to provide the workshop to their students, how the WET workshops fits into their course, and what (if any) Project WET extension activities are implemented in the course prior to and after the workshop.

- **Reflect on your project, providing a self-assessment. At a minimum, answer the following questions: Did your project go as planned? Explain what went well and why. Explain what you would do differently if you did the project again, and why.**

Most of the project went as planned. We were able to communicate about the project, work with faculty at 6 Iowa institutions to plan workshops, recruit participants, and carry out the workshops. Two aspects of the project did not go as planned. The first is that in late May we learned that Nestle Waters North America was cancelling funding for the National Make a Splash with Project WET Water Festivals, including our festival. For the past 6 years we have held this festival using Project WET Preservice workshop participants from the University of Northern Iowa and Hawkeye Community College as festival session leaders. This experience has enhanced their training, assisted in workshop recruitment, and allowed the students to practice what they learned in the workshop with elementary students prior to graduating. Loss of the festival did not effect the workshop participation and we were able to loan out activity kits formerly used at the festival to students for use during their participation week. This was a good alternative given our options but not as powerful an experience as the students would have had helping to plan and lead an event for 250 elementary kids.

The second problem we had is that the enrollment of UNI's elementary science methods courses dropped for the year of 2007 compared to the past 4 years. This meant there were fewer students to train. We also had to cancel a workshop scheduled for the UNI secondary science methods students because of an athletic event that was added to the calendar. This group has asked to reschedule for spring. As a result

Project WET trained 318 new educators. Our goal was to train 400. We plan to recover the missing 82 participants this spring.

All of the workshops held went well with participants responding favorably on evaluation forms. The instances of participants making specific comments about "Iowa's water resources" and "water conservation" on open ended questions appears to have gone up (this is not something we have kept track of, but the Program Director and the student assistant both noticed an increase, this may be an area for future research). There also appears to be an increase in comments referring to the guide or activities as "for all curricular areas" or "all subjects", which we might have expected given addition this year of a workshop handout intended to encourage teachers to integrate project WET Activities into all subjects.

This is the first year we were able to partner with University of Dubuque to host a workshop. In the past, University of Dubuque faculty had not responded to offers to provide project WET Workshops. A former Project WET Inservice Teacher Workshop participant (whose training was sponsored by REAP-CEP in the 1990s!) was hired at the University of Dubuque this fall and requested the first workshop. Based on the number of teaching majors enrolled at U of Dubuque, we plan to offer 1 workshop a year at this school from now on.

- **Please list the most relevant outputs,[1] and explain, if necessary.**

312 preservice educators, from six institutions, completed a Project WET Workshop and received a copy of the Project WET Curriculum and Activity Guide.

- **Please list the outcomes,[2] and explain, if necessary. Be sure to include the outcomes outlined in your grant proposal.**

Please see the attached charts created from workshop evaluations and provided example evaluations. These indicate that workshop participants leave the workshop excited about the materials and the experience and with the intention of implementing the program in their future classrooms and in their remaining field experiences prior to graduation. The results from this year's evaluations are comparable to prior years and are similar, especially in the quantifiable elements. The student assistance who enters the survey data and the Program Director have both notice what appears to be increased mention of "water conservation", "Iowa's water resources", and references to the Guide as "for all subjects" in the qualitative part of the evaluations. The short answer questions were not designed to be used quantitatively, however we intend to investigate this further to discover if we can quantify this result!

Additionally, select participating partner faculty were surveyed and interviewed. The goal of this was to determine what role these workshops play in the formal education of Iowa's future teachers. Only faculty members who have partnered with us for multiple workshops over more than 1 year were contacted. This is because a new faculty member who had no experience with the workshop would not have had time to process the experience. It was found that all of the instructors were referring to Project WET activities during parts of the course not included in the workshop. Primarily, using activities as examples of specific educational methods, asking their students to use activities in lesson plans for homework assignments, and encouraging students to use activities in their field experiences (with K-12 students in classrooms). One faculty member said, "The university espouses an environmental ethic. In my class, Project WET addressed those environmental issues necessary for children to be good citizens. I don't think our education majors get tools like this anywhere else in their preparation."

[1] Measurements of production, such as number in attendance at a workshop.
[2] What important things happen as a result of the project, such as a documented change in behavior or new concepts learned.

Susan - I have more information from the faculty evaluation, but I am running out of room here. Please let me know how best to share this with you and REAP-CEP.

- Were there any negative outputs or outcomes, and/or concerns about the accuracy of your evaluation data, which you did not list above? If so, please identify the most relevant ones and explain.

There were no negative outputs or outcomes that we are award of. There is always a question of the accuracy of evaluation completed during the workshop, however the results of the follow-up evaluation which we completed last year were very positive. We were able to identify that one to two years after the workshop 58% of the participants are at the routine level of use or above (Hord, S. M., Rutherford, W. L., Huling-Austin, L. Hall, G.E. (1987). Taking Charge of Change. Alexandria , VA : Association for Supervision and Curriculum Development.) and another 15% were in the preparation stage. Everything about our evaluation of the current participants indicates that they will have a similar level of adoption.

- Identify your one to three most effective marketing tools (i.e., conferences, e-mails, flyers, news releases in local papers), describe your use of them, and why they were effective.

A good relationship between the instructor and the facilitator and/or Program Director is the most effective tool. Our second most effective tool is speaking to preservice students at conferences (ISTS). New releases and articles statewide newsletters help a broader audience know what we are doing and that REAP-CEP is the sponsor but do not assist us in recruiting participants for workshops.

- At least one but no more than three photo(s) of activities in jpeg format.

Sent in a separate email.

7B) The REAP CEP Board wants to share your successes and lessons learned with other environmental educators. However, they respect your wishes to not share on the web potentially sensitive information that you may not want readily accessible to others. With this in mind, may the summary you have written (as well as the photos submitted) for 7A be published on the REAP CEP website?

_X_Yes REAP-CEP may share any and all information provided in 7A with the public via web and/or written material. If we can provide any other information to assist, please let us know!

8) Final report: Please include attachments, including a copy of your evaluation form(s), your complete evaluation results, and a minimum of one photo in jpeg format. Some of this information may be published on the web, along with your project summary. Please clearly mark any attachments you do NOT want included on the website.

REAP-CEP may publish a blank copy of the Iowa WET Preservice Evaluation form on the web. REAP-CEP may publish all evaluation information provided as a part of the answer to question 7A. REAP-CEP may create a link to the Iowa Project WET evaluation summary available at: http://www.iacad.org/education.html. However, IAS has collected some of the data for preservice evaluation under permission of the University of Northern Iowa Institutional Review Board. The example completed evaluation forms, which are included as attachments are not appropriate for web publication or web publication may eliminate the possibility of future publication in a peer review journal. Therefore please do not publish information provided in the attached example evaluations.

9) Other comments?

Participants from one workshop sent thank you letters for the REAP-CEP Board. They were included with the midterm report packet.

I have attached several materials. Here is a list and explanation of each:

1. Workshop Summary – a list of all completed workshops, the partner institution, and the number of participants.

2. Evaluation Charts – Three graphs illustrating the responses of workshop participants to the workshop experience.

3. Sample blank participant evaluation form, facilitator workshop report form, & participant sign in form – for REAP-CEP reference, may be published online, contact Marcy for electronic versions. (I have to send these through US Postal Service Mail)

4. Select Example participant evaluations – may not be published online as Iowa Project WET has promised to protect participant's identities and the publication of a complete evaluation form may unintentionally provide identifying information (i.e. the participant may be able to recognize his/her own form). Individual quotes and aggregate results provided in section 7A may be published. (I have to send these through US Postal Service Mail)

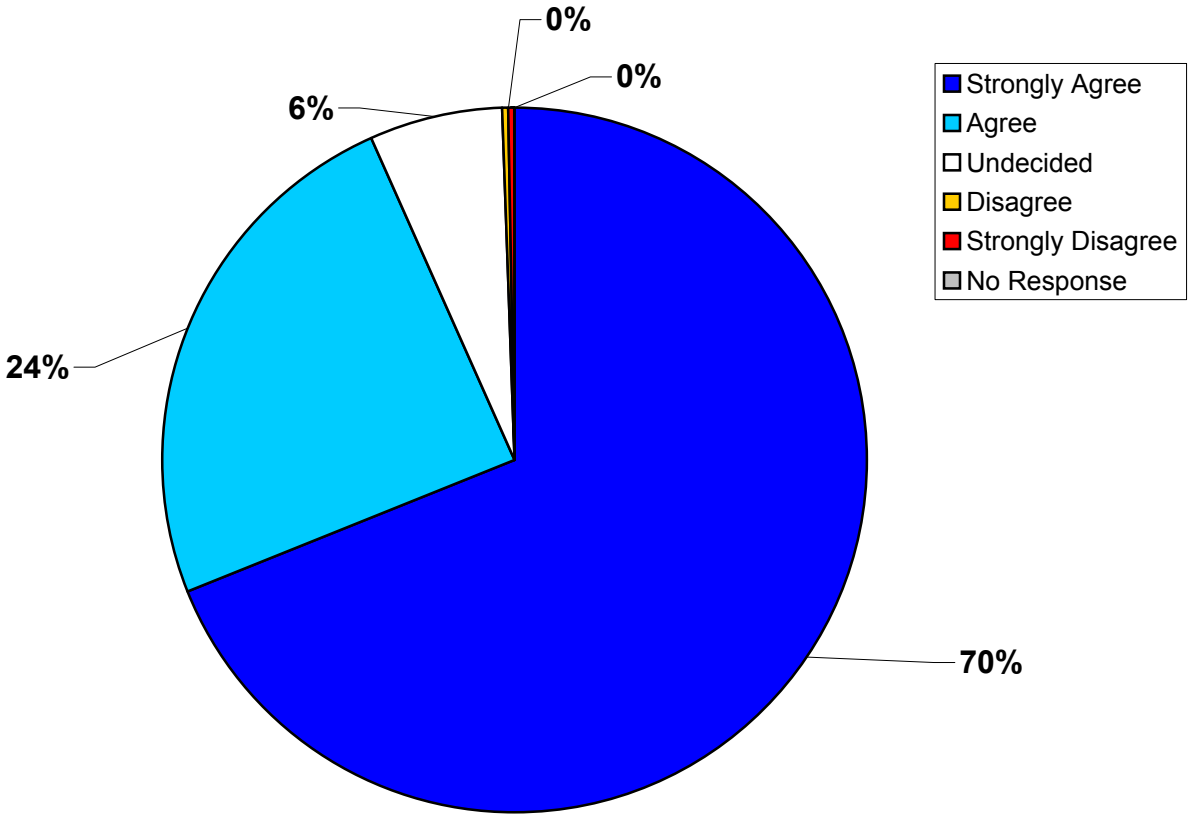
5. Workshop handouts- a copy of several handouts provided to participants during the workshop. The yellow "Iowa Teaching Standards" handout is used during the workshop to illustrate how this and other REAP-CEP funded workshops fit into the Iowa Professional Development model and to spark discussion of professional development as a life long learning and career goal. The pink "Task Force Treasure Hunt" is used to introduce the participants to the Project WET Curriculum and Activity Guide and to teach them how to use the charts in the guide to find additional activities which meet their individual classroom learning goals. The white water cycle map (unlabeled) is used by all participants during the activity Incredible Journey to keep track of an individual water molecule's progress through the water cycle and then compare various journeys in order to learn that there are many paths through a cycle. The peach ICEC handout is provided to educate participants about the Iowa Conservation Education Coalition, a statewide professional EE organization they may wish to join. (I have to send these through US Postal Service Mail).

Workshop Code	Facilitator	School	Number of Participants	Notes
07S08UNI – P1	Linda McCartney	UNI	28	
07S08UNI – P2	Linda McCartney	UNI	32	
07S08UNI – P3	Linda McCartney	UNI	32	
07S08UNI – P4	Linda McCartney	UNI	39	
07S17BW – P1	Vicki Boss	Iowa Wesleyan College	10	
07S18MSC – P1	Dawn Snyder	Morningside College	29	
07S03UNI – P1	Ginny Elliot	UNI – Leisure Services	13	
07F08UNI – P1	Linda McCartney	UNI	44	**
07F08UNI – P2	Linda McCartney	UNI	45	**
07F18MSC – P1	Dawn Snyder	Morningside College	16	
07F19UoD – P1	Andria Cossolotto	University of Dubuque	9	
07F20LU – P1	Jane Haugen	Luther College	11	
07FXXXXX – P1	Kathy McKee		10 ?	
TOTAL			**318**	

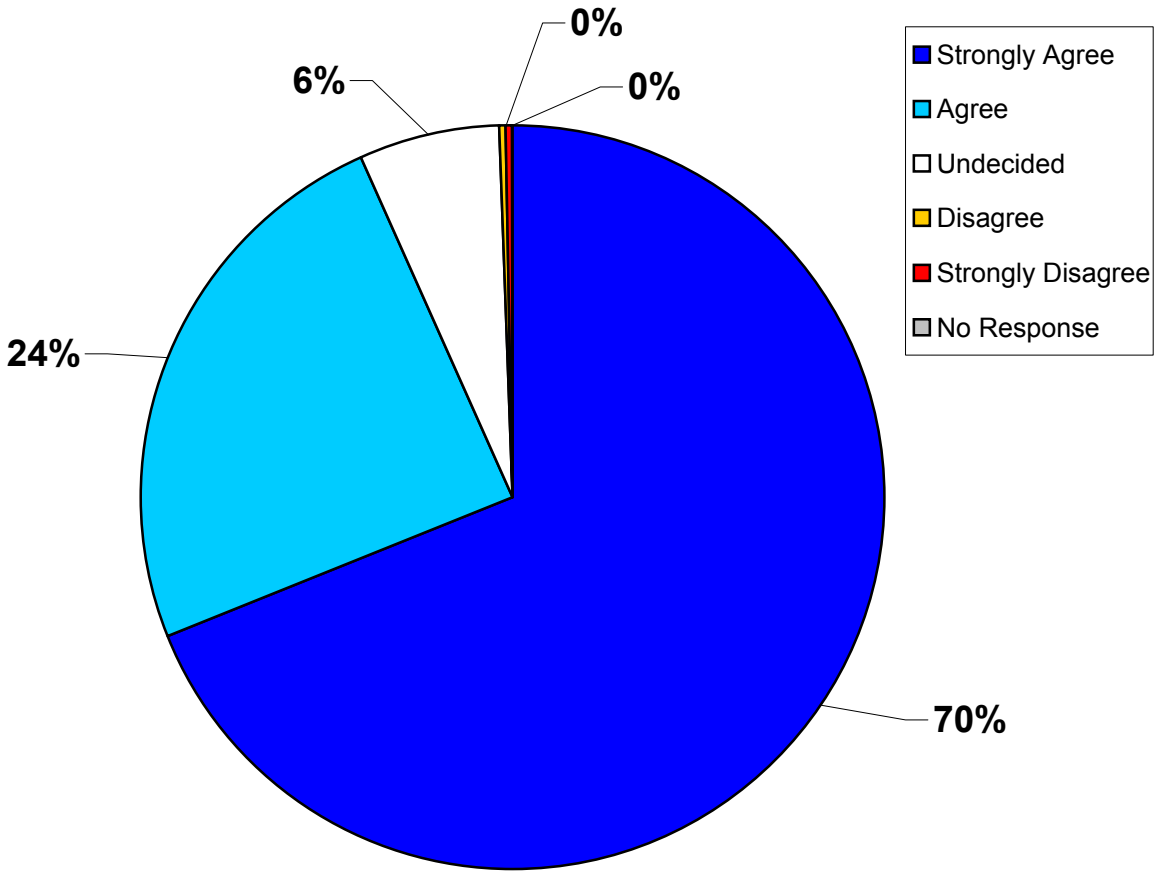
**UNI enrollment in science methods courses were down for the year. In past years IAS has trained between 140-160 students per semester just from these courses. Fewer than 95 students were enrolled in the fall, causing significantly lower numbers trained. IAS had scheduled an additional workshop with UNI secondary science education majors which would have made up for at least half of this shortage, however the workshop had to be rescheduled for this spring.

IAS is requesting an extension to train the remaining promised 82 participants between now and June 1st. The enrollment for science methods has risen to over 120 students for this spring and the secondary workshop is currently being rescheduled, so we anticipate being able to succeed in completing the training goal.

The workshop provided me with strategies for integrating Project WET into my future curriculum.



I will definitely use Project WET activities from the workshop in future field experiences.



I will definitely use Project WET activities from the workshop as I develop my first year curriculum.