2010 Project Abstract
For the Period Ending June 30, 2013

PROJECT TITLE: Ecological Restoration Training Cooperative
PROJECT MANAGER: Susan M. Galatowitsch
AFFILIATION: University of Minnesota
MAILING ADDRESS: Department of Fisheries, Wildlife, and Conservation Biology, 200 Hodson Hall.
CITY/STATE/ZIP: St. Paul, Minnesota 55108
PHONE: 612-624-3242
E-MAIL: galat001@umn.edu
WEBSITE: www.restoringminnesota.umn.edu
FUNDING SOURCE: Environment and Natural Resources Trust Fund
LEGAL CITATION: M.L. 2010, Chp. 362, Sec. 2, Subd. 4(a).

APPROPRIATION AMOUNT: $ 550,000

Overall Project Outcome and Results

Ecological restoration is increasingly relied on as a conservation strategy in Minnesota even though project failure rates remain high. To improve ecological restoration success in Minnesota, this project developed training opportunities for practicing restoration professionals. We established the Ecological Restoration Training Cooperative (ERTC), which is based at the University of Minnesota, and coordinated as a partnership between state agencies and the University. A program of web-based, instructor-guided learning, combined with field sessions offered at multiple locations, are the first of its kind in the US for restoration. As part of this project, the training cooperative developed and offered five application-oriented online courses accessible statewide. These courses covering site assessment, seeding, planting, vegetation management and monitoring, were taken by 113 people during the “pilot phase”. Each course will be offered at least twice a year through the UM College of Continuing Education. In conjunction with the online courses, field training sessions were developed for the seeding and vegetation management courses. These sessions focus on hands-on restoration skills introduced in the online courses. A four-year agreement with DNR Parks and Trails will allow each of the two field sessions to be taught by DNR natural resource specialists at four out-state locations each year in order to facilitate access to the training opportunities by individuals from around the state.

In addition to the five training courses, the ERTC developed several other ways for restoration practitioners to learn skills and stay current. A webinar series, an annual workshop, social network, and website were all launched as part of ERTIC programming. During this grant period, five webinars were held, which were attended by over 1000 people. These presentations were recorded and are available on the practitioner’s network, which has 187 members to date. The first annual conference, focused on restoration monitoring, was held in May 2013. Information on all upcoming events, including online courses can be found on the ERTC website, www.restoringminnesota.umn.edu. Details about the content of online courses, field sessions, webinars, and the workshop are presented in a supplemental report.

Project Results Use and Dissemination

Information from this project has been made available in the following ways:

1. Information on training opportunities is made available through the ERTC website, which was accessed over 2600 times in the past 18 months.
2. Recorded webinar presentations are available through the ERTC practitioner’s network, which is also linked to the website.

3. Course and workshop information has been (and will continue to be) disseminated to over 6000 people, which is part of an active marketing effort led by the College of Continuing Education.
4. The innovative approaches taken to the online courses have been communicated by press-releases connected to the R1Edu national university network.
5. The innovative suite of training opportunities will be communicated with restoration researchers and practitioners at a talk to presented to the Society for Ecological Restoration International Congress to be held in October 2013.
6. Of the 140 people that completed the course as beta-testers or in the pilot phase, many were middle-level managers responsible for contracting and program coordination. These individuals have first-hand experience with the course and are in a position to recommend it to colleagues that need/want to advance their skills.

Environment and Natural Resources Trust Fund (ENRTF)
2010 Work Program Final Report

Date of Report: September 9 2013
Date of Next Progress Report: Final Report
Date of Work Program Approval: June 9, 2010
Project Completion Date: June 30, 2013

I. PROJECT TITLE: Ecological Restoration Training Cooperative

Project Manager: Susan M. Galatowitsch
Affiliation: University of Minnesota
Mailing Address: Department of Fisheries, Wildlife and Conservation Biology, 200 Hodson Hall
City / State / Zip: St. Paul, Minnesota 55108
Telephone Number: 612-624-3242
E-mail Address: galat001@umn.edu
FAX Number: 612-624-3242
Web Site Address:
http://fwcb.cfans.umn.edu/personnel/faculty/Galatowitsch/index.htm

Locations: Ramsey, Dodge, Redwood, Otter Tail, Pine, St. Louis Counties

Total ENRTF Project Budget:	**ENRTF Appropriation**	**$ 550,000**
	Minus Amount Spent:	**$ 491,699**
	Equal Balance:	**$ 58,301**

Legal Citation: M.L. 2010, Chp. 362, Sec. 2, Subd. 4(a).

Appropriation Language:
$550,000 is from the trust fund to the Board of Regents of the University of Minnesota for improving ecological restoration success in Minnesota by developing and offering training programs for habitat restoration professionals. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

II. FINAL PROJECT SUMMARY AND RESULTS:
Ecological restoration is increasingly relied on as a conservation strategy in Minnesota even though project failure rates remain high. To improve ecological restoration success in Minnesota, this project developed training opportunities for practicing restoration professionals. We established the Ecological Restoration Training Cooperative (ERTC), which is based at the University of Minnesota, and coordinated as a partnership between state agencies and the University. A program of web-based, instructor-guided learning, combined with field sessions offered at multiple locations, are the first of its kind in the US for restoration. As part of this project, the training cooperative developed and offered five application-oriented online courses accessible statewide. These courses covering site assessment, seeding, planting, vegetation management and monitoring, were taken by 113 people during the “pilot phase”. Each course will be offered at least twice a year through the UM College of Continuing Education. In conjunction with the online courses, field training sessions were developed for the seeding and vegetation management courses. These sessions focus on hands-on restoration skills introduced in the online courses. A four-year agreement with DNR Parks and Trails will allow

each of the two field sessions to be taught by DNR natural resource specialists at four out-state locations each year in order to facilitate access to the training opportunities by individuals from around the state.

In addition to the five training courses, the ERTC developed several other ways for restoration practitioners to learn skills and stay current. A webinar series, an annual workshop, social network, and website were all launched as part of ERTIC programming. During this grant period, five webinars were held, which were attended by over 1000 people. These presentations were recorded and are available on the practitioner's network, which has 187 members to date. The first annual conference, focused on restoration monitoring, was held in May 2013. Information on all upcoming events, including online courses can be found on the ERTC website, www.restoringminnesota.umn.edu.

III. PROGRESS SUMMARY AS OF APRIL 24, 2013:

Progress Summary as of April 24, 2013
The five online courses are currently being offered as pilot courses. The curricula for the field courses have been developed in collaboration with resource specialists of MN DNR-State Parks.

Amendment approved April 24, 2013
During the process of curriculum planning for the field training sessions, many needs for additional, essential supplies and non-capital equipment were identified. We request permission to increase these budget lines a total of $27,812 to acquire these supplies and equipment, which will be dispersed to the state parks serving as field training sites. Those that aren't expendable will also be used for restoration work conducted by state parks. To cover these additional expenses, $25812 less will be used for the research fellow salary and $2000 less for a DNR contract.

We also request permission to use $5000 designated for professionals featured in videos for additional work by the instructional designer. With this contract we will prepare a version of the online courses suitable for undergraduates. Offering this as a regular university course will provide an opportunity to enhance the training of university students who intend to become restoration professionals. We expect this course would be offered for the first time in Spring 2014.

We also request a minor accounting change to add $300 to the Result 2 budget and remove $300 from the Result 3 budget for the CCE Program Director's salary. This reflects the change in effort needed by the director to handle arrangements for offering courses for the first time.

Progress Summary as of January 26, 2013
The development of the five on-line courses is complete: all have been alpha-tested, beta-tested, and revised based on comments received. The virtual sites (see below) with interactive maps have also been extensively evaluated. Feedback on all five courses was very positive. One major change made in response to the beta-testing is that we decided that assignments needed to be graded by instructors, rather than relying on self-evaluation. This will add a significant amount of instructional time to these course offerings, but the number of students who did not complete assignments appeared to be very high. Since the assignments are critical for building essential skills, we decided this change was necessary. The courses will be offered for the first time between January and May as pilot courses (i.e., registration costs covered by this appropriation). If the courses fill (which is very likely), 100 students will take the site assessment course (a pre-requisite for the other courses), and 80 students will take one of the other four courses (Seeding, Planting, Monitoring, Vegetation Management).

A financial plan has been drafted by the College of Continuing Education (CCE), the unit responsible for administration of the courses on an ongoing basis. CCE staff members are working with the College of Food, Agriculture and Natural Resource Science, the instructional unit, to finalize this plan. Under this draft three-year plan, each course would be offered twice a year; the cost to each student would be $375/course, which is lower than undergraduate tuition rates. Assuming 100 students take the courses/year, 41% of revenues generated will be used by CCE to update the curriculum, handle registration, market the courses, manage student records, administer expenses and contracts associated with instructional design, and provide technical support for students in the course and for the practitioner's network (see below). The remaining 59% of the revenue will be used for instructional costs, including providing feedback on student assignments, responding to student inquiries, and revising course content.

Three webinars have been offered thus far, and another two are planned for spring 2013. The most recent webinar focused on selecting seed sources to future-proof restoration projects. Over 300 people registered for the webinars, which greatly exceeded expectation. We are investigating options for handling the high level of interest in these webinars. The webinars are recorded and archived on the Practitioner's Network, which now has 160 members.

Amendment approved January 26, 2013
Development of the field training curriculum and establishment of the satellite field training centers will occur January-April 2013, with the first field sessions being offer in May-June 2013. We have determined that the optimal field training centers would be Minnesota State Parks; Parks and Trail staff have a high level of expertise related to restoration and there are ongoing restoration projects in the state park system statewide. Therefore, for Deliverable #5 under Result 1 we plan to align training with the four DNR regions of the state and rely on DNR Parks and Trail staff to offer the training for the next 4 years. To accomplish this, we request permission take $30,000 of the funding in non-capital equipment and tools and include it in a professional services contract to MN DNR. The funds would be spent in the same manner and for the same purpose (to support training), but purchases would be made by the parks responsible for the training. This contract would also include $20,000 of the field trainer funds designated under Results 1 and 2. Because these funds would be expended as part of offering training, rather than developing training, we have moved the budget items that would be part of the DNR-Parks and Trails contract to Result 2.

We are also requesting a few changes to the budget related to personnel that we relied on to develop online courses. For instructional design, we have will use $8000 more in consulting professional services but $8000 less for the CCE Online Distance Learning Team because we opted to use an external contractor rather than internal staff.

To develop content, instead of a junior scientist ($21,000), we hired a graduate research assistant ($33,117), because of their expertise and availability. In addition, online course development required more research fellow time than anticipated (an additional $17,000). We opted to increase the number of beta testers used during course development to ensure obtained adequate feedback, which increased costs of Result 1 by $5000. We can cover the additional expenses for this result ($34,000) because we anticipate needing less research fellow time for offering courses ($5800), for webinars and conferences ($8400), for travel ($7000) and for field trainers ($5000) and training equipment/tools ($8000). We need less money for field trainers and equipment/tools because we will hold them in four locales, rather than five, to align with logical state park locations.

Progress Summary as of July 20, 2012:
By the end this second year, we have completed development of three of the five on-line courses, Site Assessment, Designing and Using Native Seed Mixes, Designing, Installing and Managing Native Plantings. Each of these three courses consists of four components: 1) on-screen teaching modules (120-140 screens/per course) with audio narration, 2) a virtual site that provides data sources and images necessary for site assignments, 3) 7-9 site assignments, 4) tests (7-8 quizzes and an end-of-course exam). The online screens present concepts so there practical relevance is clear and using active learning devices to engage the students. Video clips feature 'expert' Minnesota practitioners.The virtual sites include multiple interactive maps that link to data and maps; these allow students to experience many aspects of working on actual sites. The two remaining courses, Monitoring Ecological Restorations and Managing Ecological Restorations, are currently in development.

The courses are "alpha" tested by agency project partners who reviewed the content, two University of Minnesota students who took the entire course, and a College of Continuing Education staff member who tested links and navigation. Based on detailed feedback from alpha-testers, courses are revised and offered to beta testers, i.e., early career restoration professionals, i.e., similar to the intended audience for the courses. Beta testers provide their feedback in the form of a detailed written survey. The courses are revised based on beta-testing comments before they are available as a regular offering (beginning January 2013). Course 1 (Site Assessment) has been alpha and beta-tested, Course 2 (Seed Mixes) has been alpha-tested and is currently in beta testing. Course 3 is ready for alpha-testing. Course development and testing is scheduled to be completed by November 1, 2012. Feedback from 28 beta-testers on Course 1 was very positive; while few students had previous experienced with on-line courses, nearly all reported they learned a lot and would take other courses.

Two webinars have been offered thus far; the second one on shoreland and stormwater plantings was held in March 2012. Over 250 people registered and participated in this webinar. The restoration practitioners network has 116 members who have joined to participate in forums (including Q and A from webinar sessions), receive notices about events (e.g., training workshops and conferences), and read about featured restoration practices.

Amendment approved July 20, 2012:
During the past 6 months, we moved into the full-production phase of on-line course development, a process that will be complete within the next 5 months. It is now possible to confidently know where budget adjustments are needed to finish this work.

For Result 1: We would like permission to reduce the funding allocated to the CCE online distance learning team by $41,500 and the CCE new media group by $10,000. Most of these funds ($30,000) would be shifted to other CCE that are providing more support for online course development than originally anticipated ($15,000 for CCE program planning team, $15,000 for CCE marketing team). We also need an additional $1000 for temporary technicians who are recording audio and testing site assignments.The marketing team, for example, includes the staff members that are handling audio and video production for the online courses.

We also need $14,000 less for video simulations because our contractors have been efficient and affordable. We also need $6000 less in travel; for course development, the CCE staff have not needed to travel. We will use $2500 for supplies to support all three results. Our consulting professional services for instructional design and web programming for essential course components requires an additional $50,000. So, in addition to the funds available from rebudgetnig other Result 1 items, we would like to reallocated $14,000 from webinar support (Result 3). Technical support for webinars has been more affordable than anticipated; this change will not reduce the number or quality of webinars we will offer.

For Result 2: We need to allocate an additional $2000 for CCE program planning team time to cover work needed to offer courses for the first time.

Amendment approved on February 20, 2012

1. Since the beginning of this project in July 2010, we've made some changes in the titles and scope of courses, based on what we've learned about online learning as well as restoration training needs in Minnesota. We believe we now have an optimal scheme. We originally proposed "Five application-oriented courses (12-16 hrs each) will be developed that fill an immediate need of multiple agencies: (1) Designing and using native seed mixes, (2) Vegetation management for restored ecosystems, (3) Monitoring restoration success, (4) Revegetating drastically altered lands, (5) Restoration for biodiversity conservation". We request permission to amend these five courses to be: (1) Site Assessment, goal-setting and planning, (2) Designing and using native seed mixes, 3) Native planting design and implementation, 4) Monitoring restoration success and 5) Vegetation management for restored ecosystems. Course 1 (site assessment) will be a gateway (i.e., pre-requisite) for the others. We are covering many of the basic topics and skills proposed for the originally proposed courses on drastically altered lands and restoration of biodiversity in other courses. The more advanced topics are likely best addressed in in-person training sessions.
2. We would like to move $30,000 in funds from the CCE Online Distance Learning Team to Consulting Professional Services. We are finding it efficient and productive to work with outside consultants on course design and editing.
3. We would like to move $5000 from Webinar Technical Support to Personnel CCE Program Planning Team- Program Associate. The staff member who has been organizing the webinars is from the Program Planning office of CCE which has reduced the support needed from external contractors.

Progress Summary as of January 1, 2012:

The first course, Site Assessment, has been transformed from a collection of content and media elements into a self-paced, interactive learning experience. A distinct component that allows the user to explore conditions and analyze data to make restoration decisions for a virtual site is in development now. This component, the Site Portfolio, will be the basis of applied learning activities within each of the online courses; it is being designed to be easily updated with new data sets so each course can provide a customized virtual site analysis experience relevant to the course topic. A style guide, governing the look and feel both within and across each course was developed with input from a graphic designer, who also designed graphic elements for the courses. A second course Seed mixes) is currently in-progress and is scheduled to be completed in February. Specific course content for two other courses (Site Planting Design, Monitoring and Management) had been developed previously; these courses should be completed by May. For these courses we have screen-by-screen written drafts of content that will be transformed into the audiovisual content the students will see on-line when they participate in a course. To support online course development, we created a large photo library by visiting project sites and working with professionals around the state. The course content drafts were reviewed by project partners in DNR, BWSR, and DOT who made recommendations to ensure the courses would meet their agencies' needs. Project partners have also reviewed the completed Site Assessment course. We also held open forums in those agencies to introduce staff to the training program opportunities we are developing, solicit their cooperation, and ask for suggestions.

The ERTC program website went "live" in June (www.restoringminnesota.umn.edu). It includes a professional networking site ('i.e. community of practice), resource library, and information on courses, Webinars, and conferences (in development). The professional network site already has 73 members. We hosted the first Webinar November 15, 2011, Building Better Seed Mixes.

This webinar, which focused on use of Mn/DOT's new seed mix tool, was attended by 132 people from 88 cities in Minnesota, Iowa, Indiana, Michigan, South Dakota and Wisconsin (177 people were pre-registered, and received resource information prior to the Webinar). The audience included many engineers, and project managers, planners, city and county employees, environmental specialists, landscape architects, master gardeners, biologists, and US Army Corps of Engineers. Another Webinar is planned for early 2012, likely on the topic of urban retrofit stormwater gardens.

Progress Summary as of July 1, 2011:
We developed specific course content for four courses (Site Assessment, Seed Mixes, Planting Design, Monitoring and Management). For these courses we have screen-by-screen written drafts of content that will be transformed into the audiovisual content the students will see on-line when they participate in a course. We need a large number of specific photographs to illustrate course concepts and methods, and so have been systematically visiting project sites and working with professionals around the state in order to build a photo library. The production of the online course content will be accomplished with guidance and assistance from an instructional designer who we hired on July 1. The course content drafts were reviewed by project partners in DNR, BWSR, and DOT who made recommendations to ensure the courses would meet their agencies' needs. We also held open forums in those agencies to introduce staff to the training program opportunities we are develop, solicit their cooperation, and ask for suggestions.

The ERTC program website went "live" in June (www.restoringminnesota.umn.edu). It includes a professional networking site ('i.e. community of practice), resource library, and information on courses, webinars, and conferences (in development). We plan to market the web site in the fall, using our first webinar as a key event to generate interest.

Amendment Approved on May 4, 2011:
1. We need more staff capacity during the field season (May-Sept) to ensure we collect all needed images for our online courses. This is going to be a much larger job than we anticipated -- we need over 600 images. We would like to hire a temporary assistant (student or recent graduate) to acquire and organize the photo collection. This will cost $6000.
2. We neglected to include any supply budget for the university-based work (it is all dedicated to our field training sites). We need to purchase some software and pay for miscellaneous expenses (e.g., web storage of photos). We would like to allot $2000 for this purpose.
3. Our budget allots $25000 for video simulations for on-line courses. The course plans we have devised rely much less on simulations than we had expected. So, we propose redistributing $8000 that we need for salary and supplies, reducing the amount available for simulations to $17000.
4. We also need more staff capacity at a lower level throughout the year to do basic tasks, so we want to use some funds for a B.S. level junior scientist ($21,000) rather than a PhD level scientist.

Amendment Approved on March 17, 2011: (1) We need to move $28,800 in University of Minnesota instructional design salaries to instructional design consultants. Course development requires expertise not currently available at the University. (2) We need to move $5700 in marketing from Result 1 (course development) to Result 3 (website and conference). This was an error in the original proposal; there's minimal need for marketing during course development.

Progress Summary as of January 1, 2011:
In the first six months, we developed detailed course plans for five courses and a site assessment module that will be used in the five courses. We have expanded the scope of the

course content by incorporating vegetation management information into Courses 1, 3, 4, 5 (see titles below), allowing us to create another course, "Designing , installing and managing native plants in restoration". We realized early in course development that this information could not be covered in the other courses, although it is important for programs such as those involving lakeshore restoration and raingardens. We also began developing course content for the first course on designing seed mixes. The basic organization and design elements of the website were created during the past 6 months. In addition, various options for supporting the "community-of-practice" network elements of the website were evaluated for their suitability.

IV. OUTLINE OF PROJECT RESULTS*:*

RESULT 1: Develop ecological restoration training courses.

Description: Web-based instructional technology has greatly advanced in recent years; people in remote locations can now effectively learn from instructor-guided multimedia lectures, collaborative projects and discussions. We will rely on web-based instruction for delivering much of the content of the courses. Some topics, though, require field-based instruction which will be offered at multiple statewide locations. Five application-oriented courses (12-15 hrs each) will be developed that fill an immediate need of multiple agencies: (1) Site Assessment, goal-setting and planning, (2) Designing and using native seed mixes, 3) Native planting design and implementation, 4) Monitoring restoration success and 5) Vegetation management for restored ecosystems. The University of Minnesota will develop course content collaboratively with state agency staff. Course content will also be reviewed and tested by experienced practitioners. We will review other environmental training programs as precedents. We will also collaborate with agency and private-sector restoration professionals to identify key additional training needs, to determine how to apply training completion as a professional credential for contracts, and to plan for long-term program sustainability.

Summary Budget Information for Result 1:

ENRTF Budget:	**$ 326,688**
Amount Spent:	**$ 300,381**
Balance:	**$ 26,307**

Deliverable	Completion Date	Budget
1. Detailed outlines for all courses (field & online components)	March 1, 2011	$ 19,475
2. Detailed instructor plans for field sessions of all courses	July 1, 2011	$ 38,950
3. Financial plan for program sustainability	July 1, 2011	$ 3,895
4. Pilot versions of all courses -online components	January 1, 2012	$ 125,938
5, Set up satellite training centers & complete training of field instructors	January 1, 2012	$ 93,480
6. Tested and refined versions of all courses (online and field components)	July 1, 2012	$ 38,950

Result Status as of January 1, 2011: Outlines were created for the following six course components: (1) Site assessment module, (2) Designing and using native seed mixes, (3) Designing, Installing, and Managing Native Plantings, (4) Monitoring and Management of Ecological Restorations, (5) Revegetating Drastically Altered Ecosystems, and (6) Restoring Biodiversity. These outlines were reviewed by agency representatives of MN DOT, MN DNR,

and BWSR. We began developing course content for the site assessment module and seed mix courses.

Result Status as of July 1, 2011:

We developed specific course content for four courses (Site Assessment, Seed Mixes, Planting Design, Monitoring and Management). For these courses we have screen-by-screen written drafts of content that will be transformed into the audiovisual content the students will see on-line when they participate in a course. We need a large number of specific photographs to illustrate course concepts and methods, and so have been systematically visiting project sites and working with professionals around the state in order to build a photo library. The production of the online course content will be accomplished with guidance and assistance from an instructional designer who we hired on July 1. The course content drafts were reviewed by project partners in DNR, BWSR, and DOT who made recommendations to ensure the courses would meet their agencies' needs. We also held open forums in those agencies to introduce staff to the training program opportunities we are develop, solicit their cooperation, and ask for suggestions.

Result Status as of January 22, 2012:

We have completed the pilot version of the first online course (Site Assessment). The course is estimated to take 10 hours to complete and includes over 100 "screens" of narrated content, links to external resources, self-evaluated quizzes, and practical exercises to apply learned skills. The practical application section relies on a virtual field site we constructed from detailed vegetation and soils data collected during a summer field campaign, climate and land use information and over 80 annotated maps and images. A second course (Seed Mixes), estimated to take 15 hours to complete, is currently in-progress and is scheduled to be completed in February. Specific course content for two other courses (Site Planting Design, Monitoring and Management) had been developed previously; these courses should be completed by May. For these courses we have screen-by-screen written drafts of content that will be transformed into the audiovisual and interactive content the students will see on-line when they participate in a course. To support online course development, we created a large photo library by visiting project sites and working with professionals around the state. The course content drafts were reviewed by project partners in DNR, BWSR, and DOT who made recommendations to ensure the courses would meet their agencies' needs. Project partners have also reviewed the completed Site Assessment course. We also held open forums in those agencies to introduce staff to the training program opportunities we are developing, solicit their cooperation, and ask for suggestions.

We realize that we are significantly behind schedule in completing online courses. There was a significant 'learning curve' for both content staff and instructional designers. In addition, the team we initially assembled for the project did not have all of the skills necessary for the project. Since October, we have had the capacity necessary to make significant progress and completed one full course. We now have the staff we need and an efficient development process, so anticipate we progress much faster.

Result Status as of July 20, 2012:

Course development is completed for three of the five on-line courses, Site Assessment, Designing and Using Native Seed Mixes, Designing, Installing and Managing Native Plantings. Each of these three courses consists of four components: 1) on-screen teaching modules (120-140 screens/per course) with audio narration, 2) a virtual site that provides data sources and images necessary for site assignments, 3) 7-9 site assignments, 4) tests (7-8 quizzes and an end-of-course exam). The two remaining courses, Monitoring Ecological Restorations and Managing Ecological Restorations, are currently in development. Course 1 (Site Assessment)

has been alpha and beta-tested, Course 2 (Seed Mixes) has been alpha-tested and is currently in beta testing; Course 3 is ready for alpha-testing. Course development and testing is scheduled to be completed by November 1, 2012.

Result Status as of January 26, 2013:

The development of the five on-line courses is complete: all have been alpha-tested, beta-tested, and revised based on comments received. The detailed feedback provided by the students was used to identify gaps in content, add clarity to parts of the course students found confusing, and revise exam questions and details of assignments. The virtual sites (see below) with interactive maps have also been extensively evaluated. Feedback received on all five courses was very positive.

The site assignments are important for building critical skills in each course. One major change made in response to the beta-testing is that we decided that assignments should be graded by instructors, rather than relying on self-evaluation. This will add a significant amount of instructional time to these course offerings, but the number of students who did not complete assignments appeared to be very high. We developed a process whereby students upload their responses to assignment questions, which are typically a few sentences of text or a table, to the electronic course system, and instructors provide written feedback and determine if the response was correct. Students will have two opportunities to attempt each of the assignment questions and need to pass 70% of them (as well as 70% of the exam questions) to successfully complete the course.

A financial plan has been drafted by the College of Continuing Education (CCE), the unit responsible for administration of the courses on an ongoing basis. CCE staff members are working with the College of Food, Agriculture and Natural Resource Science, the instructional unit, to finalize this plan. Under this draft three-year plan, each course would be offered twice a year; the cost to each student would be $375/course, which is lower than undergraduate tuition rates. Assuming 100 students take the courses/year, 41% of revenues generated will be used by CCE to update the curriculum, handle registration, market the courses, manage student records, administer expenses and contracts associated with instructional design, and provide technical support for students in the course and for the practitioner's network (see below). The remaining 59% of the revenue will be used for instructional costs, including providing feedback on student assignments, responding to student inquiries, and revising course content. If the enrollment drops below 50 students/per year, all of the revenue will be used by CCE for the fixed costs associated with the courses, i.e., marketing, administration, and registration. In the event of low enrollments, instructional costs will be covered as part of part of the regular teaching responsibilities of the project manager (Galatowitsch).

Result Status as of April 24, 2013:

No additional information to report—the courses have been developed and are being offered.

Final Report Summary: July 1, 2013:

Five application-oriented courses (15-25 hrs each) were developed to fill immediate need of multiple agencies: (1) Site Assessment and goal-setting, (2) Designing and using native seed mixes, 3) Native planting design and implementation, 4) Monitoring restoration success and 5) Vegetation management for restored ecosystems. Each of these three courses consists of four components: 1) on-screen teaching modules (120-140 screens/per course) with audio narration, 2) a virtual site that provides data sources and images necessary for site assignments, 3) 7-9

site assignments, 4) tests (7-8 quizzes and an end-of-course exam). A demonstration of these course elements can be found on the ERTC website at www.restoringminnesota.umn.edu.

Learning objectives for each course and outlines of each module were reviewed by agency partners prior to content development to ensure all essential information needed by their restoration practitioners was included. Each on-screen module includes presentation of the foundational scientific concepts, examples of practical applications of these concepts, and interactive slides that allow students to practice what they've learned. The modules are graphics-rich with illustrations and photos taken during Minnesota restorations. Each course includes one-two videos featuring restoration practitioners. Upon completing a module, students visit a 'virtual site' and complete assignments that reinforce practical skills and their ability to apply concepts to actual field situations. Three virtual sites were developed to support on on-line courses: 1) agricultural land adjacent to a highway, wetlands, and oak savanna, 2) residential lakeshore, and 3) wetland and prairie restored in an urbanizing landscape. Each of these is based on details of actual sites, which are presented as websites within the courses. These websites include many interactive maps, descriptions of site conditions and land use history, and data files on features such as vegetation. The virtual sites and associated assignments are intended to mimic many aspects of gathering and using information from sites to make restoration decisions. Students submit their answers to assignments and receive feedback from instructors. They are allowed two attempts to complete assignments.

The first working versions of the courses were tested by two university technicians (1 focusing on content, 1 focusing on navigation) and the three agency partners. The courses were revised and then 'beta-tested' by a minimum of 6 people who had been recruited by an open-call for participants. Upon completion of the course, beta testers provided detailed feedback, which was used to revise the course and produce the "pilot version" of each course. The learning objectives and syllabus for the courses are provided in the supplemental report.

In conjunction with the online courses, field training sessions were developed for the Seeding and Vegetation Management courses. Each session will be offered at four Minnesota State Parks, taught by natural resource specialists with extensive restoration experience. The learning objectives for these sessions focus on skills that require 'hands-on' opportunities. For example, calibrating equipment, such as seed drills or tank sprayers, requires students perform the tasks to know if they have mastered the skill. Detailed field session outlines were developed by the team of park trainers and the university course instructors. The curriculum outlines for these field sessions are provided in the supplemental report. The trainers will follow this common curriculum. Each park hosting ERTC field training sessions received supplies and equipment from this grant so they have equivalent capacity to deliver the training.

A financial plan that allows for courses offerings to be sustained after the end of this grant was developed by the College of Continuing Education (CCE), the unit responsible for administration of the courses on an ongoing basis. CCE staff members worked with the College of Food, Agriculture and Natural Resource Science, the instructional unit, to finalize this plan. Under this three-year plan, each course would be offered twice a year; the cost to each student would be $375/course, which is lower than undergraduate tuition rates. Assuming 100 students take the courses/year, 41% of revenues generated will be used by CCE to update the curriculum, handle registration, market the courses, manage student records, administer expenses and contracts associated with instructional design, and provide technical support for students in the course and for the practitioner's network (see below). The remaining 59% of the revenue will be used for instructional costs, including providing feedback on student assignments, responding to student inquiries, and revising course content. If the enrollment drops below 50 students/per year, all of the revenue will be used by CCE for the fixed costs associated with the courses, i.e., marketing, administration, and registration. In the event of low enrollments, instructional costs

will be covered as part of part of the regular teaching responsibilities of the project manager (Galatowitsch).
We have a surplus for this result because some of the work we expected to be performed by personnel hired by this project was performed by the project manager and not billed to the project.

RESULT 2: Offer ecological restoration training courses.

Description Each course will be offered at least once/yr beginning in 2013. University faculty (Galatowitsch) will be the main instructor responsible for overseeing course quality and participant performance and will teach web-based parts of all courses. Field sessions will be taught by a group of trainers from state agencies, UM outreach centers, and the private sector. All trainers will have extensive prior experience and receive formal training from the project team. Courses will be marketed by the University of Minnesota- Continuing Education Professional Education Program.

Summary Budget Information for Result 1:	**ENRTF Budget:**	**$ 129,712**
	Amount Spent:	**$ 119,634**
	Balance:	**$ 10,078**

Deliverable	Completion Date	Budget
1. Market and offer five courses	July 1, 2013	$ 129,712

Result Completion Date: July 1, 2013

Result Status as of January 1, 2011: No progress on this result because courses are still in development.

Result Status as of July 1, 2011: No progress on this result because courses are still in development.

Result Status as of January 1, 2012: No progress on this result because courses are still in development.

Result Status as of July 20, 2012: No progress on this result because courses are still in development.

Result Status as of January 26, 2013:
The courses will be offered for the first time between January and May as pilot courses (i.e., registration costs covered by this appropriation). Registration is currently open for the courses, and they are nearly full. We anticipate that, 100 students will take the site assessment course (a pre-requisite for the other courses), and 80 students will take one of the other four courses (Seeding, Planting, Monitoring, Vegetation Management).

Result Status as of April 24, 2013
The field course training plans have been developed and the first year of classes has been scheduled. Supplies and equipment necessary for the training are in the process of being purchased and distributed**.**

Final Report Summary: July 1, 2013

Between January and May, 2013, the site assessment course was offered twice and the other four courses were offered once. Eighty-eight students enrolled in the site assessment course without cost, which was covered by this grant. Sixty eight students started the course, of these, 80% successfully completed the course. Sixty-six students enrolled in the other four courses; 45 students started work on them, of which 84% passed. A table providing detail on each course is provided in the supplemental report. Student feedback from the courses was very positive, often noting that the scope of the information presented and the level of detail was valuable. Comments from students are included in the supplemental report.

In 2013, field sessions for the seeding course are being held at Rice Lake State Park (June 19, September 12), Glendalough State Park (September 11), and Camden State Park (September 12). Vegetation management sessions are offered at St. Croix State Park (June 19), Glendalough State Park (June 20), Fort Snelling State Park (June 20), and Jay Cooke State Park (September 25). Participants must have completed the associated online course to attend these all-day sessions. The June sessions went very well, although very few of the eligible students opted to attend (1-2 per location). Announcements for future course offerings can be found on the ERTC website: www.restoringminnesota.umn.edu.

In recognition of the innovation and excellence of the ERTC courses, Susan Galatowitsch (project manager) received the national R1edu Award for Distinguished Faculty Contributions to Online Learning.

We have a small surplus for this result: we completed all work under budget.

RESULT 3: Establish opportunities for continued restoration training.
Description For recent advances in restoration practice and science, a webinar series and an annual conference will be offered. Some examples of webinar topics include: effects of seed source location, wave breaks for lakeshore restoration, direct seeding and forest regeneration. These will be 1-2 hr on-line presentations by experts with Q & A sessions. Information on webinars, conferences, and courses will be available on a training coop website. This stand-alone University of Minnesota-hosted website will also provide links to new restoration ecology publications, plant identification resources, and to the "Community of Practice" online discussion forums, where practitioners can exchange ideas on finding solutions to restoration problems.

Summary Budget Information for Result 1:	**ENRTF Budget:**	**$ 93,600**
	Amount Spent:	**$ 71,684**
	Balance:	**$ 21,916**

Deliverable	Completion Date	Budget
1. Launch website	March 1, 2011	$ 21,920
2. Establish web-hosted online forums	July 1, 2011	$ 10,960
3. Offer first annual ecological restoration training conference	March 1, 2013	$ 22,360
4. Offer 5 webinars	July 1,2013	$ 38,360

Result Completion Date: July 1, 2013

Result Status as of January 1, 2011: The basic website was organized and constructed, including obtaining the URL and all necessary permissions required for University of Minnesota

hosting. The logo to be used on the site and all program material was also designed. Software applications to support the Community-of-practice component of the website were evaluated.

Result Status as of July 1, 2011: The professional network site already has 73 active members. We hosted the first webinar November 15, 2011, Building Better Seed Mixes. This webinar, which focused on use of Mn/DOT's new seed mix tool, was attended by 132 people from 88 cities in Minnesota, Iowa, Indiana, Michigan, South Dakota and Wisconsin (177 people were pre-registered, and received resource information prior to the Webinar). The audience included many engineers, and project managers, planners, city and county employees, environmental specialists, landscape architects, master gardeners, biologists, and US Army Corps of Engineers. Another webinar is planned for early 2012, likely on the topic of urban retrofit stormwater gardens.

Result Status as of January 1, 2012: The ERTC program website went "live" in June (www.restoringminnesota.umn.edu). It includes a professional networking site ('i.e. community of practice), resource library, and information on courses, Webinars, and conferences (in development). The professional network site already has 73 members. We hosted the first Webinar November 15, 2011, Building Better Seed Mixes. This webinar, which focused on use of Mn/DOT's new seed mix tool, was attended by 132 people from 88 cities in Minnesota, Iowa, Indiana, Michigan, South Dakota and Wisconsin (177 people were pre-registered, and received resource information prior to the Webinar). The audience included many engineers, and project managers, planners, city and county employees, environmental specialists, landscape architects, master gardeners, biologists, and US Army Corps of Engineers. Another Webinar is planned for early 2012, likely on the topic of urban retrofit stormwater gardens.

Result Status as of July 20, 2012: Two webinars have been offered thus far; the second one on shoreland and stormwater plantings was held in March 2012. Over 250 people registered and participated in this webinar. The restoration practitioners network has 116 members who have joined to participate in forums (including Q and A from webinar sessions), receive notices about events (e.g., training workshops and conferences), and read about featured restoration practices.

Result Status as of January 26, 2013: Three webinars have been offered thus far, and another two are planned for spring 2013. The most recent webinar focused on selecting seed sources to future-proof restoration projects. Over 300 people registered for the course, which exceeded the capacity of the university's tele-conference system. We are investigating options for handling the high level of interest in these webinars. The webinars are recorded and archived on the Practitioner's Network, which now has 160 members.

Result Status as of April 24, 2013:
A conference on the topic of monitoring ecological restorations is scheduled for May 20, 2013 at the Minnesota Landscape Arboretum; planning is underway.

Final Report Summary: July 1, 2013
Five webinars were presented by the Ecological Restoration Training Cooperative over the past three years: 1) Building better seed mixes, 2) Ten things to know about planting wet areas, 3) Selecting seed sources to "future proof" restorations, 4) Interseeding prairies to enhance biodiversity, 5) Biocontrol for ecological restoration: looking back and looking forward. Each webinar featured two 15 minute talks and a 30-minute moderated discussion responding to questions submitted by attendees. Speakers included practitioners from agencies and private organizations and university scientists. The number of webinar attendees ranged from 140-300, although this is based on the number of computers logged-in and many informally reported that

multiple people participated via a single connection. The presentations were recorded and are available for viewing on the ERTC practitioner's network (www.restoringminnesota.ning.com). Information on speakers and attendees for each webinar is presented in the supplemental report.

The webinars continued to be popular, despite many technical difficulties associated with services and facilities available through the University of Minnesota. We have reported these problems and hope they will be resolved. Otherwise, webinars proved to be a mode of information delivery that was attractive to restoration practitioners statewide.

The Restoring Minnesota website and Practitioner's Network were created to share information and facilitate discussion among restoration practitioners. The ERTC practitioner's network, a social network site, had 187 members as of July 1, 2013. The practitioner's network is used by members to post upcoming events, post job announcements, and discuss topics of interest to restoration practitioners. The ERTC website is used to promote online courses, webinars, workshops, as well as providing resources for restoration practitioners. From September 2012 to June 2013, the website was visited over 2600 times. Both the practitioner's network and website will be maintained by the University following the end of the grant.

The ERTC held a restoration training workshop in May 2013 on the topic of monitoring. Based on feedback we received from the training courses, we felt that the need for additional training opportunities was greatest for the topic of monitoring. Many people reported having little experience or even motivation to monitor their restoration projects. This one-day session, attended by 45 people, featured practical sessions on weed mapping, detecting vegetation change, monitoring establishment of prairies, and using free statistical analysis software. The workshop was capped at 45 to allow for a high-level of participation by attendees. Detailed information on the workshop (including a list of session leaders) is provided in the supplemental report. Student feedback was very positive, with many commenting on the practical relevance and field-based emphasis of the workshop. The workshop was free, which appealed to participants, as well. It is uncertain if workshops can be offered annually, as originally proposed, without charging a significant fee to cover facilities, registration, and coordination of the event.

We over-budgeted for the activities in this result: we were able to fully complete all work for less money than budgeted.

V. TOTAL ENRTF PROJECT BUDGET:

Personnel: $ $297388

1.Postdoctoral Associate (50%, 3.0 yrs, 75.6% salary, 24.3% fringe) Responsible for working with project manager to develop course content, gather input from stakeholders, arrange webinar speakers, conduct analysis of comparable training programs, train trainers, offer field sessions of courses, facilitate instruction of on-line portion of courses.

2. Technician ($15/hr x 400 hrs). Responsible for organizing image collection and for acquiring images and other graphics for online courses.

3. CCE* Program Director-Online Distance Learning (3%, 2.9 yrs, 75.6% salary, 24.3% fringe). Responsible for entire online course development process-including tech support & production.

4. CCE Program Director - Professional Education (10%, 2.9 yrs, 75.6% salary, 24.3% fringe). Responsible for planning, development, marketing & promotion.

5. CCE Online Distance Learning Team: Instructional designer @12%, course developer @10%, Editor @10%, 2.7 yrs, 73% salary, 27% fringe. The instructional designer will develop learning experiences for each course so they are effective for online instruction. The course developer / editor is responsible for building the Web-delivered course site so it provides an optimal online experience for the learner.

6. CCE New Media Group: Multi-media programmers @10%, Audio Visual Specialist @10%, Web Developer @10% each for 1 yr, 73% salary, 27% fringe. The multimedia programmer will design and implement interactive elements (flash cards, simulations). Audio visual specialists will produce the media elements needed for the course (onsite videos, recorded presentations) and the Webinar and conference programs. The Web developer designs and implements the functionality of the program Web site.

7. CCE Program Planning Team: Program associate @10% and program secretary@10% for 2.6 yrs, 73% salary, 27% fringe. This staff will provide on-going assistance in making arrangements for satellite training locations and trainers. Collecting information for website updates and communicating with University and state agency personnel on timelines and needed contracts are also their responsibility.

8. CCE Marketing Team: Graphic designers@5% and Marketing manager@10% for 1.2 yrs, 73% salary, 27% fringe. Responsible for setting up the "Ecological Restoration Training Cooperative" website including the design, communicating tools, webinar hosting, as well as the overall look and feel of what will be included in later marketing of the courses.

Contracts: ~~$~~ $179,300

Field trainers - $2500 pp x 10 trainers -- to complete training curriculum and co-teach field sessions of a course 4 times (for non-agency, non-UM personnel only)

Instructional and curriculum designer/editor @$75-100/hr.

~~I~~nstructional design to modify online courses for a university course (5 @$1000)

Restoration professionals (private sector) serving as beta-testers for 5 training courses ($500 pp x 5 classes x 5 per class)

Video simulations (5-10, $17K total) - for online courses - Digital media specialist – development video simulations of natural processes to illustrate course concepts

Graphic designer – ($1000) Creation of the design and/or branding image to be used by the training cooperative for all promotion and website identification.

Webinar technical and speaker support ($4000 x 5 webinars). Web conference coordination including software set up, arranging speaker participation, audio visuals, and interaction with participants during webinars.

Conference services - for annual conference ($10000) Facility rental, audio visual support, registration, conference materials.

Equipment/Tools/Supplies: $ $46,500

Tools, implements and supplies for field training centers ($10,000 x 5 locations), e.g., seed drills, field guides, backpack sprayers, soil & seed testing reagents

Office and computer supplies—paper, computer software and miscellaneous expenses such as web storage fees for photos. $2000.

Acquisition (Fee Title or Permanent Easements): $ 0

Travel: $ -$1000
Travel to field training centers to develop & offer training, production of training materials (e.g., videos): CCE: 8 trips x 500 x .50/mi, 8 nites food and lodging (2 people). Hort: 16 trips x 500 x .50.mi, 16 nites food and lodging (2 people).

Additional Budget Items: $ 0

TOTAL ENRTF PROJECT BUDGET: $ 550,000

Explanation of Capital Expenditures Greater Than $3,500: $3620. We purchased a mower for the field session parks that is needed to deliver the curriculum.

VI. PROJECT STRATEGY:

A. Project Partners:

University of Minnesota – Horticultural Science – Susan Galatowitsch - $ 270,100
Continuing Education – Lori Graven, Mary Davis - $ 279,900
Minnesota Department of Natural Resources – Jason Garms - $ 0
Minnesota Board of Water and Soil Resources – Dan Shaw - $ 0
Minnesota Department of Transportation – Ken Graeve - $ 0

B. Project Impact and Long-term Strategy:

Initiatives to restore prairies, wetlands, streams, lakeshores, and forests have been supported anticipating improved environmental quality. Despite an expanded knowledge base, restoration project failure rates remain high. For example, poor plant selection and installation results in a substantial loss of expensive native seed in both prairie and lakeshore restoration. By adopting best-practices, high-quality restorations more frequently can be economically feasible. Although Minnesota has many competent restorationists, the quality of work varies across the profession and lack of expertise contributes to project failures. A variety of workshop-based programs educates the public about restoring ecosystems, but these must focus on a limited range of practices feasible for individual landowners. Some colleges offer a restoration ecology course; these are typically global in scope and focus more on concepts than techniques. Currently, professional restoration training is limited to what is gained on-the-job, often through trial-and-error.

Our aim is to improve ecological restoration success in Minnesota by developing training opportunities for practicing restoration professionals. High-quality training opportunities need to reach a large number of professionals statewide. Our solution is to establish the Ecological Restoration Training Cooperative, to be based at the University of Minnesota, and coordinated as a partnership between state agencies and the University. Web-based, instructor-guided learning, combined with field sessions offered at multiple locations will be the first of its kind in the US for restoration. At least 700 Minnesota restoration professionals actively involved in planning, plant or seed production, installation, maintenance and monitoring, could benefit. Increased professional competency should improve restoration outcomes not only for state programs, but also local government and private sector initiatives.

By the end of the three project period, the training opportunities will be routinely available to the practicing restoration professionals of Minnesota and able to be relied by

agencies as one form of a professional credential. The first year of the project will focus on planning and curriculum development and launching website. During the second year, the training program will be tested and refined; web forums will be established. Full implementation year will occur in the third year; courses will be available to the public for enrollment In the third year, agencies can pilot use of credential in contracting.

Beginning in 2013, training courses will be offered at least once/year. Professionals will be able to stay current through webinars,the online "community of practice" online forum, and annual conference. The training cooperative will be financially sustainable over the long-term, relying on tuition revenues and recurrent instructional and technology contributions from the University of Minnesota, and minimal staff contributions from state agencies.

C. Other Funds Proposed to be Spent during the Project Period:

In kind:

UM Galatowitsch Salary ($50,600) – 65% Result 1, 20% Result 2, 15% Result 3

DOT – Graeve Salary ($10,650) - -- 80% Result 1, 10% Result 2, 10% Result 3

BWSR – Shaw Salary ($12,000) – 80% Result 1, 10% Result 2, 10% Result 3

Other Funds: Participation fees from courses, webinars, conferences - $36,000

Result 1 – 0, Result 2 – 16,000, Result 3 – 20,000

D. Spending HIstory:

VII. DISSEMINATION: The website that will be developed for the training program (Result 3) will provide information on webinars, conferences, and courses. We will make practitioners aware of the new opportunities by providing information directly to professional groups (e.g., native seed producers), natural resource agency offices (e.g., watershed districts and extension offices), and through an email distribution list developed to market the program.

VIII. REPORTING REQUIREMENTS: Periodic work program progress reports will be submitted not later than January and July of each year. A final work program report and associated products will be submitted between June 30 and August 1, 2013 as requested by the LCCMR.

IX. RESEARCH PROJECTS: N/A

Final Attachment A: Budget Detail for 2010 Projects - Summary and a Budget page for each partner (if applicable)

Project Title: *Ecological Restoration Training Cooperative*
Project Manager Name: *Susan Galatowitsch*
Trust Fund Appropriation: $ *550,000*

2010 Trust Fund Budget	Revised Result 1 Budget (Apr 2013)	Result 1 Amount Spent (June 30 2013)	Result 1 Balance (June 30 2013)	Revised Result 2 Budget (June 30 2013)	Result 2 Amount Spent (June 30 2013)	Result 2 Balance (June 30 2013)	Revised budget (June 30 2013)	Result 3 Amount Spent (June 30 2013)	Result 3 Balance (June 30 2013)	TOTAL BUDGET	TOTAL BALANCE - June 30 2013
	Develop Ecological Restoration Training Courses			*Offer Ecological Restoration Training Courses*			*Establish opportunities for continued restoration training*				
BUDGET ITEM											
PERSONNEL: wages and benefits											
Research Fellow(100%, 2.5 yrs, 75.6% salary, 24.3% fringe)	88,171	88,171	0	19,000	18,112	888	16,000	16,000	0	123,171	888
Research Assistant (50%, 1 year 79.2% salary, 20.7% fringe	33,117	32,528	589	0	0	0	0	0	0	33,117	589
Junior Scientist (25%, 2 years, 72% salary, 28% fringe) (May 3, 2011)	0	0	0	0	0	0	0	0	0	0	0
Temporary casual technician ($15/hr x 400 hrs) (May 3, 2011)	7,000	6,252	748	0		0	0	0	0	7,000	748
CCE* Program Director-Online Distance Learning (3%, 2.9 yrs, 75.6% salary, 24.3% fringe).	3,600	3,000	600	2,800	0	2,800	2,000	1,180	820	8,400	4,220
CCE Program Director - Professional Education (10%, 2.9 yrs, 75.6% salary, 24.3% fringe).	8,000	8,000	0	4,100	4,100	0	19,600	19,600	0	31,700	0
CCE Online Distance Learning Team: Instructional designer @12%, course developer @10%, Editor @10%, 2.7 yrs, 73% salary, 27% fringe.	12,000	4,697	7,303	0	0	0	0	0	0	12,000	7,303
CCE New Media Group: Multi-media programmers @10%, Audio Visual Specialist @10%, Web Developer @10% each for 1 yr, 73% salary, 27% fringe.	5,000	5,000	0	0	0	0	5,000	2,284	2,716	10,000	2,716
CCE Program Planning Team: Program associate @10% and program secretary@10% for 2.6 yrs, 73% salary, 27% fringe.	16,000	16,000	0	2,000	0	2,000	24,300	12,646	11,654	42,300	13,654
CCE Marketing Team: Graphic designers@5% and Marketing manager@10% for 1.2 yrs, 73% salary, 27% fringe	15,000	11,192	3,808	5,000	5,000	0	9,700	6,583	3,117	29,700	6,925
Contracts			0			0			0		
Professional/technical			0			0			0	0	
Consulting Prof Services Instructional and curriculum designer / editor / course developer @ $75 - 100 / hr	108,800	102,162	6,638	8,000	3,001	4,999	0	0	0	116,800	11,637
~~Restoration professionals featured in teaching videos (non-UM, non-agency) (5 @$1000)~~ Instructional design contract for modifications to existing courses	5,000	5,000	0	0	0	0	0	0	0	5,000	0
Restoration professionals (private sector) serving as beta-testers for 5 training courses ($500 pp x 5 classes x 7 per class)	17,500	14,750	2,750	0	0	0	0	0	0	17,500	2,750
Video simulations (5-10) - for online courses	3,000	0	3,000	0	0	0	0	0	0	3,000	3,000
Graphic designer -Creation of the design and/or branding image to be used by the training cooperative for all promotion and website identification.	1,000	0	1,000	0	0	0	0	0	0	1,000	1,000
Webinar technical support Web conference coordinationl inc. software, speakers, audio visuals, and interaction with participants during webinars.	0	0	0	0	0	0	6,000	5,935	65	6,000	65
Conference services - for annual conference	0	0	0	0	0	0	10,000	6,496	3,504	10,000	3,504
DNR Contract: Field trainers - $2500 pp x 8 trainers -- to complete training curriculum and co-teach field sessions of a course 4 times (for non-agency, non-UM personnel only)	0	0	0	20,000	20,000	0	0	0	0	20,000	0
DNR Contract-Tools, implements, supplies for field training $7500 for each of four training locations	0	0	0	28,000	28,000	0	0	0	0	28,000	0
Non-capital Equipment / Tools: Tools, implements, and supplies for training centers ($10,000 x 5 locations), e.g, seed drills, field guides, backpack sprayers, soil& seed testing reagents	0	0	0	37,812	38,515	-703	0	0	0	37,812	-703
Supplies - paper, computer software, and miscellaneous expenses such as web storage fees for photos. (May 3, 2011)	2,500	2,476	24	3,000	2,906	94	1,000	960	40	6,500	158
Travel expenses in Minnesota: Travel to field training centers to develop and offer training, production of training materials. CCE: 8 trips x 500 x.50/mi, 8 nites food & lodging for 2 p. Hort: 16 trips x 500 x .50 mi, 16 nites food & lodging for 2 p.	1,000	1,153	-153	0	0	0	0	0	0	1,000	-153
COLUMN TOTAL	**$326,688**	**$300,381**	26,307	**$129,712**	**$119,634**	10,078	**$93,600**	**$71,684**	21,916	550,000	**$58,301**