

Western IPM Center Project Report Form

How to submit: Please submit this completed form electronically, as an attached Microsoft Word file, to Jane Thomas at jmthomas@tricity.wsu.edu. If you have questions, contact Linda Herbst, (530) 752-7010. **Content:** Complete each section below, and include responses to as many of the questions listed in Attachment A as are relevant to your project. *These are guidelines.* Provide your readers with enough detail that someone who is not familiar with your project can understand what you were trying to achieve, how you went about it, and what you accomplished, but please keep it concise.

A. Report Data

Date: 4/19/2010

Reporting Period: 12/01/2008-6/30/2010

Report Type (please check one):

Progress Report Final Report

B. Grant Data

- Grant Agreement #: 07-001492-MONT9
- Title: Invasive Plant Inventory and Survey Methods for Land Managers: A Web Seminar Series
- Grant Type: Addressing Western IPM Issues
- Lead investigator:
 - Name: Elizabeth Galli-Noble
 - Title: Director
 - Institution: Center for Invasive Plant Management (CIPM), Montana State University
 - Address: PO Box 173120, Bozeman, MT, 597171
 - Phone: 406-994-6832
 - Fax: 406-994-1889
 - Email: elizabeth.gallinoble@montana.edu
- Team members (name, title, institution): Project Director/Coordinator 1: Mary McFadzen, Assit. Dir. for Science Communication and Education, CIPM, Montana State University; Coordinator 2: Melissa Brown, Science Communication Associate, CIPM, Montana State University
- State(s) involved: Montana, Idaho, Utah, New Mexico.

C. Nontechnical Summary. An overview of the project, briefly outlining the problem(s), how your project addresses them, and your results, *written to a lay audience*. (500 words)

Locating and mapping both the presence and absence of invasive plant populations provides essential information for developing effective IPM strategies. Land managers use this information in prioritizing their efforts and developing strategies for prevention, early detection-rapid response, monitoring, and control. Many land managers in the West are responsible for managing invasive plants over very large areas of forest and range so they need efficient and cost-effective inventory and survey methods that are appropriate for large landscapes. To assist managers in locating and mapping invasive plant populations, we developed and presented a series of six interactive web seminars on invasive plant inventory and survey methods.

The web seminar series is based on six of the ten chapters from the publication *Inventory and Survey Methods for Nonindigenous Plant Species* (LJ Rew and ML Pokorny, editors, 2006, Montana State University Extension). The Center for Invasive Plant Management coordinated and funded the development and printing of the publication, which presents practical inventory and survey methods that are being successfully applied over large areas, and provides guidance on selecting methods to best meet the objectives of an IPM strategy.

The six interactive web seminars were presented by the chapter authors from January 13 to February 24, 2010.

- Fundamentals of Nonindigenous Plant Species Inventory/Survey-Dr. Erik Lehnhoff (not the author)
- Landscape-Scale Wildland Inventories/Surveys: Utah State University Methods-Kimberly Edvarchuk
- Adaptive Sampling Design-Dr. Tim Prather
- Stratified Random Sampling Method-Dr. Lisa Rew
- Digital Aerial Sketch-Mapping for Early Detection and Mapping-Dr. Jason Karl
- Remote Sensing for Detection of Nonindigenous Species-Dr. Timothy Prather

The number of participants per seminar ranged from 152 to 333. Participants were from 45 states, seven Canadian provinces, Portugal, and South Africa. Participant evaluation responses indicate that the web seminar was very well received. Below we highlight some of the numerically-scored evaluation questions and responses. See attachment for all results including written comments.

Responses of all six web seminars combined:

- Overall impression of the web seminar: 96% mostly to highly favorable.
- Success of the web seminar in helping understand the presented topics: 97% mostly to very successful.
- Helpfulness of the information to job in managing invasive plants: 88% mostly to very helpful; 6% not applicable to job.
- Technical level of the web seminar: 14% too basic; 83% about right; 3% too advanced.
- Likelihood in attending another web seminar on invasive plant management: 90% very likely.

Responses regarding participant experience:

- Years involved in invasive plant management: 12% none to 1 year; 39% 1-5 yrs; 28% 5-10 years, 23% greater than 10 years.
- Level of knowledge of inventory/survey methods for invasive plants: 9% novice; 28% advanced; 36% competent; 22% proficient; 4% expert.
- Use of an invasive plant or integrated pest management plan in job: 51% yes; 11% no; 27% working on developing a plan; 11% not applicable to job.

D. Objectives and Progress. List your objectives and describe your progress for each objective.

1. Provide an Effective Online Learning Environment

a. Web Seminars

We developed and delivered six web seminars in an educational format. Montana State University Extension provided the web conferencing services (Adobe Acrobat Connect Pro). We worked closely with presenters in developing their PowerPoints and integrating “interactions,” that is, activities that engage participants in the topics and support learning. Interactions included quizzes, chats, polls, two five-minute question and answer periods following key topics, and a final question and answer period at the end of the seminar. Each web seminar was approximately 75 minutes:

- 4-minute introduction (welcome, navigation, agenda)
- 54-minute PowerPoint presentation on the inventory/survey method interspersed with interactions.

Participants submitted responses to the interactions using their computer keyboards.

- 2-minute evaluation
- 15-minute final question and answer period

b. Reading Materials

Upon registering for the web seminars, registrants were provided with a link to download PDFs of the inventory/survey methods book chapters and were asked to read them in preparation for the seminars.

c. Resource Lists

All presenters compiled a list of resources (websites, scientific literature, books, etc.) relevant to their topics for the participants. The resource lists were available for downloading during the web seminars.

d. Evaluation Responses

Using an online evaluation tool, participants provided immediate feedback on the value of the web seminars. The results indicate that the web seminars were highly successful in engaging participants in the topics and supporting learning. See attachment for all results.

2. Identify Land Manager Knowledge Gaps and Needs

During the web seminar evaluations, participants were asked to provide information on their invasive plant management experience and to identify the primary knowledge gaps that they have in developing and implementing an invasive plant or integrated pest management plan. The results indicate that the participants are interested in learning about a variety of topics from measuring the effectiveness of a plan (highest scored topic) to developing goals and objectives (lowest scored topic). Participants also identified other topics that they are interested in learning about. See attachment for all results.

3. Increase the Dissemination of Web Seminar Information

To make the information on inventory/survey methods available to more land managers, the recordings of the web seminars and the presentation slides are posted for viewing on the CIPM website. All web seminar registrants, which include those that attended and those that did not attend the web seminars, received notification of the postings shortly after each seminar. CIPM included notices in a bimonthly e-newsletter that is received by over 1700 subscribers, as well as posting a notice on their website homepage.

To view the web seminar recordings and presentation slides, visit the CIPM website at <http://www.weedcenter.org/education/learning.html>

E. Outputs. List your project’s outputs, which might include publications, information, data, meetings held, attendance at meetings held, etc.

Six web seminars on inventory/survey methods:

- Delivered live to 1468 participants
- Six resource lists
- Six recordings and presentation slides posted on the CIPM website
- Evaluation results

F. Impacts and Potential Impacts. The “impacts” and “potential impacts” sections of your report will help the Western IPM Center highlight the value of IPM research and education by detailing the real-world impacts of Center-funded projects. We will use the information in news articles, reports, and informational brochures to showcase the impacts of projects that our program supports. *See Attachment A at end of form for questions to assist you in describing the impacts of your project.*

1. Impacts. Describe any impacts of your work. *Impacts* are specific changes in condition for those affected by your work. Impacts include adoption of technology, creation of jobs, reduced cost to the consumer, less pesticide exposure to farmers, access to more nutritious food, and a cleaner environment and healthier communities.

- Land managers are more knowledgeable of invasive plant inventory/survey methods. This knowledge enables them to conduct more informed planning and assessment of inventory/survey methods, which may help achieve overall management objectives and goals.
- The identification of knowledge gaps provides valuable information that can be used to develop future educational opportunities for land managers.

2. Potential impacts. Describe your project’s potential impacts. *Potential impacts* are the ways that your project’s outputs could directly lead to changes in condition that will unfold in the future.

- Land managers may have an increased probability of detecting new invasive plant populations before they become large, thereby minimizing the use of chemical herbicides, associated costs, and nontarget impacts.
- Land managers may be more successful in achieving their integrated pest management objectives and goals by using these efficient and cost-effective methods.
- Land managers may be more interested in developing or refining an invasive plant or integrated pest management plan for guiding and assessing their management decisions.
- Land managers that did not attend the web seminar series now have access to a high-quality online resource for learning about inventory/survey methods.

G. Leveraged Funds. List *additional funding* you have acquired because of the data and results yielded in this WIPMC-funded project.

Additional Funding Award #1:

Date of Award:	Name of Granting Entity:
Dollar Amount:	Name of Grant Program:
Grant Period Duration:	

Additional Funding Award #2:

Date of Award:	Name of Granting Entity:
Dollar Amount:	Name of Grant Program:
Grant Period Duration:	

Additional Funding Award #3:

Date of Award:	Name of Granting Entity:
Dollar Amount:	Name of Grant Program:
Grant Period Duration:	

H. Appendices

1. With your report, please attach *at least two (2) photographs* that illustrate your project. Please describe the photo and indicate the name and institution of the person who took the photo. (If you submit more than two photographs, please include those additional descriptions and photo credits under "I. Additional Information," below.)

Photo #1 description:

Image1.jpg: screen capture from a web seminar recording showing presenter introduction and agenda layout

Photo #1 credit (photographer's name and institution):

Center for Invasive Plant Management, Montana State University

Photo #2 description:

Image2.jpg: screen capture from a web seminar recording showing an example of an activity with participant response

Photo #2 credit (photographer's name and institution):

Center for Invasive Plant Management, Montana State University

2. Also attach any printed fact sheets or other publications resulting from your work that will enhance our understanding of your project and its impacts. Please provide a description of each attached publication below.

Document #1 description:

Web seminar participant evaluation responses (CIPM_Web_Seminars_Eval_2010.pdf)

Document #2 description:

Document #3 description:

I. Additional Information

To view the web seminar recordings and presentation slides, visit the CIPM website at <http://www.weedcenter.org/education/learning.htm>

Credit: Some of the language about impacts and potential impacts was adapted from a PowerPoint presentation by H. Michael Harrington, Executive Director, Western Association of Agricultural Experiment Station Directors, Colorado State University.

Attachment A

Questions to Help in Reporting Impacts and Potential Impacts

Below are some questions that will guide you in assessing and then describing the impacts and potential impacts of your project. The relevance of each question may vary depending on whether yours is a research or extension project. Please answer as many as you can to the best of your ability, and feel free to describe any additional types of impacts not mentioned below. Remember to identify any potential impacts.

1. Innovations in IPM:

Are there new IPM practices that have been (impacts) or could be (potential impacts) adopted as a direct result of your project? What is the total number of acres (or homes, schools, greenhouses, nurseries) on which these practices could realistically be implemented?

2. Safeguarding human health and the environment:

- a. Has the project reduced risk (or could it potentially do so) by changing the use of pesticides on farms, in homes, in schools, etc.? For example, could it result in fewer sprays per season or a switch to lower-risk pesticides? If possible, quantify the changes in condition. (Since there is no unanimous definition of *high* and *low risk*, investigators selecting this indicator are asked to categorize the pesticides they are reporting on as *high* or *low risk* according to the particular situation [e.g., lower risk to natural enemies]).
- b. Are there any other impacts or potential impacts on human health or the environment as a result of your project?

3. Economic benefits:

- a. What is (or could be) the economic benefit (e.g., dollars saved) for clientele who adopt IPM strategies and systems you studied? Do you envision potential commercialization or mass production of these systems?
- b. How many clients are satisfied with IPM results (such as improved yield, improved quality of yield, reduced pest populations, more effective pest control, greater preservation of nonpest species)?
- c. Are there other financial benefits that might be realized (potential impact) as a result of your project?

4. Implementation of IPM:

- a. How many IPM strategies and systems have been validated through this project (e.g., through on-farm trials, large plot tests, or other methods used to confirm efficacy)?
 - b. How many educational materials were delivered? To whom? And what are the impacts or potential impacts?
 - c. What is the number of growers/personnel trained? And what are the impacts or potential impacts?
 - d. For a Web site, what volume of traffic and type of use has the site experienced? (For example, number of visitors per day or month; number of page views; number of unique user sessions; change in volume during growing season; average viewing time.) And what are the impacts or potential impacts?
 - e. How many more people adopted IPM practices as a direct result of your project, or how many people adopted new IPM practices?
 - f. Are there other ways in which your work will result in improved use or increased implementation of IPM strategies in your region or across the West?
5. Has your project or study increased collaboration among stakeholders interested in the development and implementation of improved IPM strategies and systems?