



# NEWS

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## Montana State University Extension Welcomes Jane Mangold



Jane Mangold has been chosen as Montana State University Extension's new rangeland invasive plant specialist. As part of her appointment, Mangold also holds a 20 percent-time research appointment in MSU's Department of Land Resources and Environmental Sciences. The other 80 percent of her time will be directly helping people develop solutions to invasive plant problems.

University extension services provide statewide educational outreach networks that apply unbiased, research-based university resources to practical needs identified by the people of that state and their home communities. Extension networks connect researchers and educators on university campuses with a web of Extension faculty located throughout the state. Cooperating with local governments and citizens, Extension agents and campus based specialists collaborate to develop educational programs and partnerships that make a positive difference in people's daily lives. The result is a dynamic cycle of timely and relevant knowledge, resources, and support to help meet new challenges, make informed decisions, and take action to improve their own quality of life.

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## Practicing EDRR Around the Country

Early detection and rapid response (EDRR) are the methods of choice in fighting nonnative plant invasions. EDRR efforts take many forms throughout the United States.

Four EDRR programs were highlighted at the "People-Powered Projects" national Cooperative Weed Management Area (CWMA) conference held in 2008:

- **Comprehensive EDRR methodology used in Oregon's Spartina Response Program** (Bonnie Rasmussen, Oregon Dept. of Agriculture).
- **Regional working groups within Florida and the state's control efforts for several invasive plant species** (Tony Pernas, National Park Service).
- **Weed risk assessment project combining plant survey data and climate modeling used to support early detection of invasive plants in California** (Doug Johnson, California Invasive Plant Council).
- **Citizen monitoring and reporting efforts in Alaska which will be used as a component of a proposed EDRR plan for the state** (Gino Graziano, Alaska Assoc. of Conservation Districts).

These 15- to 20-minute PowerPoint presentations with audio are available to view online.

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## WWCC Hosts Regional Meeting in December

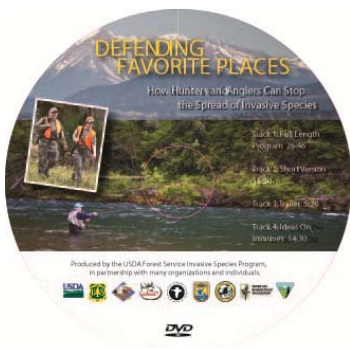
Western state weed coordinators and representatives of state and federal agencies and non-governmental organizations will meet December 2-4 in Las Vegas for the annual meeting of the Western Weed Coordinating Committee (WWCC). The annual WWCC meeting provides a forum for western regional cooperation, with state and federal agency updates being a central feature of the gathering. Anyone may attend. A tentative agenda and registration for the upcoming meeting are available online.

WWCC provides a forum for discussion and resolution of interstate and regional invasive plant problems. It is dedicated to preventing the introduction and spread of noxious weeds and undesirable plants in the western United States.

WWCC grew out of a multi-state "Forum for Cooperation" held in 1989 in Billings, MT. The group continued to meet in succeeding years to discuss regional issues and coordinate multi-state, multi-agency action such as developing regional educational materials and training opportunities, increasing funding for management programs, recommending amendments to the 1974 Noxious Weed Act, and identifying barriers to invasive plant management associated with the NEPA process. By 1992, the organization clarified its name and purpose ("to provide a relaxed, informal atmosphere for federal agencies and states to develop coordinated weed management efforts") and pursued official non-profit status.

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## Invasive Species DVD Targets Hunters and Anglers



As noted by the USDA Forest Service: "The majority of hunters and anglers spend time in the field and on the water in rural areas and regions of the nation where invasive species have some of the greatest negative impacts. All outdoor recreation enthusiasts, particularly hunters and anglers, are bearing the brunt of those negative impacts but also have a history of collaborating effectively to conserve America's outdoor heritage."

With a focus on prevention, "Defending Favorite Places" was produced with support from Wildlife Forever, the National Fish and Wildlife Foundation, the Rocky Mountain Elk Foundation, the National Wild Turkey Federation, the Association of Fish and Wildlife Agencies, the US Bureau of Land Management, the US Fish and Wildlife Service, the Center for Invasive Plant Management, the US Department of Agriculture Forest Service, and many public and private organizations and individuals.

The DVD package will include the following components:

- Video trailer for education and preview (5:20 minutes)
- Short version of program (15:20 minutes)
- Full-length program (26:46 minutes)
- Bonus feature: "Ideas on Invasives" (14:30 minutes)
- Insert material

"Defending Favorite Places" is the second in a planned series of invasive species DVDs targeting specific audiences and sponsored by the national Invasive Species Threat Campaign. The first DVD – "Dangerous Travelers: Controlling Invasive Plants Along America's Roadways" focuses on roadside management.

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## Updating Weed Laws to Increase Efficient Management of Plant Invasions

*By Peter Rice, University of Montana*

Decisions on designating species for a state or provincial weed list can have far-reaching implications for effective and efficient noxious weed management. Some states already have or are moving toward "tiered" lists that group weed species according to management priority, infestation range, or other parameters. However, according to the North American Weed Management Association, most state and provincial weed laws address weeds only after they become well established. Updating noxious weed laws by developing weed lists tiered to the plant population invasion stage can guide allocation of scarce public resources to the management of prioritized noxious weeds, including those species that require a rapid response. Incorporating additional provisions into state weeds laws can strengthen efforts in managing new invaders.

## Research Findings: Cheatgrass



The following journal articles are highlighted as useful resources for land managers who want to expand their knowledge of current research and applications to invasive plant management. Abstracts of published papers typically can be viewed online for free, but full articles often require a paid subscription.

This month, we focus on cheatgrass, with several articles related to cheatgrass invasion, management and restoration of cheatgrass infested sites. Brief descriptions of research findings for the following papers are provided.

### **Initial invasion of cheatgrass (*Bromus tectorum*) into burned pinon-juniper woodlands in Western Colorado.**

*Hilary L. Getz and William L. Baker. American Midland Naturalist 159:489-497. 2008.*

Results indicated that cheatgrass invasion favored three types of habitats within newly burned areas: (1) burn edges, (2) roads and (3) seeded interiors. The authors hypothesized that burn edges provided good habitat for cheatgrass because of higher seedbank survival (from lower burn intensity) and greater use and disturbance by wildlife such as deer and elk. Roads provided good cheatgrass habitat because of more moisture, disturbance and high presence of cattle along roads. Interior locations that were seeded during restoration efforts to prevent weed invasion had more cheatgrass than the unseeded areas because either the seed mix was contaminated with cheatgrass seed, or the seeded mixture favored cheatgrass rather than inhibiting it. These results will aid land managers in identifying areas where cheatgrass invasion may occur after fire, and illuminates a possible concern with seeding burned areas.

### **Nitrogen enhances the competitive ability of cheatgrass (*Bromus tectorum*) relative to native grasses.**

*Edward Vasquez, Roger Sheley, and Tony Svejcar. Invasive Plant Science and Management 1:287-295. 2008.*

### **Creating invasion resistant soils via nitrogen management.**

*Edward Vasquez, Roger Sheley, and Tony Svejcar. Invasive Plant Science and Management 1:304-314. 2008.*

In these two articles, the authors discuss managing rangeland systems for nitrogen to resist cheatgrass invasion. The authors found that addition of nitrogen increased the mean weight of isolated individuals of both cheatgrass and native bunchgrasses, but the biomass and competitive ability of cheatgrass increased more with increasing nitrogen. At a lower nitrogen level, however, it was shown that cheatgrass was less competitive, suggesting that there may be a nitrogen level that minimizes competition. The authors suggest that it may be possible to manage soil nitrogen levels in rangeland situations to favor desired plant communities over cheatgrass. Specifically, they suggest that soil nitrogen levels can be managed by altering microbial communities, grazing, mowing, and using cover crops and bridge species during restoration.

### **Effect of soil nitrogen stress on the relative growth rate of annual and perennial grasses in the Intermountain West.**

*JJ James. Plant and Soil. 310:201-210. 2008.*

In work contrasting that of Vasquez et al. above, the author's research showed that the proportional reduction in relative growth rate (RGR) was the same for both cheatgrass and native bunchgrasses with reduced nitrogen. This suggests that managing soil nitrogen will not help reduce the initial growth of cheatgrass during restoration projects. However, the author predicts that once perennial grasses are established, high tissue longevity and efficient nutrient cycling may allow them to compete successfully with cheatgrass in systems with low nitrogen availability.

### **Defoliation effects on *Bromus tectorum* seed production: Implications for grazing.**

*Kara Hempy-Mayer and David Pyke. Rangeland Ecology & Management 61:116-123. 2008.*

The authors investigated the effects of defoliation on cheatgrass seed production. They clipped plants at two heights (2.5 cm and 7.6 cm), two phenological stages (boot and purple) and two frequencies (once and twice). Clipping plants at 2.5 cm and at the boot stage and then again a second time after two weeks was the most successful treatment in suppressing seed production. This treatment reduced seed production from 13,000 seeds  $m^{-2}$  to a mean of 224 seeds  $m^{-2}$  at one site and from 20,000 seeds  $m^{-2}$  to a mean of 1,513 seeds  $m^{-2}$  at another site. These results were promising in showing cheatgrass seed reduction. However, the authors point out that the results call into question the potential for livestock grazing to be an effective seed-bed preparation method for native reseeding projects, because other literature has shown that the maximum acceptable cheatgrass seed density is 330 seeds  $m^{-2}$  for successful native plant reseeding.

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## Joint Fire Science Program Wants Your Research Suggestions

The Joint Fire Sciences Program (JFSP) has a form on their website where you can suggest research projects to be funded. The form asks for a brief description of your idea, why you think it's a good idea, and how you feel it will help land managers or advance fire sciences. View the form.

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## CIPM-Developed Online Learning Website: New Website and Award



### **New Learning Website for Natural Resource Managers**

CIPM is pleased to announce the second of two learning websites developed for the US Fish and Wildlife Service National Wildlife Refuge System and beneficial to other natural resource managers. The website, *Managing Invasive Plants: Concepts, Principles, and Practices*, provides an overview of invasive plant management supported by case studies, quizzes, scientific literature, and web-based resources. The website is best viewed in Internet Explorer.

### **Learning Website for Volunteers Wins Award**

In November, CIPM and the US Fish and Wildlife Service received an award from the National Association of Interpretation (NAI) Media Awards Competition. The learning website, *Invasive Plants and Volunteers: Learning and Lending a Hand* received third place honors presented at the NAI annual conference held in Portland, Oregon. The NAI is a professional organization with 5,000 members in over 30 countries.

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## CIPM Store: Featured Product

Learn to identify the most common weeds of the greater Yellowstone area using the Greater Yellowstone Coordinating Committee Weed Pocket Guide. Visit the CIPM Store to order FREE booklets or download a PDF.

