

Evaluating the Costs and Benefits of Alternative Weed Management Strategies

By Brad Bauer

The Nature Conservancy (Montana)

The old adage that a stitch in time saves nine might well be applied to the battle against noxious weeds. When faced with a choice between attacking a large, well-established patch of weeds or jumping on the first few plants to show, it's probably more effective to go for the new outbreaks.

That's one of the findings in a new report produced by The Nature Conservancy in Montana and ESSA Technologies. Through ecological modeling and cost-benefit analyses, the study offers guidance on how to produce the greatest success on the land for both ranching and conservation.

As the battle against the spread of invasive plants has intensified across the West, weed management studies at smaller scales leave serious questions about long-term success in large landscapes with complex ownership patterns. It is not clear whether current strategies will result in long-term success, or even what that success could look like. Some experts maintain that nearly anything is possible if we work hard enough at it, while others predict a tsunami of invasive plants, exacerbated by land use and climate change that are disrupting native communities.

These uncertainties prompted The Nature Conservancy and ESSA Technologies to engage weed managers, researchers, computer modelers, public land managers, and private landowners in developing a spatially explicit, predictive model for weed spread and weed control effects across three rural Montana landscapes. These landscapes have varied levels of weed infestations, but all have cooperative weed management

programs with their sights on long-term success. The model simulated different funding levels and management strategies over 40-year periods to compare area invaded, treatment costs, and the economic benefits of weed control, based on livestock grazing revenue lost to weeds.

Here are some results:

(1) Not surprisingly, the analysis found that any treatment is better than none; yet not all treatments are equal and the decisions we make now have profound effects on our future options.

(2) Early detection and rapid response (EDRR) of new outbreaks was more effective than focusing on large, established patches. Traditionally, the latter get attention because they are often most visible.

(3) Delaying treatment or applying it inconsistently leads to greater invasion down the road and a sharp decline in long-term economic benefits. Despite the consistency of these findings with other studies, weed budgets for public land management agencies are often inadequate or inconsistent from year to year.

While our results suggest that success is possible in landscapes with relatively few weeds and with communities committed to conserving intact habitats, it is by no means guaranteed. Only through the application of effective strategies and careful implementation can long-term benefits be maximized.

Weed management continues to evolve and we hope the development and use of these model results will contribute to the effectiveness of collaborative weed management programs across Montana. To learn more about this project please

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refer to the Executive Summary or Full Report at: <http://conserveonline.org/workspaces/montanaweedmodel>.

Frid L, Hanna D, Korb N, Bauer B, Bryan K, Martin B, and Holzer B. 2011. Evaluating the Costs and Benefits of Alternative Weed Management Strategies for Three Montana Landscapes. Prepared by The Nature Conservancy of Montana, Helena, Montana and ESSA Technologies Ltd., Vancouver, British Columbia, 56 pp. + appendices. Available at: <http://conserveonline.org/library/evaluating-the-costs-and-benefits-of-alternative>.

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Weeds Across Borders 2010 Proceedings Now Available

The proceedings of the fifth biennial Weeds Across Borders (WAB) 2010 conference are now available on the [WAB website](#).

WAB, a biennial trilateral conference covering the interests of professionals and organizations involved in North American weed management and regulation, took place during the first week of June 2010 at the National Conservation Training Center in Shepherdstown, West Virginia. Composed of an affiliation of organizations from Canada, Mexico, and the United States with a common interest in sharing information and promoting weed management throughout North America,

the conference has rotated between the three countries since its inception in 2002.

Over 100 speakers and attendees traveled from 27 states, six provinces, and five countries to form partnerships between government agencies, universities, industry, non-governmental organizations, and volunteer organizations.

Visit the WAB website to view or download the complete Proceedings or, if you would like a copy on disc, email Emily Rindos at emily.rindos@montana.edu. Information on WAB 2012, to be held in Mexico's Yucatán Peninsula, will be posted as it becomes available.

Hardin Intermediate School Students Learn About Invasive Plants

On March 31, a group of 100 fourth graders from Hardin Intermediate School in Hardin, Montana traveled to Montana State University (MSU) for a "Science is Cool" field trip. Several departments from across the MSU campus organized educational activities for the students in an effort to showcase the variety of forms a career in science can take. Topics discussed with students included Patterns in Nature, Viruses, Medical Sciences, Geology and Paleontology, Pipeline Engineering, Clean Energy, Avalanche Safety, Polar Science, and Invasive Plants. The field trip was designed to emphasize the importance of science to students and to show that science really is cool, no matter what kind of science or what shape it takes.

The field trip was part of a program which teams MSU scientists, graduate students, and staff with Hardin Intermediate School teachers and students to learn more about science. It was sponsored by MSU's Priscu Research Lab and the Big Sky Institute's Yellowstone Lake Biodiversity Project.

The Invasive Plants section was organized by CIPM staff and featured two fun activities. In the first activity, small groups of students were asked to identify eight plants (CIPM's eight plastic weed model



(Left to right) Fourth grade students learned how to identify invasive plants using CIPM's plastic weed models. Hardin Intermediate School Principal Larry Johnson participated in the sunflower seed spitting contest.

species, available in the [CIPM Online Store](#)) using an identification key. The activity introduced the students to basic botanical characteristics and showed them how to identify plants in the field.

The second activity was a sunflower seed spitting contest. It utilized CIPM's 17-foot-long leafy spurge roll out (also available in the CIPM Online Store), which shows the above-ground portion of the plant as well as its full root system.

Each student was given three sunflower seeds and three chances to see how far he or she could spit the seeds. Prizes were given to those who surpassed the length of the leafy spurge roots. Throughout the activities, CIPM staff explained the biology of leafy spurge and why it is invasive. The students had a lot of fun with this activity and even the school principal participated!

UPCOMING EVENTS

[North American Invasive Plant Ecology & Management Short Course](#)

July 6–8, 2011
North Platte, Nebraska

[Pacific NorthWest Economic Region 2011 Invasive Species Conference](#)

July 20, 2011
Portland, Oregon

[51st Annual Meeting of the Aquatic Plant Management Society](#)

July 24–27, 2011
Baltimore, Maryland

[Sustaining Military Readiness Conference](#)

July 25–29, 2011
Nashville, Tennessee

[Yellow Starthistle Weed Watch Day 2011](#)

August 4, 2011
Columbus, Montana

[American Society of Plant Biologists: Plant Biology 2011](#)

August 6–11, 2011
Minneapolis, Minnesota

[2011 International Conference on Ecology & Transportation: Sustainability in Motion](#)

August 21–25, 2011
Seattle, Washington

[2011 Continental Divide Invasive Weed Barrier Zone Workshop](#)

August 24, 2011
Island Park, Idaho

[International Symposium on Biological Control of Weeds](#)

September 11–16, 2011
Waikoloa, Hawaii

[NAWMA Annual Conference & Trade Show](#)

September 19–22, 2011
Winnipeg, Manitoba, Canada

[California Invasive Plant Council: 20th Annual Symposium](#)

October 2–4, 2011
Tahoe City, California

[Invasive Plant Council of BC 2011 Research Forum: Responding to Invasive Species](#)

October 18–19, 2011
Richmond, British Columbia, Canada

[2011 Nevada Weed Management Association Conference](#)

November 8–9, 2011
Sparks, Nevada

The New Invader: Rush Skeletonweed

By Kim Goodwin (*Montana State University*), Matt Voile (*Idaho State Dept. of Agriculture*), and Dave Burch (*Montana Dept. of Agriculture*)

Rush skeletonweed (*Chondrilla juncea*) occupies over six million acres in the western United States. It continues to spread north and east to new sites at a rate of about 99,000 acres per year. Fortunately, geographic regions and states in the western region, including north central Idaho, Montana, and Wyoming, still remain largely free of rush skeletonweed. Strategies to counter invasion can protect these remaining areas, reducing the risk of environmental degradation which could prove irreversible.

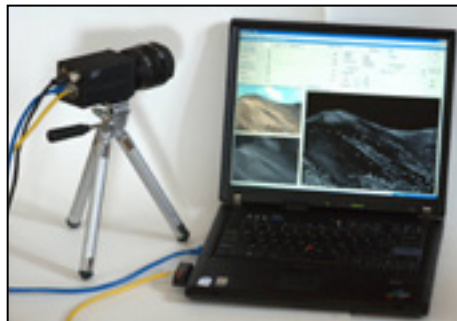
Rush skeletonweed's dispersibility and morphology ensures rapid expansion and complicates its control. Many small, wind-dispersed seeds with high survival rates are carried long distances along wind currents, allowing plants to gain access to distant sites in complex spread patterns. This dispersal ability poses sampling problems to land managers because vast areas of wildland must be frequently surveyed to locate new populations.

The structure of rush skeletonweed also makes control difficult. The plant lacks leaves and large, distinct flowers and can blend in with surrounding vegetation, reducing detection rates. Its lack of leaf area also limits herbicide absorption, reducing translocation to the extensive root system. Furthermore, granitic soils with low organic content favor the plant, reducing herbicide translocation and persistence. Regional coalitions and networks must bring attention to the broad challenges posed by the spread of rush skeletonweed and help counties in north central Idaho, near the advancing infestation front, protect rush skeletonweed-free areas.

The Continental Divide Invasive Weed Barrier Zone encompasses about 13 million acres in northeastern Idaho and southwestern Montana. Our goal is to support county-level efforts to restrict the spread of new invaders as well as provide insight on implementing landscape-scale prevention and early control programs. These efforts will become a template



Rush skeletonweed is a morphologically cryptic plant. Individuals can be difficult to discern from background vegetation due to the minimal cross sectional area of stems and because the plant has small, sparse leaves and inconspicuous flowers. Photo: J Gaskin, USDA-ARS.



A specially-designed video camera and computer system displays a real-time picture derived from multi-spectral images to improve visibility for rush skeletonweed. A patch of rush skeletonweed on the ridgeline is displayed as bright white in the processed image. Photo: Lance Riek, Sensory Labs, LLC.

that is replicable by future barrier zone networks in the Intermountain West. We facilitate collaboration among weed scientists, county weed departments, and other Forest Service partners to refine research and guide long-term practice in early control of rush skeletonweed and other new invaders, including Dyer's woad (*Isatis tinctoria*).

Our group is collaborating with researchers to: (1) narrow search areas using susceptibility maps, perhaps in combination with digital aerial sketch mapping, and (2) characterize new biocontrol agents to reduce the frequency of dispersal. Investigations are also underway to improve the detection of invasions



Digital aerial sketch mapping is an effective method to quickly and regularly search remote sites for rush skeletonweed. Light utility helicopters travel slowly and close enough above the ground, allowing trained observers to discriminate patches and then map the locations with mobile GIS. Photo: Lemhi County Weed Control (ID).

on remote sites. A multi-spectral video camera and computer system is being developed to improve contrast between rush skeletonweed and surrounding vegetation. The hardware includes the camera, lens, laptop, and gigabit Ethernet interface. The software collects simultaneous color and near infrared images and calculates a derived image in real time. The algorithms and processing efficiency are being refined and data will be collected in 2011 to test the performance of the system. Finally, future work includes marketing campaigns that guide long-term investments in prevention and early control to county weed departments in north central Idaho.

Wild Dakota TV, MRWC Partner to Bring Invasive Species Message to Sportsmen

In late 2010, the Missouri River Watershed Coalition (MRWC) partnered with Wild Dakota Outdoor Television to develop a series of eight video segments to raise awareness among sportsmen of invasive species and the problems they cause. The videos explain how sportsmen can get involved and prevent the spread of invasives, exploring themes such as early detection and rapid response, how to report sightings, and economic and ecological impacts. The later segments will also showcase several of the worst invasive species in the Missouri River Watershed area.

Wild Dakota, which began airing in 2003, is a regional television show that targets hunters and anglers in South Dakota and surrounding states. The show is estimated to attract over 500,000 viewers each week on TV alone, with clips from each episode reaching additional viewers on YouTube and Facebook. Wild Dakota features entertaining, informative video stories on hunting and fishing adventures, along with hints, tips, places,



and products that help viewers get the most out of their own experiences.

A partnership between the MRWC and Wild Dakota is a perfect fit, as one of the Coalition's primary goals is to promote awareness of invasive species issues. Due to its large audience and its geographic focus, Wild Dakota is uniquely positioned to help the Coalition reach this important audience.

The video series will include a total of eight segments, written and produced by Wild Dakota. To date, four videos have aired: "Overview of Sportsmen and Invasives," "No Hitchhikers," "Fight Five," and "Early Detection/Rapid Response." The videos, which feature MRWC members Andy Canham, Ron Moehring, and Kelly Sharp, were viewed more than 47,000 times on Facebook alone!

The first three video segments are available for streaming on the [MRWC website](#). Additional videos will be posted as they become available. Watch for the next video, "Fishermen and Invasive Species," due to air on June 26 on Fox 17 and UTV.

New CIPM Staff

Kitty Weiss

E-Communications Coordinator

Kitty joined the CIPM staff as E-Communications Coordinator in February of this year. Among her primary duties is acting as webmaster for the Center's website, which includes coordinating website content, designing new pages, and technical programming. Kitty ensures that the website remains up-to-date, adding new jobs, events, outreach materials, and much more on a daily basis.

Kitty designs, builds, and maintains websites for CIPM's partners, including the [Western Weed Coordinating Committee](#) and the [Missouri River Watershed Coalition](#). Kitty's expertise isn't limited to web design, however; she also assists the Center's partners with outreach efforts such as brochures, logos, posters, and other marketing materials.

Kitty has worked in the communica-

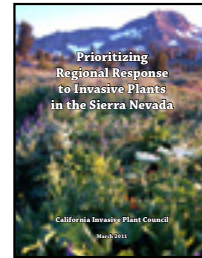


tions and graphic design field for over 10 years. Prior to joining the Center's staff, she worked for a magazine, as a freelance graphic designer, and in event planning. Although she has no background in invasive species, she finds the topic very interesting and enjoys learning something new every day.

Currently, Kitty is working on a complete overhaul of the CIPM website, scheduled to launch within the next six months. Feel free to email Kitty at emilyn.weiss@montana.edu if you have suggestions for the website or if you would like her help on a design project. She would love to hear from you!

New Publications

Prioritizing Regional Response to Invasive Plants in the Sierra Nevada



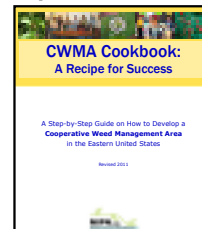
The California Invasive Plant Council used expert opinion data and suitability modeling to create "risk maps" and develop recommendations on eradication, containment, and surveillance for 43 invasive plant species in the Sierra Nevada of California. The 180 page, full-color report, including statewide maps, is available on CD or [online](#).

Biological Invasions: Economic and Environmental Costs of Alien Plant, Animal, and Microbe Species (2nd ed.) By David Pimentel, PhD



The second edition of this important text represents the most current, single-source reference containing scientific and economic information on this timely subject. This volume reconfirms the diverse and unpredictable roles that non-native species assume as they invade new ecosystems: destruction of vital crops and forests, major damages to ecosystems leading to loss of biodiversity, soil erosion, and water loss. *Biological Invasions* supplies scientists, policy makers, and the public with a better understanding of invading species and how to prevent their spread and improve control procedures. Available online from [CRC Press](#).

CWMA Cookbook: A Recipe for Success A Guide on How to Develop a Cooperative Weed Management Area in the Eastern US (updated ed.)



Thanks to a grant from the USDA Forest Service State and Private Forestry, the Midwest Invasive Plant Network recently completed this updated version of the *CWMA Cookbook*. To download a PDF copy, [click here](#).

Interactive Website Makes It Fast, Easy to Deal with Weeds

By Terri Adams

THE PRAIRIE STAR | June 3, 2011

Producers who don't like seeing weeds on their land will enjoy seeing the Missouri River Watershed Coalition–Early Detection and Distribution Mapping System (MRWC–EDDMapS) website.

The website is not the normal weedy website. User-friendly, with instant interaction, the site is designed to allow people to report weed sightings, help identify and control weeds, and also notify people about what new weed infestations are in their area.

In fact, the website tool is so important that the Center for Invasive Plant Management (CIPM) at Montana State University joined forces with the Missouri River Watershed Coalition and the Center for Invasive Species and Ecosystem Health (CISEH) at the University of Georgia to make it available to Montana and other western states.

States included on the website are: Montana, Wyoming, North Dakota, South Dakota, and Colorado.

"We saw what EDDMapS was able to provide and it was just what we wanted to do in the Missouri River Watershed. They are great partners for CIPM and the Coalition," said Elizabeth Galli-Noble, director of the CIPM. "This site is for everyone. We want producers, homeowners, land managers, and even fishermen and hikers to be able to use this tool to report weed sightings," she said.

On the home page of the website, visitors can view distribution maps by state and by county. They can report sightings and learn species information. There is also a tab for tools and training. When users create a login account, the site asks for their level of expertise with weeds, starting with beginner.

The MRWC–EDDMapS site is easy to use and filled with clear, full color photographs of each listed species.

Going far beyond other weed-specific sites, EDDMapS shows photos of each species in every life stage including seed, seedling, bolting, and blooming stages.

It also shows close-ups of special plant features such as thorns or seed pods. There are photographs of what the individual plant looks like and what an infestation looks like. There are even photos showing how the plant is commonly spread, such as the photo of a yellow starthistle (*Centaurea solstitialis*) plant stuck in the door of a truck. "That is one weed species we really hope people will keep an eye out for and report it if they see it. Yellow starthistle is a nasty one, which was recently confirmed in Montana, but only in very isolated, small patches.

So with everyone's help, we can keep it that way. "Last year we had two confirmed sightings, both of which were immediately controlled thanks to early detection and a rapid response" she said. The plant has long, sharp spines and is toxic to some livestock. Thanks to the website, producers don't have to wonder about those sightings. They can go to MRWC–EDDMapS and find out just where those confirmed sightings were in Montana. If yellow starthistle has been verified near their area, they can immediately start looking for signs of spreading.

"We only post confirmed sightings—those that have been verified by the state weed coordinator," she explained.

But checking the location of confirmed sightings is not the only bonus of the MRWC–EDDMapS website. Producers can also report a suspected sighting.

"Some people hesitate and say, 'I'm not sure it's the correct species.' We want them to please look it up on the website and if it looks like the photos and fits the description provided, please report it," Galli-Noble urged. "Don't put off your reporting of the sighting. We'll do the verification for you. We need you to let us know what you are seeing out there. The more people we have looking and reporting, the better chance we have of keeping these weed invaders controllable or even eradicating them."

Galli-Noble said the MRWC–EDDMapS tool is going to become even more interactive and easy for people on the go.

"The CISEH will be coming out with a free application soon in the next year or so, which will allow people to access the site from their cell phones."

That way, when producers are out in the field or driving down the road and they see a plant they suspect is a new weed invader, they can access the site, fill out a report, take a photo of the plant,

upload the report and the images, and even get the GPS coordinates—all from their cell phone.

"They just have to type it into their cell phone and send it. The information goes immediately to the state weed coordinator," she said. That instant transmission of information to the top people involved in weed control is one thing Galli-Noble loves about the MRWC–EDDMapS website tool. Paperwork doesn't get lost or delayed in transmission. It goes right where it needs to go so those trained in dealing with weed species can make timely management decisions.

Another great feature of the MRWC–EDDMapS site is "create an alert." "If you want to know what weeds are being reported in your area, you can click on 'create an alert.' Then, every time there is a verified sighting of a species you want to know about, you will get an e-mail with a warning for your county or state," she said. The alerts allow land managers and agencies to prioritize control needs and management strategies while populations are still small.

"When Montana had its confirmed yellow starthistle sightings last year, it took time before other neighboring states found out about what was going on. With this EDDMapS tool, as soon as the infestation is confirmed, people in the surrounding counties and states can receive alerts or check out the sightings, so they know what is going on almost immediately," she said.

The Missouri River Watershed portion of the site is already expanding. "Everyone says this tool is great and five additional western states (Idaho, Nevada, Oregon, Utah, and Washington) were added to the system in April. It's great to see so many people working together and using the same invasive species reporting system. This is something that has been needed for a long time now," Galli-Noble explained.

Galli-Noble hopes everyone will check out and use the MRWC–EDDMapS website tool. Users don't have to be experts. They just need to keep their eyes open for new weed invaders and report them when they see them.



Story continues on page 9

Montana Weed Control Assoc. Happenings

By **Becky Kington**
MWCA Executive Director

Wow! Things have been crazy busy in the Montana Weed Control Association (MWCA) office since January. After another successful conference, the legislative session hit with a vengeance. Weeds normally don't rank high on the legislative priority list, but this year several bills kept everyone in the weed world hopping.

House Bills 166 and 133, which made changes to the current county weed act, were signed into law by Governor Schweitzer. House Bill 621 was very controversial due to the naming of an agency lead. When all the dust settled, Montana Fish, Wildlife and Parks, the Montana Department of Natural Resources and Conservation, and the Montana Department of Agriculture were given a total of \$878,000 for aquatic invasive species control and the agencies were directed simply to work together. (The Governor hasn't signed that bill yet.) The new National Pollutant Discharge Elimination System Permit (NPDES) by the US Environmental Protection Agency

also kept the MWCA on its toes. The Montana Department of Environmental Quality (DEQ) was working on a permit for Montana, and several weed coordinators, commercial applicators, and mosquito district personnel were active in helping the DEQ draft a state permit. At present, there are two bills in Congress that will repeal the court's decision and do away with the NPDES permit—we can only hope that happens soon. Both bills are now in committee review.

After working through congressional offices in Washington, DC in March, the Healthy Habitats Coalition continues to move forward with an agenda to get legislators to address the "five asks." For those who complain about weeds on federal lands, the proposed "five asks" are the answer.

In March and April, we held the MWCA Board of Directors Spring Retreat in Fairmont, Montana, where we identified the MWCA's yearly goals and objectives, including continuing work on fundraising efforts and strengthening our resolution process. Furthermore, we will be working this year to develop a more extensive welcome packet for new

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Healthy Habitats Coalition Update

By **Tracee Bentley**
HHC Executive Director

In 2011, the Healthy Habitats Coalition (HHC) developed important relationships with key members of Congress on invasive species issues in the US. HHC Steering Committee members held conversations with House Appropriations Committee members in early February, and Congressman Mike Simpson (Idaho) became a cooperative leader for HHC, committing to work with us to put more money on the ground. In a meeting in his Boise office, Congressman Simpson asked HHC representatives to prepare budget details for the Appropriations Subcommittee on Natural Resources and the Environment, and to outline the attributes of HHC's "Five Asks."

Given the onslaught of budget cuts, defending this issue is more critical than ever—we need to place a stake in the ground or the invasive issue will be driven by others who may or may not support it.

HHC's 2011 Advocacy Week was held from March 15–17 in Washington, DC. Thirty-seven individuals traveled to Washington to advocate for on-the-ground control, comprising 15 teams: Arizona, Colorado, Idaho, Indiana, Kentucky, North Dakota, Oregon, Michigan, Missouri, Montana, Nebraska, South Dakota, Utah, Washington, DC, and Wyoming. Prior to Congressional visits, participants took advantage of a full-day workshop where they were given detailed information on how to effectively communicate the crafted message to members of Congress. Finally, HHC Executive Director Tracee Bentley spent time with House leadership in late March, educating Representatives on the important work involved in the invasive species issue.

As a result of HHC efforts in March, members began asking federal agencies to outline their on-the-ground performance in hearings. This credible discussion stems from HHC work and reports released by the Government

ABOUT CIPM QUARTERLY

The *CIPM Quarterly* is published by CIPM (Montana State University) and distributed electronically to subscribers and partners who have an active interest in invasive species management, research, education, and issues in the western United States.

We ask our readers to please continue sharing management experiences and insights, research findings, project outcomes, publications, and other important invasive plant information with us. By doing so, communication tools such as this one will be relevant and worthwhile.

Articles, comments, and suggestions are welcome and should be sent to:
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Accountability Office and the Office of Inspector General that show discouraging results.

HHC recently refreshed its Steering Committee to include Dave Burch, Becky Kington, and Dave Schulz from Montana; Dr. Anne Nielsen from Michigan; and Jeffrey Pettingill from Idaho. Two more members have yet to be selected. HHC's Executive Board consists of John Cantlon (Chair), Dr. George Beck (Vice-chair), Fred Raish (Secretary/Treasurer) and Tracee Bentley (Executive Director).

HHC continues to advocate for increased efficiency among government leadership and aggressive action regarding on-the-ground control, and continues to refine its "Five Asks." HHC is committed to reaching out to our unique grassroots supporters as we continue to make significant progress toward mitigating the harm of limited management on our valued landscapes.

For more information on HHC and the "Five Asks," visit the [HHC webpage](#).

CIPM Steering Committee Member Spotlight: John Simons

CIPM is fortunate to have many dedicated regional and national invasive species leaders guiding our program as members of the CIPM Steering Committee (SC). In this issue, we would like to highlight John Simons, who joined the SC as the BLM representative in 2006. John has served as SC Chair since fall 2009.

John received formal education in Rangeland Resource Management, Soil Science, and Wildlife Habitat Management from Washington State University. In the time since, he has worked professionally as a Soil Scientist and Rangeland Management Specialist in Washington, Oregon, and Montana.

In 2005, John was selected as the Vegetation and Restoration Specialist for the Bureau of Land Management (BLM) Montana State Office, located in Billings. In this position, he is responsible for the integrated pest and weed management program for public lands in Montana and the Dakotas. John provides vegetation, weed, grasshopper and Mormon cricket management guidance, and pesticide use guidance and oversight to the region's field offices; acts as the state information source for pesticides; ensures appropriate certification and training for pesticide applicators; reviews environmental impact reports involving the use of pesticides and attendant agronomic aspects; maintains records documenting the use of all pesticides on BLM-administered lands; and ensures appropriate coordination with other resource specialists concerning weed management and pesticide use. He also provides technical expertise and leadership in promoting and applying principles of rangeland restoration in land and resource inventories, planning, management, and monitoring. Furthermore, as science coordinator for the state, he provides coordination and integration of science research on BLM lands and serves as the BLM representative for invasive species to other federal, state, and county governments as well as the liaison to many other organizations that are involved in invasive species management and education.

John works closely with Gina Ramos, BLM Senior Weeds Specialist, in his collaborations with CIPM. Both of these individuals have been hugely supportive of CIPM for many years and it should be noted that many of the great services and products CIPM provides to the western region are a reflection of this positive and long-term partnership with the BLM.



Save the Date!

**2011 Continental Divide Invasive
Weed Barrier Zone Workshop**
August 24, 2011

Harriman State Park | Island Park, ID

Montana State University and the University of Idaho are hosting an invasive plant workshop with special emphasis on the early control of rush skeletonweed and Dyer's woad. The workshop will facilitate knowledge sharing and collaboration among university scientists and county, state, and federal land managers from north-central Idaho, southwestern Montana and northwestern Wyoming, and will provide updates on managing these weeds and participants will be able to convey topics that need further study. The outcomes from the workshop will refine our strategies and research to guide long-term investments in prevention and early control. Please stay posted to CIPM's [events calendar](#) or contact Kim Goodwin at kgoodwin@montana.edu.

**2011 Nevada Weed Management
Association Conference**
November 8–9, 2011

JA Nugget Hotel and Casino | Sparks, NV

The theme of this year's Nevada Weed Management Association (NWMA) conference, "Moving to the Future," is focused on the evolution of weed management programs, incorporating current technologies, innovative ideas, and new directions. The conference will highlight new tools, mapping standards, effective communication and education, and site restoration. Various trainings—such as weed mapping, biological control, and pesticide applicator certification—will also be offered. For more information, please visit the [NWMA website](#) or contact [Robin Wilson](#).

**2012 MRNRC Conference
and BiOP Forum**
March 13–15, 2012

Ramkota River Centre | Pierre, SD

The Missouri River Natural Resources Committee (MRNRC), US Army Corps of Engineers, and US Fish Wildlife Service invite you to attend and present at the MRNRC conference and BiOP Forum. More information will be forthcoming in late September or early October.

Questions should be directed to 2012 Conference Chair [Jim Riis](#).

Briefs

New Invasive Species Management Policy from the US Forest Service

On Friday, June 3, 2011 the US Forest Service (USFS) published an exciting new policy for management of invasive species (all types—terrestrial and aquatic vertebrates and invertebrates, plants, and pathogens) in the *Federal Register*. The policy will be implemented by amendments to the USFS manual or handbook, which will provide specific and mandatory operational requirements, standards, criteria, and guidance. Comments will be accepted until August 2.

To read the full text of the proposed policy, [click here](#). To submit a comment, visit www.regulations.gov.

New iPhone App: *Thistles of South Dakota*

Thistles of South Dakota, developed by the SDSU AgBio Communications, is now available as a free download in the [Apple Store](#).

This guide was compiled to provide an aid for the rapid identification of the more common pest and non-pest thistle species in South Dakota. Because of the great expense of managing and controlling invasive thistles in rangelands, pastures, and croplands, it is essential to be accurate in the identification of any species at hand. The recognition of native species not only helps maintain local biodiversity, but also prevents wasted effort, controls costs, and minimizes herbicide use and chemical pollution.

Montana Border Collie Sniffs Out Noxious Weeds

THE MISSOULIAN | June 9, 2011

A weed-sniffing border collie is helping officials in Montana hunt down a noxious weed found on Mount Sentinel in Missoula. Seamus, 3, is trained to hunt Dyer's woad, which occurs in only seven places in the state. "I feel we're so close to getting rid of the thing," Marilyn Marler, the University of Montana's natural area specialist, told the *Missoulian*.

Seamus is part of a team of nine dogs with Bozeman-based Working Dogs for Conservation. All came from animal shelters. "He's a great dog," said Alice Whitelaw, one of the co-founders of the program and the program director. "He's very sweet." She said a family with small children dropped him off at a shelter. I don't think they were prepared to deal with the high level of energy and activity with a dog like Seamus," she said. "They're not your typical dog that's going to come in and lie on the couch. They need a job."

For Seamus that job involves finding Dyer's woad. Officials say the eradication of Dyer's woad in Montana is possible. Most of the Dyer's woad on Mount Sentinel has already been removed after 14 years of pulling and spraying, eliminating hundreds of plants. But now officials said the plants are harder to find, especially when the plants aren't flowering. They said all the plants must be located because each can produce 400 seeds.

"It looks like every other plant on the hill," said Dalit Guscio, a conservation dog handler. That's where Seamus comes in with his work ethic and intense sense of smell. He can track the weed's scent better than a person can find the plant visually.

Meagan Parker of Working Dogs for Conservation said dogs in the program tend to be toy-crazy, hyper dogs, which she noted can sometimes make those dogs not the best family pets. She said the group tests up to 2,000 dogs before finding one that can do the job.

Other dogs in the program hunt other items. One dog, a Belgian malinois named Pepin, can track six scents; snow leopard, lynx, grizzly bear, black bear, wolverine, and Dyer's woad.

Article reprinted from the *Missoulian*.

Dalmatian toadflax

A weed you should get to know



Long, stout stems are waxy, smooth, and may be woody at the base and branched in the upper portion.

Why should I get to know this weed?

Dalmatian toadflax (*Linaria dalmatica*), also known as wild snapdragon, is a highly competitive plant that can adapt its growth to fit a range of different habitats. It can rapidly colonize disturbed or cultivated ground, significantly reducing crop yields, decreasing plant species diversity, and outcompeting plants that wildlife depend on for food. Dalmatian toadflax spreads by seeds and creeping lateral roots; one large plant can produce up to half a million seeds each year!

How can I identify it?

Dalmatian toadflax is an aggressive perennial plant that can be difficult to eradicate once established. It is often found along roadsides, in pastures and cultivated fields, and on rangelands. Disturbed sites are especially susceptible to invasion. Dalmatian toadflax grows up to 4 feet tall and flowers from midsummer to fall. Seeds, which remain viable for up to 10 years, are produced in 0.5 inch long capsules and are brown to black with wings.



Snapdragon-like flowers are bright yellow, 0.75–1.5 inches long, and have orange throats and long spurs that occur in simple racemes on the stems.



Alternate, stalkless leaves are waxy, heart-shaped, 1–3 inches long, bluish green, and clasp the stem.

Where should I report sightings?

If you encounter Dalmatian toadflax, note the location (and record its coordinates, if you have a GPS device) and report it to your county conservation district or county, state, or federal weed control office. You can also report your sighting instantly by visiting www.eddmaps.org or, if you live in the Missouri River Basin or the Pacific Northwest, www.eddmaps.org/mrwc.

Photos (top to bottom): Utah State University Archive, Bugwood.org; Richard Old, XID Services Inc., Bugwood.org; Steve Dewey, Utah State University, Bugwood.org.

Interactive Website

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“Even if you only see one plant out there, we want you to send in that report,” she stressed. “When populations are still small they are manageable and can even be eradicated. Once the invasion gets large, the cost for control goes up dramatically. Early detection and rapid response is good for the environment and saves our communities and our state a great deal of money,” she explained.

So, to learn about weeds, see photos, ask questions, find tools and tips, learn about confirmed sightings, report a sighting, receive an alert, or do even more, check out the MRWC-EDDMapS website at www.eddmaps.org/mrwc.

“The MRWC and CIPM are so excited about this new tool. EDDMapS is fast, easy to use, and is freely available to everyone. It is going to take all of us, working together and sharing information as quickly as possible, to keep ahead of new weed invaders in Montana,” she said.

Article reprinted from the *Prairie Star*.

Do you have a story or announcement you would like to share with the CIPM community? Submissions are always encouraged and should be sent to Emily Rindos at emily.rindos@montana.edu by August 20 for the fall issue and November 20 for the winter issue.

MWCA Happenings

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members. Those are just a few things we hope to accomplish in 2011.

The MWCA held two spring trainings—in Helena and Miles City—for weed coordinators and overall we had over 80 participants. We will continue to provide two annual spring trainings, as we believe it helps increase turnout for these important training sessions. The MWCA's fall training will be held in Red Lodge from October 18–20.

The MWCA is holding a raffle this year and tickets are now being printed. The first place prize is a \$2,000 gift certificate for gas, and 52 car washes at Town Pump stores; second prize is a \$500 Cabella's gift card; and third prize is a Garmin GPS unit with the Montana chip installed, donated by Selby's. Tickets are \$5 each, with a total of 5,000 available. A \$250 cash incentive will be awarded to the individual who sells the most tickets.

Next on the to-do list is the 2012 MWCA Calendar, now in its third year of publication. This year's theme is integrated weed management and each page features photographs taken by MWCA members from across the state, as well as weed information. The MWCA calendar remains a popular product and is a great gift for friends and family. As we are trying to be self-sustaining, the price for this year's calendar will increase to \$2 each for

MWCA members. Calendars will be ready by mid to late August. If you would like to purchase a large quantity, please contact Becky at becky.kington@mtweed.org or 406-684-5590.

We continue to be busy updating our website, www.mtweed.org, and have been getting a lot of hits with the Weed ID pages. Folks are looking for photos of rosettes—for those of you with cameras, we are looking for good photographs of the 32 state listed weeds at any growth stage! (You will be credited on the website.) The MWCA also maintains an extensive events calendar on our website, so if you are looking for activities in your area, please be sure to check it out. Another feature that has been gaining popularity is the classified section. Looking for work? Looking for a sprayer? You just might find it on our classifieds page. In fact, if you're looking for more information on anything mentioned here—legislative information, the fall coordinator training agenda, raffle tickets, or the 2012 calendar—you can find it at www.mtweed.org.

We wish for all weed managers in southwest Montana a great spray season—kill lots of weeds and we will be in touch this fall. As always, please don't hesitate to call the MWCA office if you have any questions or concerns.



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