

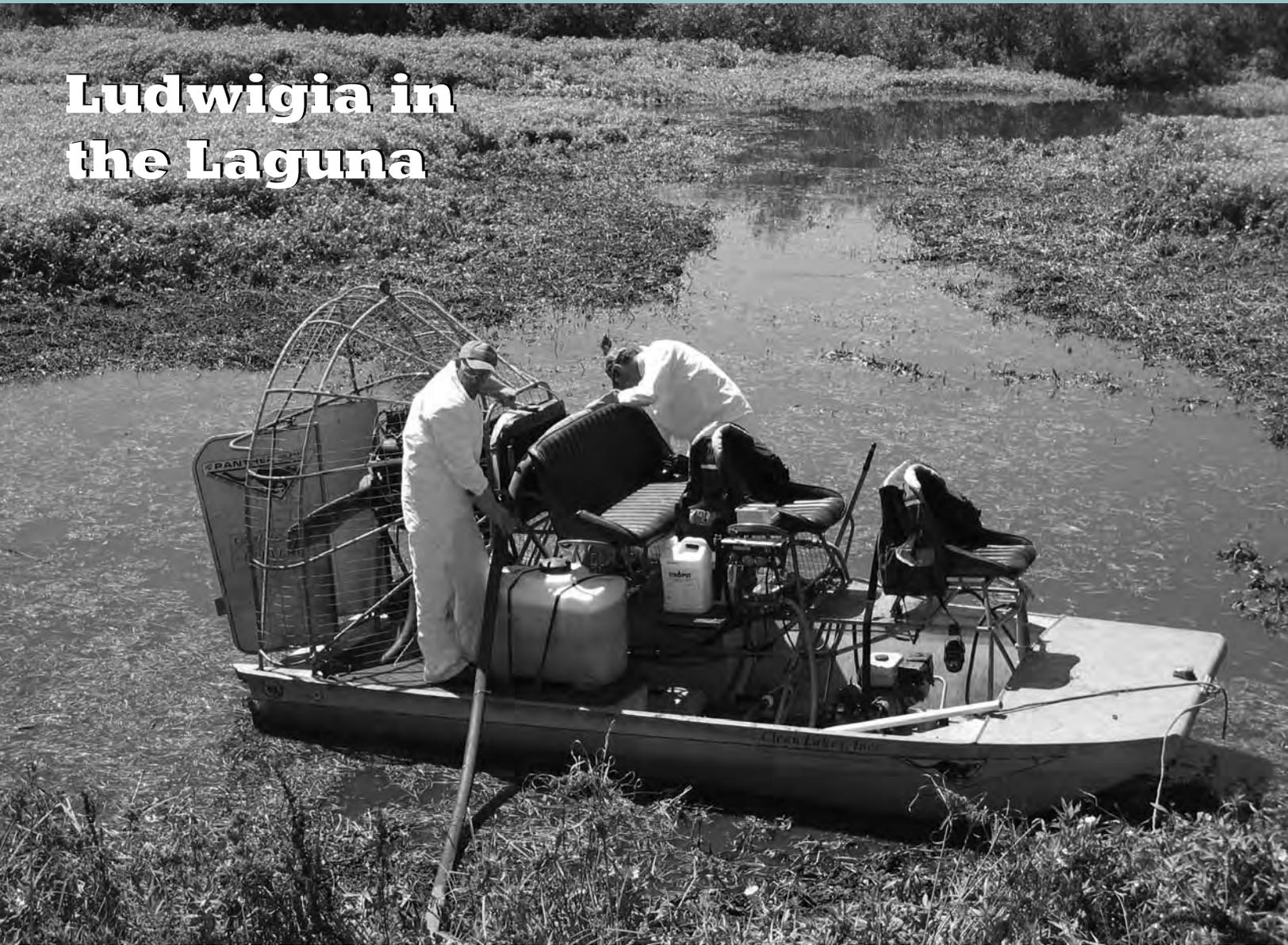


Cal-IPC News

*Protecting California's Natural Areas
from Wildland Weeds*

Vol. 17, No. 2 Summer 2009 Quarterly Newsletter of the California Invasive Plant Council

Ludwigia in the Laguna



An airboat works to remove Ludwigia hexapetala (creeping water primrose) from Laguna de Santa Rosa, Sonoma County, the second largest freshwater wetland in coastal northern California. Story page 4.

Photo: Julian Meisler, Laguna de Santa Rosa Foundation

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Cal-IPC

1442-A Walnut Street, #462
Berkeley, CA 94709
(510) 843-3902
fax (510) 217-3500
www.cal-ipc.org
info@cal-ipc.org

The California Invasive Plant Council is a 501(c)3 nonprofit organization protecting California's lands and waters from the ecological impacts of invasive plants by promoting science-based restoration, research, education and policy.

STAFF

Doug Johnson, Executive Director
dvjohnson@cal-ipc.org

Elizabeth Brusati, Program Manager
edbrusati@cal-ipc.org

Heather Brady, Project Coordinator
hjbrady@cal-ipc.org

Bertha McKinley, Program Assistant
bmckinley@cal-ipc.org

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Cal-IPC News

Summer 2009 - Volume 17, Number 2

Editors: Doug Johnson, Elizabeth Brusati

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The evolving toolbox

One of the primary reasons Cal-IPC formed back in 1992 was to make sure there was a way for weed workers to share information on tools and techniques they developed for treating particular invasive plant situations. Even though we now have loads of information available through our website, there is still a lot of utility in directly sharing how we work on weeds. This issue of *Cal-IPC News*, as well as the Symposium and upcoming field courses, continue that core tradition.

From the "cookie cutter" and "skeleton basket" described in this issue by Julian Meisler, to the van customized by Shelterbest Builders, a Bay Area contractor, to make herbicide mixing more efficient, innovative tool development is alive and well. Mark Heath of Shelterbelt will be sharing info on the van and other innovative tools and techniques at our Symposium in October.

For the last 17 years, the Symposium has been the best venue for adding to your personal toolbox by getting information directly from other weed workers statewide. This year in Visalia we'll hear about the efficacy of particular techniques on particular weeds, as well as the effectiveness of different programs and the lessons learned. The Symposium will bring updated research findings that feed directly into applied management techniques, such as which native strains are most competitive for revegetation.

And Cal-IPC's field course program, dedicated to growing the individual and collective toolboxes of the state's weed workers, has expanded its field course offerings this year by presenting full-day courses on Mechanical Control Methods (July 21 in Santa Cruz) and Chemical Control Methods (October 7 in Visalia, the day before the Symposium). These courses allow attendees to learn from two experienced leaders in the field—Ken Moore for mechanical techniques and Joe DiTomaso for chemical techniques—with more time for detailed demonstration than in our combined control courses.

We have come a long way in developing new tools for wildland weed management, but there's plenty more room for improvement for accomplishing long-term restoration success. Let us know what you are doing and share it with your fellow Cal-IPC members!



Motorized wheelbarrow that Shelterbelt uses to get tools and supplies to remote work sites.

Cal-IPC Updates

Upcoming field courses

The remaining 2009 classes are scheduled for Visalia (Chemical Control Methods, Oct. 7) and Pasadena (Control Methods, Nov. 4, and Mapping, Nov. 5). Restoration volunteers pay just \$45 for a full day course! See page 7 and www.cal-ipc.org for more information.

2009 Symposium

Registration is open for our 18th annual Symposium, being held this year in Visalia on October 8-10. See page 9 and www.cal-ipc.org for more information.

New grants

Cal-IPC has received several new grants to support our programs. Thank you to: the Resources Legacy Fund for funding risk mapping in the Sierra Nevada; the Jiji Foundation for supporting our field courses; the US Forest Service State & Private Forestry program for funding risk mapping in the Sierra; and the San Diego Association of Governments for funding regional invasive plant assessments and strategic management planning in San Diego County. Look for updates on these projects in future issues.

Act. In January the Sixth Circuit Court of Appeals overruled EPA's interpretation, meaning natural resource managers may need to obtain National Pollutant Discharge Elimination System (NPDES) permits to apply pesticides in, over, or near water in the future. The EPA has filed a motion to delay implementation of this ruling to allow time to develop and issue appropriate Clean Water Act permits. cfpub.epa.gov/pesticides/news.cfm

According to a study in the journal *Science*, **monitoring of wildlife imports into the United States is fragmented and insufficiently coordinated**, increasing the risk of endangered or invasive species being transported. More than 86% of shipments contained animals that were not identified to the species level, making it impossible to assess the full diversity of animals imported or calculate the risk of non-native species introductions and potential for disease transmission. The U.S. imported more than 1.5 billion live animals between 2000 and 2006. (*Science*, May 1, 2009)

On Earth Day, Gov. Schwarzenegger announced that **funding for projects supported by California bond measures**, including several thousand natural resource projects, could begin moving again. While payments for 2008 invoices are finally being processed in most cases, it is unclear what guarantees are in place for future payments on restarted projects. stopworkimpact.ning.com

Citizens in Encinitas (San Diego Co.) have started a **campaign against pampas grass**, distributing educational brochures and holding events to teach homeowners how to remove the plant. (*San Diego Union-Tribune*, May 3)

Invasive quagga mussels could cause **annual losses of \$22 million to the Lake Tahoe region** if they become established there, according to an estimate by the Army Corps of Engineers. The report details potential damage to tourism, reduced property values, and increased maintenance costs. Boats entering Lake Tahoe are subject to inspection for mussels, invasive weeds, and other aquatic invasive species. (*Reno Gazette-Journal*, June 24, 2009)

A recent court decision has thrown into question the **rules that govern application of pesticides in, over, or near bodies of water**. Since 2007, EPA has asserted that pesticides applied in accordance with their legal labels are exempt from additional permitting requirements through the Clean Water



Hypericum canariense (Canary Island St. Johnswort, at left) is an invasive shrub spreading along the San Mateo County coast, and in a few spots in San Diego County. San Mateo County is petitioning for a formal pest rating from the state. Photo by John Dittes, from *Calphotos*

Join our Facebook group

Find us under "California
Invasive Plant Council"

Lessons from *Ludwigia* control in Sonoma County

Julian Meisler, Restoration Program Director, Laguna de Santa Rosa Foundation, Santa Rosa, CA

Sonoma County is home to the second largest freshwater wetland in coastal Northern California, the Laguna de Santa Rosa. Often described as a 14-mile waterway, it is the largest tributary to the Russian River. But unlike a river, the Laguna operates more like a bathtub. During summer the surface water level is low and many of the wetland areas along the 14-mile path become disconnected. But with the arrival of heavy winter rains, a massive, connected, low velocity channel arises and spills variably into its broad floodplain to transform grazing lands, agricultural fields, vineyards, and riparian forests into lakes and swamps. While the ecological services it renders are numerous, the Laguna's less impressive distinction is being one of the most impaired water bodies on the North Coast. Many factors have contributed to its current condition and the symptoms are manifold. Perhaps the most obvious is the dramatic growth of the aquatic weed *Ludwigia hexapetala*.

A growing problem

Hailing from South America, *L. hexapetala* is increasingly problematic in California and elsewhere on the West Coast. In keeping with its common name, creeping water primrose, this plant roots at the

margins of ponds, lakes, rivers, ditches and other wetland types and slowly creeps across the water surface to form dense mats that exclude other species, reduce flood capacity, and likely alter food webs. Emergent stems can grow to more than four feet and produce brilliant yellow flowers that peak sometime in early July. Reproduction is both sexual and vegetative. Because each node can produce new roots, small fragments created during removal efforts pose a serious risk of spread.

L. hexapetala competes well with most native marsh vegetation. While open sunny areas are perhaps ideal, it can grow well under riparian canopy. Nutrient-rich waters encourage its growth and yet the relatively clean waters of the Russian River also support robust populations. In the Laguna itself, the only observed limitations to growth are deep water (>5 ft), especially in combination with large surface area of open water, and extended periods of desiccation. However, even seemingly dry soils in the floodplain can support the plant, though its growth is limited.

While it is possible that *L. hexapetala* has been in the Laguna for decades, it seems that a tipping point was reached in the early part of this decade that enabled the plant to dominate many areas of shallow, stagnant water ranging from small ponds

to freshwater marshes exceeding 200 acres in size. Despite concerns raised by local biologists and others, it was not until the local Mosquito District became alarmed that concern turned to action.

A planned response

In 2004, the District captured record numbers of adult mosquitoes in traps adjacent to the densest *L. hexapetala* infestations. This coincided with the arrival of West Nile Virus and suddenly the *L. hexapetala* invasion was no longer just an ecological threat, it was a perceived threat to public health. The local press picked up the story and it became clear that if left unattended, this weed was a liability that could open up lawsuits if no action was taken.

A Task Force was soon formed, led by the Laguna de Santa Rosa Foundation, a local non-profit organization focused on the Laguna. Its members included scientists, policy makers, local, state and federal resource and regulatory agencies, and elected officials. Within a year a plan was developed and money was raised for the Laguna Foundation to lead a three-year control effort in two of the most densely infested areas. The plan called for summer herbicide treatment followed by mechanical



Amber Manfree wades through water up to 4-feet deep to establish a transect for monitoring *Ludwigia* control activities. Inset: *Ludwigia* flowers are bright yellow.



A crane lowers the Cookie Cutter into a sea of *Ludwigia hexapetala*.

removal of the dead and dying biomass. The two control sites included nearly three miles of channels of variable width and depth. Common to both were a history of past disturbance (dredging, widening, outright creation), stagnant summer water, and absence of mature riparian canopy. Also included were nearly 100 acres of shallow marsh also with a long history of disturbance and manipulation. In a typical year the marsh's summertime depth ranged from inches to several feet. In winter, the depth of both the channel and marsh can increase to more than twenty feet. The control areas are owned by the Sonoma County Water Agency and the California Department of Fish and Game.

In a county where the use of herbicide is anathema to many, strong public relations efforts were paramount and the Laguna Foundation approached it in a variety of ways. Presentations were made to all of the local city councils, the Sonoma County Board of Supervisors, Rotary Clubs, environmental organizations, and more. Each year progress updates were provided to each of these entities through reports and presentations.

Prior to herbicide application each year, the Laguna Foundation mailed letters to the 55 households surrounding the project area and submitted press releases to three local newspapers. Interviews were given to public and commercial radio stations and newspapers. Weekly progress updates were emailed to over 100 individuals during the active season each year summarizing what had occurred in the previous week and what

was planned for the coming week. These updates were compiled and made available on the Laguna Foundation website.

Large equipment for a large job

While the most efficient way to apply herbicide would have been via helicopter, there was considerable opposition to this method. In its place were ditch bank rigs



This skeleton basket strains the vegetation before loading it onto a truck for removal.

(truck with mounted tank and hand-held hoses) along narrow and accessible channels, an airboat for wider and less accessible channels, and a MarshMog in the marsh. A MarshMog is similar to a Sno-Cat used in ski areas but equipped to operate in several feet of water.

Because the airboat could not travel through the *L. hexapetala* mats at the slow and steady speed required for application, an open water path had to be cleared through the channels. This was accomplished with a

Cookie Cutter, a brutish machine similar in appearance to a small tugboat but equipped with a large fan blade in the front to chop through vegetation. Though quite effective, the machine caused significant spikes in turbidity and produced thousands of plant fragments. For a plant that easily reproduces from fragments, this was problematic and a floating boom with a hanging silt screen was erected downstream to capture fragments and contain turbidity.

Over the three-year project period two herbicides were tried, glyphosate (product name Glypro®) and triclopyr (product name Renovate 3®), combined with the non-ionic surfactant Cygnet Plus®. Applications typically began in late June in adherence with NOAA Fisheries regulations for salmonid streams.

Mechanical removal was accomplished using a long-reach backhoe in narrow, accessible channels and aquatic harvesters in access limited channels. Where harvesters were used, they had to be preceded by the Cookie Cutter, which chopped the dead biomass. In the marsh area it became clear that removal would be prohibitively expensive and sprayed vegetation had to be left in place.

To reduce turbidity, removal was conducted from upstream to downstream so the dense mats would filter muddy plumes coming downstream. To reduce the volume of sediment dredged with each scoop of the backhoe, the contractor constructed a "skeleton" basket that strained each scoop of vegetation before it was loaded for hauling. This greatly reduced the risk of leaking haul trucks on public roads, or worse, bursting a tailgate and dropping several tons of *L. hexapetala*, mud and water on the road. (It has happened!)

The vegetation and accompanying muck were hauled to nearby farm fields and disced into the soil.

Mixed results

The results were highly variable and influenced by a variety of factors. While deeper channels retained the effects of spraying and removal for two years, moderate regrowth began after three years and several sites returned to near complete coverage after four years.

Shallow channels could not be effectively controlled with the methods used.

Continued page 12...

Custom work van makes herbicide mixing more efficient

Mark Heath, Shelterbelt Builders, Inc. (interviewed by Doug Johnson)

Shelterbelt Builders, Inc., is a Berkeley-based company specializing in project design and implementation for restoration and wildland weed control (www.shelterbeltbuilders.com). President Mark Heath recently gave us a tour of the innovative van they customized for projects involving herbicide application.

“The beauty of the van is that herbicide can be mixed quickly by a single person without handling or even seeing any concentrate—a true closed mixing system for small-scale jobs. This reduces the potential for contact or spills. Also, you can make just the amount you need, so it cuts way down on leftover mix.

“Our simplified version of direct injection works just like the more common and sophisticated computer controlled version

used by large production nurseries and rights-of-way managers. A local spray parts supplier, American Cleanway in San Leandro, installed this for us for around \$4,000.

“We have a 30-gallon clean water tank, enough for four backpack sprayers for a day. The herbicide concentrate is locked in its own compartment and only mixes with water just before being dispensed into a backpack sprayer. We have Aquamaster, Habitat, and Garlon 4 connected up, as well as R11 and Competitor surfactants and some dye.”

“The valves are calibrated to dispense each herbicide at a given rate. The user figures out how much mix they want, from a half gallon up to a full backpack-full. Then depending on what concentration you need, the chart tells you how long to fill



Backpack sprayers are filled at the rear bumper. The system takes about a minute to fill a backpack sprayer, with no handling of herbicide containers.

with herbicide from the valve at the bumper. After putting in the herbicide, you fill up to final volume with plain water. It takes about a minute to fill a backpack.”

“In terms of backpack sprayers, we’ve made our own. We get our backpack frames from Mystery Ranch, and add the tanks and sprayers. The final cost is around \$500 each. They’re a big improvement when you’re wearing them long hours in a wildland situation.”

Mark Heath will be one of the instructors at the October field course on Chemical Control Techniques and a speaker at the Symposium in Visalia. Contact him at mark@shelterbelt-builders.com or (510) 841-0911.



Mark at the manifold where valves are calibrated for each herbicide. The water reservoir is mounted at right, behind backpack sprayer.



Above: Tables provide details on amount of each herbicide to load given an application rate and volume of herbicide needed. **Right:** Adjuvants such as dies and surfactants are stored in the van.

Chemical Control Methods Field Course

October 7, 2009

Kaweah Oaks Preserve & Exeter Woman's Club

This year's pre-Symposium field course near Visalia is a bookend to our Mechanical Control Wildland Weed Field Course (taking place July 21 in the Santa Cruz Mountains). These full-day courses provide an opportunity to go into more detail than in our single-day overview course covering all control methods.

Join Cal-IPC and expert instructors to learn the most essential chemical control techniques, giving you the tools to take your weed management program to the next level. In-depth instruction, practical demonstrations, and hands-on activities, including:

- Principles of chemical control
- Specific herbicides and target species
- Calibration of equipment
- Applications methods, large- and small-scale
- Treatment of grasses, forbs and woody plants
- Safety precautions, including transportation of herbicides

DPR continuing education units will be available.

Register online at www.cal-ipc.org/fieldcourses. You may register for this course even if you are not attending the Symposium.



Scott Oneto demonstrates spray techniques at a Wildland Weed Field Course in South Lake Tahoe.

Cal-IPC Student Chapter continues to grow

Heather Schneider, Cal-IPC Student Chapter Co-chair, Riverside Branch, University of California, Riverside, calipcsc@gmail.com

The Cal-IPC Student Chapter has continued to be busy and productive this year, participating in events at both the state and local level. One of our biggest and most exciting achievements is the establishment of a second Cal-IPC SC branch at UC Davis! The branch is brand new and you'll be hearing more from them in the near future. We are currently contacting schools throughout the state to continue the expansion of Cal-IPC SC. Please see below for a more comprehensive list of our latest activities. We're also proud to introduce two more of our board members!

Lynn Sweet

Cal-IPC SC Secretary, Riverside Branch

Lynn grew up in Maine and attended Dickinson College, where she earned a B.S. in Biology in 2001. She first took on the issue of invasive plants working at the BLM Cody Field Office in Wyoming as a Student Conservation Association intern. She is completing her 3rd year of a Ph.D. program under Dr. Jodie Holt at UC Riverside. Lynn's dissertation focuses on the factors influencing the distribution of *Pennisetum setaceum*, purple fountain grass, in southern California. This year, she will begin fieldwork in central Riverside County looking at potential distribution, associated vegetation, and competitive balance of plants in a desert ecosystem.

Mike Bell

Cal-IPC SC Webmaster, Riverside Branch

Mike grew up on the Santa Rosa Plateau in Murrieta, CA, where he started fighting weeds at an early age alongside his mom, reserve manager Carole Bell. Mike received his B.S. from UC Santa Barbara and then worked for the National Park Service. He is a 2nd year PhD student at UC Riverside, where he works with Dr. Edith Allen measuring the effects of anthropogenic (human-caused) nitrogen deposition on the spread of invasive species in the desert. His project will use stable isotopes to track deposition across Joshua Tree National Park and measure the effects of deposition on nitrogen cycling within the soil.



Cal-IPC Student Chapter members celebrate their hard work removing Himalayan blackberry at the Santa Rosa Plateau Ecological Reserve.

Our recent activities:

- Statewide WMA meeting
- Invasive Weeds Awareness Day at the Capitol
- Local WMA meetings
- Created a Cal-IPC SC website
- Santa Rosa Plateau Plant Sale
- Rancho Santa Ana Botanic Garden Plant Sale
- UCR Botanic Garden Plant Sale
- Presented grad student research at a Riverside/San Bernardino CNPS Meeting
- Riverside Citizens Science Week
- Santa Rosa Plateau Himalayan blackberry removal work day
- Western Municipal Water District Earth Night
- Long Beach Earth Day
- Santa Rosa Plateau research/weed management consultation
- Plant survey for Camp Yoliwja in Yucaipa
- Assisting with the upcoming Cal-IPC Symposium

We're proud of what we've accomplished so far, and we're always looking for new members and new opportunities. If you're a student and you'd like to join Cal-IPC SC, start a new branch in

your area, or just participate in events, let us know! If you're a researcher, land manager, or other professional and you have an idea for how the student chapter can work with you or your organization, please contact us! Our goal is collaboration and communication between students, professionals, and the community at large and we need your help. See you in Visalia!

To contact us:

Email: riverside@calipcsc.org

Website: <http://calipcsc.org>

Facebook: www.facebook.com
(search "Cal-IPC Student Chapter")



Student Chapter members Mike Bell and Lynn Sweet at Long Beach Earth Day.

2009 CAL-IPC SYMPOSIUM

"WILDLAND WEED MANAGEMENT ON THE LEADING EDGE" □
VISALIA CONVENTION CENTER, VISALIA, CA
OCTOBER 8-10, 2009 - FIELD COURSE OCTOBER 7

Featured Speakers

Keynote address: California's fading wildflowers: Lost legacy and biological invasion, *Richard Minnich, UC Riverside*

Managing the leading edge: Landscape-level control of invasive plant spread in the Sierra and beyond, *Wendy West, UC Cooperative Extension*

From foothills grasslands to alpine peaks: Managing weeds at the leading edge in Sequoia and Kings Canyon National Parks, *Athena Demetry, Sequoia-Kings Canyon National Parks*

The roles of animals and disturbance in plant invasion: Lessons from the Carrizo Plain, *Paula Schiffman, CSU Northridge*

What would Aldo think? A look at herbicide ecotoxicology, *Joel Trumbo, California Department of Fish & Game*

Interactions between fire and plant invasions under a warming climate in the Sierra Nevada Bioregion, *Matt Brooks, US Geological Survey*

Promise and pitfalls of species distribution modeling to predict future invasions, *Nicole Heller, Climate Central*

Adaptive value of remnant native plants in invaded communities: Examples from the Great Basin, *Elizabeth Leger, University of Nevada, Reno*

From backpacks to jetpacks, handpicks to skid steers: Leveraging old tools and new techniques for long-term restoration success, *Mark Heath, Shelterbelt Builders*

Climate change: Strategies to manage biodiversity through acquisition and restoration, *Rick Rayburn, California State Parks*

Updates on CDFA's Noxious Weed rating system, *Katie Filippini, California Department of Food & Agriculture*

The importance of vouchering for plant identifications, *Fred Hrusa, California Department of Food & Agriculture*

New tools and techniques: A survey from around California, *Joseph DiTomaso, UC Davis*

Full program online. Dept. of Pesticide Regulation CE credits, including 2 hrs. Laws & Regs, available for licensed applicators.



Photo Contest

Submit entries by **September 1!** Photos will be displayed at the Symposium and attendees will vote on their favorites. Not just a fun competition, the photo contest is valuable source of images for our educational materials. See the Symposium website for instructions for submitting entries.

Raffle and Auction

The annual raffle and auction is a fun event for Symposium attendees and a fundraiser for Cal-IPC. Books, wine, tools, art, and some fabulous trips will all be up for grabs. Do you have something to donate? Contact Tanya Meyer, meyer@yolorcd.org, or call the Cal-IPC office.

And More...

Discussion groups \$ Student Paper & Poster Contest \$ Saturday field trips \$ Sponsor exhibits \$ Job board \$ More papers & posters plus the Chemical Control Methods Field Course (see p. 7)

To Register...

Online form at www.cal-ipc.org supports payment options including sending a check.

Register and reserve lodging by **September 14** for early bird discounts. Additional discounts for students and Symposium volunteers.

FULL DETAILS AT WWW.CAL-IPC.ORG

Bay Area Early Detection Network gets rolling

Daniel Gluesenkamp, Audubon Canyon Ranch

Whether we are protecting humans from swine flu or protecting rivers from *Arundo donax*, early detection and rapid response (EDRR) is the most cost-effective approach for coping with biological invasions. Indeed, the official California Invasive Weed Action Plan identifies EDRR as “the single most important element” for coping with invasions. EDRR is a “stitch-in-time” approach which proactively deals with infestations before they can grow into large and costly environmental threats. By acting early we efficiently prevent the environmental and economic damage caused by harmful invaders, we can use less intrusive control techniques, and we dramatically reduce the



planning and resources required to manage populations compared to when they have grown larger and become well established.

The Bay Area Early Detection Network (BAEDN) is an exciting new initiative

that builds an EDRR system to serve the entire nine county San Francisco Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties. The group unites and coordinates the EDRR efforts of dozens of agencies, hundreds of professional land managers, and potentially thousands of volunteers. BAEDN partners work together to develop a scientifically rigorous list of the most harmful invasive plants, train each other in detection techniques, make detections and report them to the online website, and then prioritize individual patches so that the most dangerous outbreaks can be removed before they spread. It's simple, it's

...continued next page

Oregon hitches up the “Weed Wagon”

Shannon L. Brubaker, Oregon Department of Agriculture, Noxious Weed Control Program



The “Weed Wagon” visited Oregon’s state capitol to spread awareness about invasive plants.

Photo: Shannon Brubaker

The Oregon County Weed Control Association and the Oregon Department of Agriculture (ODA) made an appearance at the state capitol building in Salem, OR on May 18 to help kick off the 5th Annual Oregon Invasive Weed Awareness Week. Deschutes County set up the “Educational Weed Wagon” on the front steps of the capitol to share information and examples of efforts that are going on throughout Oregon toward weed control, prevention, education and outreach.

It takes a TEAM effort to successfully battle invasive noxious weeds in Oregon. TEAM (Together Everyone Achieves More) is the acronym used as the theme for this year’s Oregon Invasive Weed Awareness Week, May 17-23, as proclaimed by Gov. Kulungoski. The week is designed to heighten public awareness of the need to eradicate or control noxious weeds. That awareness has grown over the years as more partners join the effort to fight invasive plant species.

“Collectively, Oregon has come a long

way in dealing with our noxious weed problems,” says Tim Butler, supervisor of the ODA’s Noxious Weed Control Program. “The public is very tuned in to invasive species issues in general. All regions of Oregon—from the coast to the Idaho border and all points in between—have invasive noxious weed issues they are trying to deal with.”

Conservatively, annual damage caused by noxious weeds in Oregon exceeds \$100 million. Early detection and rapid response is the most effective strategy to keep introductions of invasive weeds from fully establishing. When a noxious weed is in abundance, Oregonians have to learn to live with it. A combination of strategies keeps invasive noxious weeds from becoming an even greater threat to Oregon. But it’s clear that a successful response to invasive weeds takes more than one agency or one landowner. That’s where public education and teamwork comes in.

“Noxious weeds do not respect ownership boundaries or natural resource boundaries,” says Butler. “To be successful, we all need to work together.”

Contact the author at (503) 986-4622 or sbrubaker@oda.state.or.us.

Running 100 miles to raise funds for weed-free wildlands!

That's right, 100 miles, all in one day. Weed workers show their dedication by enduring yellow starthistle spines or hacking through jungles of giant reed, and Cal-IPC board member Cheryl McCormick has decided to do her part by running 100 miles to raise funds for Cal-IPC and promote awareness of the danger that non-native plant species pose to California's native habitats.

Cheryl's run on August 27 will travel between the Santa Lucia Preserve in Carmel and Fort Ord in Monterey. Cheryl hopes to make the "Run for the Wildlands" an annual event. She will start at the head of the Santa Lucia Mountains at 5:00 a.m., running with a headlamp, and continue through the communities of Carmel Valley, Carmel-By-the-Sea, Pebble Beach, Pacific Grove, Monterey, Seaside, and Marina. She

estimates the run will take approximately 14 hours.

"Running 100 miles has been a personal goal for a long time. My longest run to date has been 50 miles, but I'm determined to make my goal and know that I can do it, with help from my friends, family, and supporters. I've been training since January, running 40-60 miles a week. This fundraiser feels like a great way to couple my passion

for distance running with my dedication to eradicating non-native, invasive plants from California's beautiful native landscapes."

To sponsor Cheryl's "Run for the Wildlands," visit www.cal-ipc.org or send checks, payable to Cal-IPC with "Wildlands Run" listed in the memo line, to Cal-IPC, 1442-A Walnut St., #462, Berkeley, CA 94709.

**Sponsor Cheryl's
Run for the Wildlands
at www.cal-ipc.org!**



Cheryl monitoring French broom at the Santa Lucia Conservancy.

BAEDN continued...

sensible, it's about time.

The BAEDN project was initiated in 2006, and is being publicly launched during California's Invasive Weed Awareness Week, July 2009. In the last three years we have recruited partners and built the core structure of the network. Calflora has built BAEDN's online occurrence reporting database, leveraging Google Maps to make it user-friendly. Most importantly, we have hired Jennifer Stern to serve as BAEDN's Coordinator, thanks to support from the California Dept. of Food & Agriculture, the National Fish & Wildlife Foundation, and the US Fish & Wildlife Service.

In spite of our progress to date, most of the work is ahead of us and we hope that you will join the effort! There are several ways to participate. First, you can detect and report unusual or harmful invasive plants. Please go to our website at <http://BAEDN.org> and test out our Google Maps-driven database, and subscribe to the BAEDN



BAEDN partners gathered for a founding meeting in 2006.

Partners email list. And help us spread the word; tell your friends and let us know if you think of groups or newsletters that we can contact. Please join us in this effort! Your help can really make a difference.

Contact information:

Daniel Gluesenkamp, Audubon Canyon Ranch, gluesenkamp@egret.org
Jennifer Stern, BAEDN Coordinator, coordinator@baedn.org

Feed the birds, but don't spread weeds

Could your backyard bird feeder be spreading weeds? A study completed last year in Oregon raises a warning about weed seeds in bird feed, but also provides suggestions for reducing the risk.

In studies at Oregon State University, scientists examined 10 brands of wild bird feed commonly sold in retail stores. The samples contained seeds from more than 50 weed species—including 10 ranked among Oregon's most noxious weeds. Each brand tested contained weed seeds, with six different weed species found in half or more of the samples.

"Once a weed seed drops from the feeder to the ground and sprouts, it has the potential to flower and spread," said Dr. Jed Colquhoun, associate professor at the University of Wisconsin – Madison, formerly with Oregon State University. "In fact, when we informally questioned landowners and farmers to investigate the spread of a relatively new weed in the Pacific Northwest—velvetleaf (*Abutilon theophrasti*)—we found it is growing in the soil beneath backyard bird feeders." In a short-term

study of what happens when stray bird feed drops to the soil, about 30 weed species sprouted in just 28 days. Between three and 17 weed species grew from each of the 10 brands of feed tested.

So how can you minimize the spread of new or invasive weeds that originate in bird feed? There are several simple strategies to consider:

- Use a tray attachment under your feeder to keep seeds off the ground.
- Select foods that won't sprout, such as sunflower hearts, peanuts, peanut butter, raisins, mealworms and plain suet cakes.
- Look for treated wild bird food mixtures. Many manufacturers are now baking their products to kill weed seeds, using guidelines established by the U.S. Department of Agriculture. So read product labels carefully to make certain you buy a treated brand.
- Keep an eye out for weeds under your feeder and pull them before they can flower and spread.
- If you use a wild bird food blend that contains a variety of seeds, contact the

Ten weed species found in the bird seed evaluated in the Oregon. Most are also problems in California.

Buffalobur (*Solanum rostratum*)

Bull thistle (*Cirsium vulgare*)

Canada thistle (*Cirsium arvense*)

Common ragweed
(*Ambrosia artemisiifolia*)

Dodder (*Cuscuta* spp.)

Field bindweed (*Convolvulus arvensis*)

Jointed goatgrass (*Aegilops cylindrica*)

Kochia (*Kochia scoparia*)

Puncturevine (*Tribulus terrestris*)

Velvetleaf (*Abutilon theophrasti*)

producer or talk to your local retailer to discuss what measures are taken to ensure the product is free of invasive weed seeds.

Reprinted from the Weed Science Society of America, www.wssa.net.

Ludwigia from page 5...

Regrowth occurred every year, with cover nearly equal to that existing pre-treatment, though with density reduced.

Similarly, sites limited to spray only were not effectively controlled in the project period. Despite three years of application, the marsh area has also returned to pretreatment cover though density is lower here, too.

Lessons learned

Because *L. hexapetala* continues to dominate in the project area it is natural to question whether the project was worthwhile. From the standpoint of the lessons taken away that can be shared with others facing similar conditions, it was definitely worthwhile. Here are a few of those lessons learned:

- **Not all *L. hexapetala* infestations are equal.** Site characteristics such as water depth, hydroperiod, nutrient availability, density and extent of infestation, presence of native and/or rare species, history of disturbance, and access to full sun help



The MarshMog helps traverse the wetlands.

- decide timing and best methods.
- **Control efforts tend to be more successful in deeper water or in areas that dry completely.** Artificial manipulation of water levels may be

desirable in some cases if feasible.

- **Neither glyphosate (Glypro®) nor triclopyr (Renovate 3®) provided systemic control at the rate used and**

...continued next page

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Ludwigia continued...

- the timing of application. Results may improve in less dense infestations.
- If glyphosate is used care should be taken not to coat plants in fine sediment while spraying. This can happen when using equipment like the MarshMog, which drives over the plant as it sprays. Glyphosate coming in contact with sediment becomes inactive.
 - Mechanical removal can provide 1-3 years of control, possibly more, depending on depth and plant density.
 - Mechanical removal is very expensive and costs grow proportionally with

difficulty of access and distance to disposal sites.

- In dense infestations (e.g. entire channels covered in thick mats) it may be better to remove first and then spray regrowth. However, because *L. hexapetala* sprouts readily from fragments, it is essential to plan for containment.
- Spraying dense infestations without removing biomass will cause unacceptable drops in dissolved oxygen concentrations.
- Water quality monitoring requirements may be intensive. These costs should be incorporated into project budgets.

- Ongoing maintenance will be required until underlying hydrologic, nutrient loading, and other systemic problems are addressed.

A full report on the *Ludwigia* Control Project in the Laguna de Santa Rosa is available at www.lagunafoundation.org.

Funding provided by the Sonoma County Water Agency, Wildlife Conservation Board, City of Santa Rosa, and the Marin/Sonoma Mosquito and Vector Control District.

Contact Julian at julian@lagunafoundation.org or (707) 527-9277.

Readings & Resources

Know of a resource that should be shared here?
Send it to edbrusati@cal-ipc.org.

Interactive national map of WMAs

This interactive online map illustrates the broad range of community-led weed management efforts in the United States. All WMAs are invited to input their data. Points have been added for California WMAs so check out your WMA's "pin" and add more information. It's a great way to see the larger picture of weed work in the United States. www.invasiveplantcenters.org/cwmamap.cfm

"Invasive Estuarine Plants of the Bight of the Californias"

A new database by the Tijuana Estuary National Estuarine Research Reserve compiles information on invasive plants found in salt marsh habitats or in the transition zone between marsh and uplands in Southern California. trnerr.org/invasives/

Improving outreach

The Center for Invasive Plant Management has a webpage with suggestions on improving outreach materials for science projects. Their examples encompass getting your audience's attention and improving their retention of information presented in online or printed materials. www.weedcenter.org/outreach/visualcomm.html

Invasive species in Europe

DAISIE (Delivering Alien Invasive Species Inventories for Europe) provides an online database of invasive species in Europe with distribution maps and experts on those species. Add yourself as an expert and see who else is working on your (least) favorite weeds. www.europe-aliens.org

Global climate change impacts in the US

A new report has been released by the US Global Change Research Program, which coordinates and integrates federal research from thirteen departments and agencies on changes in the global environment and their implications for society. Invasive species are mentioned in several sections. www.globalchange.gov/publications/reports/scientific-assessments/us-impacts



Harding grass in the fog from the 2008 Photo Contest. Submit your 2009 entry by September 1. *Photo by Rob Thompson*

Sing about aquatic invasives

Liven up that next office party with a singalong of these songs commissioned by University of Wisconsin Extension as a public outreach tool on invasive aquatic species. Everyone can join in on "The Ballad of Aquatic Invasive Species", "Clean Boats, Clean Waters", and "One Bait, One Lake". www.uwex.edu/lerc/music/

"Weeds of Mexico"

This new website is compiling information on invasive plants in Mexico. So far it includes pictures and factsheets. Most of the site is in Spanish but they are seeking bilingual users to translate materials into English. www.conabio.gob.mx/malezasdemexico/2inicio/home-malezas-mexico.htm

Weed bouquets

The Center for Invasive Plant Management also distributes plastic weed bouquets, such as the yellow starthistle we use as an icebreaker at Day at the Capitol in Sacramento. Four new species will be on sale this summer: perennial pepperweed, saltcedar, purple loosestrife, and garlic mustard, joining yellow starthistle, leafy spurge, Dalmatian toadflax, and spotted knapweed. These are real attention-getters for educational booths (and when visiting elected officials). www.weedcenter.org/store/index.html#weed

Weed Management newsletter

The *Weed Management Advisor* is a free newsletter from Dow AgroSciences on integrated weed management available electronically or by mail. The most recent issue described "Effect of Milestone® herbicide on non-target vegetation following aerial application". To subscribe, contact Charles Henry, 970-887-1227 or agwest@rkymtnhi.com.

Starting a native plant nursery

The US Forest Service has published a 17-chapter manual on operating a native plant nursery. Although designed primarily to assist Native American tribes, the information applies to any native plant nursery operation. Single or multiple copies are available at no charge. To order, email rschneider@fs.fed.us or call (970) 498-1392. Dumroese, R. K.; Luna, T.; Landis, T. D., editors. 2009. *Nursery Manual for Native Plants: A Guide for Tribal Nurseries*. Washington, DC: Department of Agriculture, Forest Service. 302 pp. www.treesearch.fs.fed.us/pubs/33057

Poster and bookmark

May 22 was International Day for Biological Diversity as declared by the United Nations. This year's theme focused on invasive alien species. Download a colorful poster and bookmark at www.cbd.int/idb/2009.

THE WILDLAND WEED CALENDAR

July-August

California Invasive Weeds Awareness Week
July 20-26
local events statewide
www.cal-ipc.org/policy/state/ciwaw.php

**Cal-IPC Wildland Weed Field Course:
Advanced Mechanical Control Methods**
July 21
Zayante Fire Station, Felton
(Santa Cruz Mountains)
www.cal-ipc.org/fieldcourses

National Conf. on Ecosystem Restoration
July 20-24
Los Angeles
www.conference.ifas.ufl.edu/NCER2009

Run for the Wildlands
August 27
Monterey County
Cheryl McCormick runs 100 miles to raise funds for Cal-IPC. Details p. 11.
www.cal-ipc.org

September-October

Cal-IPC Symposium deadlines:

September 1 - Photo Contest entries due

September 4 - Deadline for early registration discount

September 14 - Deadline for room blocks reserved at the Marriott and Comfort Suites

Natural Areas Conference
September 11-18
Vancouver, WA
36th national conference of the Natural Areas Assn., with an invasive species track hosted by the National Assn. of EPPCs.
www.naturalarea.org/09Conference

The Wildlife Society
September 20-September 24
Monterey Convention Center
www.wildlife.org/conference

North America Weed Management Association Conference
September 21-24
Kearney, NE
www.nawma.org

State of the San Francisco Estuary Conference
September 29-October 1
Oakland
sfestuary.org

Cal-IPC Symposium & Herbicide Methods Field Course
October 7-10
Visalia
www.cal-ipc.org/symposia

Southern California Botanists Symposium
October 17
CSU Fullerton
"California Desert Botany: Bounty or Bust"
www.socalbot.org

CNGA Workshops (see www.cnga.org)

• **Using Grasses and Graminoids in Restoration and Revegetation**
October 14-16
Hastings Preserve, Carmel Valley

• **Developing a Sustainable Grazing Plan to Manage Native Grasslands**
October 22-23
Davis

November-December

Cal-IPC Wildland Weed Field Courses:
November 4 - Control Methods
November 5 - Mapping
Audubon Center at Debs Park, Pasadena
www.cal-ipc.org/fieldcourses

Central California Invasive Weeds Symposium
November 13
Santa Cruz Co. Fairgrounds, Watsonville
"Fire, Water, Action"
11th Annual (formerly War on Weeds)
bree@elkhornslough.org

National Conference on Grazing Lands
December 13-16
Reno/Sparks, NV
Society for Range Management
www.glci.org

Quotable

"If Florida had a most wanted list of pest plants, the Brazilian pepper tree would be the equivalent of **Al Capone**." - *Sebring News-Sun*, Florida. *Schinus terebinthifolius* is a weed in California, as well.

"And have you heard about dodder? It's like some **vampire** plant, sucking the precious juices out of other plants while looking all slim and innocent."

- Columnist Jon Carroll, *San Francisco Chronicle*, June 1

"The [San Francisco] bay's ecology has been altered by a **cioppino** of exotic marine organisms"
- *San Francisco Chronicle*, March 22. The article mentioned Cal-IPC's *Don't Plant a Pest!* brochures.

Cal-IPC Membership Form

We're working to protect California's wildlands from invasive plants—join us!

Cal-IPC's effectiveness comes from a strong membership that includes scientists, land managers, policy makers, and concerned citizens. Please complete this form and mail with check or credit card number. Additional donations support our projects. We are a 501(c)(3) non-profit organization, and donations are tax deductible. **Join or donate online at www.cal-ipc.org.**

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- Regular \$40
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 Organization* \$150

** Receives member benefits for three individuals.
Attach contact information for add'l individuals.*

Joint Memberships

- SERCAL only add \$25
 CNGA only add \$35
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Cal-IPC Membership runs on the calendar year. Those who join after June 30 each year will be current through the following calendar year. Joint memberships receive a \$5 discount on each organization's normal rate, and apply only to Regular Cal-IPC memberships.

- Check here if you would prefer to receive the *Cal-IPC News* as a link to a pdf file online rather than a paper copy.
 Occasionally, we share members' addresses with like-minded organizations. Check if you *do not* want your information shared.

Mail this form with check (payable to "Cal-IPC") or credit card info to:
Cal-IPC, 1442-A Walnut Street #462, Berkeley, CA 94709

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