



# Cal-IPC News

Protecting California's Natural Areas  
from Wildland Weeds

Vol. 15, No. 3

Fall 2007

Quarterly Newsletter of the California Invasive Plant Council

*Pulling Together  
for 16 Years!*



Restoration volunteers removing Portuguese broom (*Cytisus striatus*) in Golden Gate National Recreation Area, the birthplace of the weed wrench. This photo, by Greg Archbald, was voted 1<sup>st</sup> place crowd favorite of the Photo Contest at the recent Cal-IPC Symposium in San Diego. More contest photos on page 8.

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Protecting California's natural areas  
from wildland weeds through  
research, restoration, and education.

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## Cal-IPC News

Fall 2007 - Volume 15, Number 3

Editors: Doug Johnson, Elizabeth Brusati, Cora Pulliatch

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## From the Director's Desk

### Generation Wild

At the Symposium in San Diego, Catalyst Award winner Dick Zembal observed that the youthfulness of the crowd was good sign for the future of our work. I have to agree.

Dick received the award for his years of initiative in securing funding to address arundo through the Santa Ana Watershed Association. Because of such work, major public funds are now being leveraged to control arundo, and Cal-IPC has a major state grant to map the weed over a sizable portion of the state. For longtime weed workers like Dick and Nelroy Jackson, recipient of the 2007 Jake Sigg Award for Vision and Service, one of the best rewards for their years of dedication is seeing a fresh wave of folks coming on board.

Young people have every reason to be drawn to this work. Restoration is one of the best ways to reinforce our connection to the land, requiring in-depth learning about ecological dynamics and active, positive participation in those dynamics. Cal-IPC aims to engage more young people through several efforts. For starters, we offered discounted registration for students and volunteers at this year's Symposium. For next year, we are considering a range of special events for students, restoration volunteers, and young professionals.

To date, our Wildland Weed Field Courses have focused on training professionals, but we plan make them more accessible for restoration volunteers. Grant support recently received from the Jiji Foundation will enable us to offer discounted rates for volunteer stewards at 2008 courses. We also hope to offer field courses in partnership with local conservation corps to provide work training for young people.

To support innovative work by students and practitioners, we are seeking funds to provide competitive mini-grants. This will give us a way to promote research on high priority topics identified in the research needs assessment being undertaken through UC Davis, CDEFA and Cal-IPC while supporting those with a strong interest in the field.

These are all aspects of keeping our work vital, of making sure it grows stronger in the future. Ultimately, we can cultivate a Generation Wild that cares for wildlands as a part of its basic responsibility to nature and society.



**"We hate purple starthistle!"** Future weed warriors in hot pursuit of that annoying menace, *Centaurea calcitrapa*. Photo by Rich Atmore of Wildscape Restoration, from the photo exhibit at the 2007 Cal-IPC Symposium.

# Wildland Weed NewsNewsNewsNewsNews

CDFG has awarded **\$1.2 million to 28 Weed Management Areas** in the state for 60 projects. This year's requests totalled \$1.8 million and were limited to WMAs not funded last year. [sschoenig@cdfg.ca.gov](mailto:sschoenig@cdfg.ca.gov)

The California Association of Nurseries and Garden Centers contributed \$15,000 to UC Davis to develop a **genetic library of pampasgrass**. This has been identified as an important step in stopping the introduction of invasive *Cortaderia* species through horticulture.

The endangered **El Segundo Blue butterfly has reappeared** at two L.A. area beaches where it has not been seen in decades. The return is attributed to the removal of invasive iceplant and the replanting of native vegetation, including the butterfly's food plant, buckwheat. *Los Angeles Times*, 7/8/07.

Sen. Reid (NV) introduced **S. 1949, the 100th Meridian Invasive Species State Revolving Loan Fund**, authorizing \$410 million over 5 years for invasive species control in western states. <http://weblogs.nal.usda.gov/invasivespecies>

Citing a lack of prohibitions against planting invasive ornamentals such as pampasgrass, the Encinitas city council voted in June to revisit a 2002 recommendation to **ban non-native plants on city property and require new residential and commercial developments to avoid using them**. *San Diego Union Tribune*, 7/5/07.

Researchers at Princeton University have developed an interactive **web portal to collect data from weed workers on infestations**

*continued page 17...*

## Cal-IPC Endowment created

Thanks to contributions from two donors (one southern Californian, one northern), Cal-IPC has established an endowment at the Marin Community Foundation. Interest earned from the endowment supports Cal-IPC's operating expenses, while the principal remains to support our work over the long term. If you can help grow the endowment through a legacy gift, please consider including Cal-IPC in your will or other estate planning. Contact Executive Director Doug Johnson if you need any information.

**Considering an end-of-the-year donation to Cal-IPC?** We will split general contributions among operational expenses, a reserve fund, and the endowment in portions decided by the Cal-IPC Board of Directors.

## Cal-IPC Updates...

### Annual Inventory update...

Now is your chance to submit new information on plants for the California Invasive Plant Inventory. Send to [edbrusati@cal-ipc.org](mailto:edbrusati@cal-ipc.org), and the review committee will update the list based on your input. Deadline is December 1.

### Renew your membership!

Check the mailing label on this newsletter to see if your membership expires Dec. 31. We send renewal notices in January, but it saves us time if you renew early. Use our convenient online system by clicking the Quicklink for "Join, Renew or Donate."

### One-stop shop for weed info...

If you have not seen it yet, check out the Plant Profiles section on our website. For each invasive plant in the Cal-IPC Inventory, a page has been created that links to the top information from books, articles, and websites.

### New Aquatic weed brochure!

The new Aquatic "Don't Plant a Pest!" brochure is perfect for outreach to water gardeners, and is available free of charge. Help us distribute them! View and order the brochure on our website.

### PlantRight campaign needs you...

This winter, Weed Management Areas and other groups are asked to contact local nurseries about PlantRight. Next spring, our speakers bureau will be spreading the word to garden clubs throughout the state. See article page 13.

### \$500 prize for reporting weed success...

UCSC graduate student Pete Holloran is researching the best ways to communicate success in weed projects. His Goldilocks Challenge offers \$500 for the most compelling documentation of weed project success. Details page 11.

### Weed maps now online!

The state's Weed Management Areas contributed valuable data on weed abundance and spread through a recent survey, and the resulting statewide maps for 36 weeds are on our website.

### 2008 Field Course schedule...

Our projected schedule for field courses throughout the state is on page 19. Along with courses on control techniques, we will be offering new courses on weed identification, revegetation, and weed mapping.

### WMA webpages...

Cal-IPC created webpages on invasive plants for the Sacramento River Watershed Project, including profiles of fifteen WMAs in the region with project descriptions, outreach materials, and contact info. See [srwp.org](http://srwp.org).

### Japanese dodder brochure...

Contra Costa and Alameda counties are among the most infested with *Cuscuta japonica* (see *Cal-IPC News* Summer 2006), and the local group Friends of Five Creeks spearheaded production of a brochure in four languages urging citizens to report sightings. Contact us at [info@cal-ipc.org](mailto:info@cal-ipc.org) for free copies to distribute, and see [dodder.org](http://dodder.org).

### Missed the Symposium?

Presentations and working group notes are available on our website. Photos from the event are on page 6 of this newsletter.

### Thank you to...

Dale Smith, for donating professional design expertise toward our proceedings, exhibit panels, and new membership brochure in the works.

[www.cal-ipc.org](http://www.cal-ipc.org)  
*find it all there*

# Ravennagrass: A major wildland weed along Cache Creek

Craig Thomsen, UC Davis, Dept. of Plant Sciences, and Upper Cache (Bear Creek) Watershed Coordinator  
Tanya Meyer, Yolo County Resource Conservation District, and Lower Cache Creek Watershed Coordinator

This article is modified from an earlier version printed in two Yolo County newspapers, the Davis Enterprise and Daily Democrat, March, 2007.

An important riparian corridor in California is under assault by yet another wildland weed. Ravennagrass (*Saccharum ravennae*) is invading the Cache Creek watershed in Colusa, Lake and Yolo counties.

The main stem of Cache Creek flows for 81 miles, extending east from Clear Lake to the Central Valley. It also contains a north fork that flows out of the Indian Valley Reservoir from eastern Lake County. Historically, the creek flowed into the Sacramento River, but it now ends just north of the town of Woodland in the Cache Creek settling basin, and is connected to the Sacramento River through an overflow channel in the Yolo Bypass.

Cache Creek is an ecologically significant watercourse that forms a vital biological link between California's Inner Coast Ranges and the Sacramento River. It has many splendid riparian features, including a large wintering population of bald eagles, and it is an important corridor for neo-tropical migratory birds.



Inflorescence. Photo by Tanya Meyer.



Dense, villous hairs occur on ravennagrass along the lower leaf blades. Photo by Joe DiTomaso.

Ravennagrass, now widespread along Cache Creek, is one of the largest exotic grasses in the state, with leaves up to 20 mm wide, tussocks reaching nearly 2 meters, and flowering stalks sometimes 4 meters tall. It is a warm season, summer flowering species with a large plume-like inflorescence.

Sometimes referred to as hardy pampasgrass, ravennagrass does resemble female pampasgrass (*Cortaderia selloana*) with its large tufts and showy flowers. However, ravennagrass is more closely related to sugarcane, and belongs to the same genus, *Saccharum*, Latin for sugar. The name (pronounced ra-VEN-ah) comes from Ravenna, Italy, in the northeastern part of the country near the Adriatic Sea.

Since ravennagrass is often misidentified as pampasgrass, it is important to recognize key diagnostic traits. A vegetative characteristic that is useful for distinguishing ravennagrass from pampasgrass in the field are the dense, villous (long, soft) hairs that

occur on ravennagrass along the lower leaf blades, whereas only a fringe of hairs is found on pampasgrass as part of the ligule. Full descriptions of ravennagrass and pampasgrass can be found on the website of the Kew Royal Botanic Gardens ([www.kew.org/data/grasses-db/www/imp09056.htm](http://www.kew.org/data/grasses-db/www/imp09056.htm)) and in *Weeds of California and other Western States* (DiTomaso and Healy, 2007).

In the Cache Creek watershed, ravennagrass occupies riparian sites similar to those inhabited by two other well-known invasive plants, tamarisk (*Tamarix parviflora*) and giant reed (*Arundo donax*), which are also quite prevalent in the watershed, but has also moved into upland areas such as roadsides, cut-banks, and moist, steep canyon slopes. Individual plants produce thousands of seeds that disperse by both wind and water.

While no formal studies have been conducted yet on the effects of ravennagrass on the Cache Creek ecosystem, field observations indicate that these enormous plants are having a pronounced influence



Seeds. Photo by Jon O'Brian, UC Davis.

on the creek's native plant communities. Extensive stands have developed along miles of the creek, altering natural succession processes and riparian plant community structure.

## Distribution

Ravennagrass is widespread in the Old World, where it is native throughout Eurasia and northern Africa. In North America, it is reported as having escaped from cultivation

in 12 states (DiTomaso and Healy, 2007).

Based on searches at the UC Davis Center for Plant Diversity Herbarium, and the web-based Consortium for California Herbaria, ravengrass has been observed or collected in at least seven California counties: Colusa, Fresno, Imperial, Napa, Sutter, Lake, and Yolo, where it is typically found on moist sites such as canals, reservoirs, seeps and riparian areas.

The first herbarium record for ravengrass in California is from P. B. Kennedy in 1918 from “roadsides, near Fresno.” Collections from Imperial County date back to 1948, and there are numerous other locations there where it has since been documented. Given these early dates of introduction and more recent rapid spread along Cache Creek, one might wonder why this species has not become more abundant statewide. Dr. Marcel Rejmanek, UC Davis invasive plant specialist,

suggests that aggressive genotypes may have come later and may be responsible for the recent incursions.

Ravengrass has been used as an ornamental in the United States for decades and joins the ever-growing list of plants that were purposefully introduced into landscape settings and later escaped, becoming major weeds. Web sites that sell this plant (a Google search turned up almost 700 sites where one can purchase the weed) show that it is widely promoted by the nursery trade for its size, plume-like flowers, vigorous growth, tolerance to harsh sites, and resistance to disease. Of course, some of those same qualities are the very traits that make it an invasive weed.

The original source of ravengrass along Cache Creek was the upper watershed in Lake County. Gregg Mangan, Cache Creek Natural Area manager at the Bureau of Land Management’s Ukiah office, recalls seeing this plant in the early 1990s during

field surveys along the north fork of Cache Creek. It has not yet been observed along Bear Creek, a 39-mile tributary of Cache Creek, but several plants were recently documented in Colusa County in a canyon drainage that feeds into Bear Creek.

The late Jan Lowrey, a life-long resident of Rumsey and former director of the Cache Creek Conservancy, noted that it appeared in abundance along lower Cache Creek



**Ravengrass spreading** along Cache Creek. *Photo by Craig Thomsen.*

after an intense flood in 1995. Ravengrass appears in all of the Yolo County parks along Cache Creek and also grows at the remote Lake Davis reservoir on Davis Creek, a small tributary to Cache Creek. John Watson, vegetation manager with the Cache Creek Conservancy, suspected that this weed might also occur within the Cache Creek settling basin, a short distance from the Sacramento River. Reconnaissance visits with him to the basin confirmed this; ten plants were observed scattered along several miles of the Cache Creek corridor and a secondary channel.

Thankfully, ravengrass still has a limited distribution in the state and was recently rated by Cal-IPC as “Moderate-Alert” (*Cal-IPC News*, Spring/Summer 2007). Based on its behavior along Cache Creek and invasive history elsewhere, it appears to have potential to move well beyond Cache Creek and flourish throughout the state as a troublesome

wildland plant. For example, Andrew Sanders, curator of the UC Riverside Herbarium, noted that “the plant is common to abundant in wet places along the Coachella Canal in Imperial County and that there is a lot of it in the vicinity of Frink Springs.”

Although we have limited information about its invasive behavior outside of California in the other 11 states where

it has escaped from cultivation, Chris Hise of The Nature Conservancy reported on a “significant infestation” that occurs along the Canadian River floodplain in western Oklahoma within their Four Canyon Preserve, and has observed this plant along the length of the river for several hundred miles, from central Oklahoma west into the Texas Panhandle (Jeff Firestone, pers. comm.). Additionally, it was spreading in the Grand Canyon although it appears that control efforts have greatly reduced

infestations (see below).

## Control

Ravengrass occurs on the weed lists of several Southwestern states, and is mentioned as a horticultural plant to avoid, but comprehensive control information is lacking. There is much to be learned about this plant including size and duration of the seed bank, optimal control methods, and how fast it may re-colonize sites after treatment. UC Davis weed control specialists Dr. Joe DiTomaso and Guy Kyser are planning to answer some of these questions through future research.

In Arizona, ravengrass has been subject to control efforts in the Grand Canyon, where it was discovered in the early 1990s. Since then, National Park Service staff and volunteers have reportedly grubbed out over 25,000 plants, and it is

*continued on page 16*

# 2007 SYMPOSIUM IN SAN DIEGO



**Above:** Mark Newhouser demonstrates his arundo hook at the Control Techniques Discussion Group led by Mike Kelly and Joe DiTomaso under the fancy skylight on the William D. Evans sternwheeler.



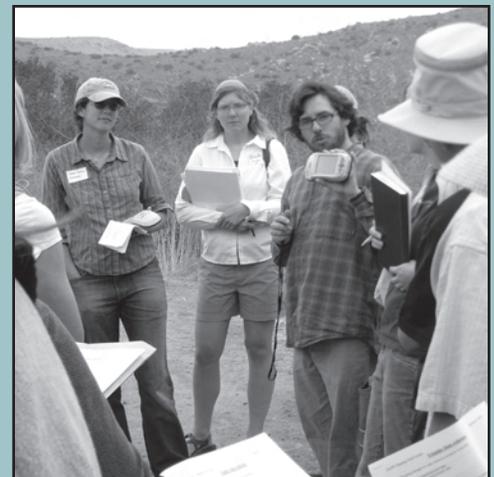
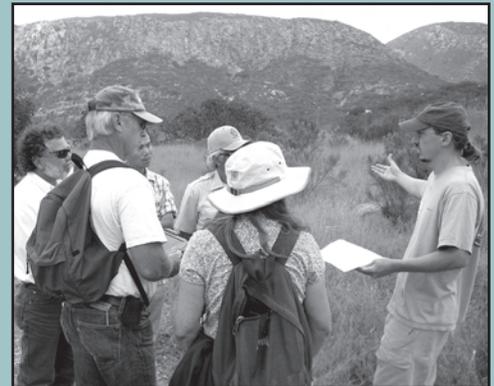
**Above right:** Bob Case leads a Laws & Regs session skit on proper herbicide use, aided by demonstrations by Johnny Sprayright (John Knapp) and not-so-swift Jed (Chris Christofferson).

**Above left:** Cal-IPC board members Jason Casanova (left) Chris Christofferson (right) sell raffle tickets to eager attendees.



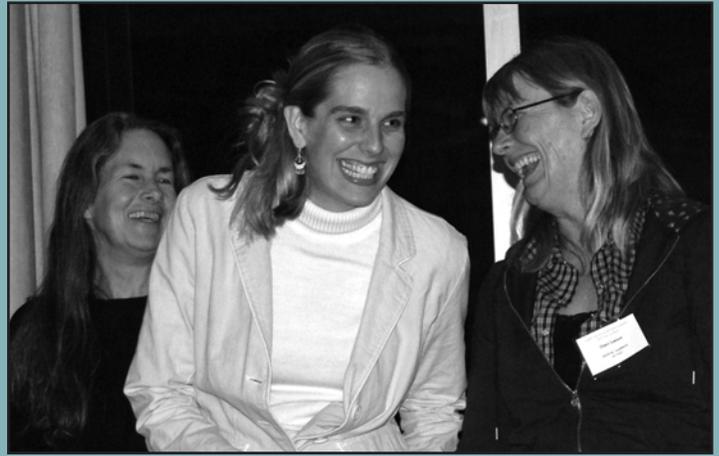
**At left, from left:** Cal-IPC board members Wendy West (Secretary) and Dan Gluesenkamp (President) and board member-elect Beth Keer enjoy the social hour.

## ...AND THE FIELD COURSE



**Sixty weed mappers** attended Cal-IPC's Wildland Weed Mapping Field Course at Mission Trails Regional Park the day before the Symposium. At top, Jason Giessow describes a procedure using a tablet PC; at bottom, John Knapp explains a Trimble GPS unit.

## Awards



**Above left:** Doug Johnson, Cal-IPC's executive director, presents the Golden Wrench Award for Land Manager of the Year to Bruce Delgado, BLM Botanist at Fort Ord in Monterey. Bruce proceeded to sing about all the legged frogs. **Above right:** From left, Kim O'Connor of Navy Region Southwest, Vanessa Sippel of Fallbrook Weed Detachment, and Dawn Lawson of Camp Pendleton accept the new Wildland Weed Management Organization of the Year Award on behalf of Dept. of Defense land management units in southern California. (Also present but not pictured: Deborah Bieber of Camp Pendleton, and JoEllen Kassebaum of Marine Corps Air Station Miramar.) **Left:** Nelroy Jackson, retired from Monsanto, received the Jake Sigg Award for Vision and Service. Nelroy helped found Cal-IPC and has been a central figure in organizing national coordination efforts, federal policy, and international research conferences. Richard Zembal of the Santa Ana Watershed Association received the Catalyst Award for years of work promoting funding for arundo control, and Robert Falconer of the California Association of Nurseries & Garden Centers received the Policy Award for his leadership in working to prevent horticultural introduction of invasive plants.



**Pete Holloran** hands a \$500 check to Cal-IPC Office Manager Bertha McKinley, prize money for the Goldilocks Challenge (see page 11).

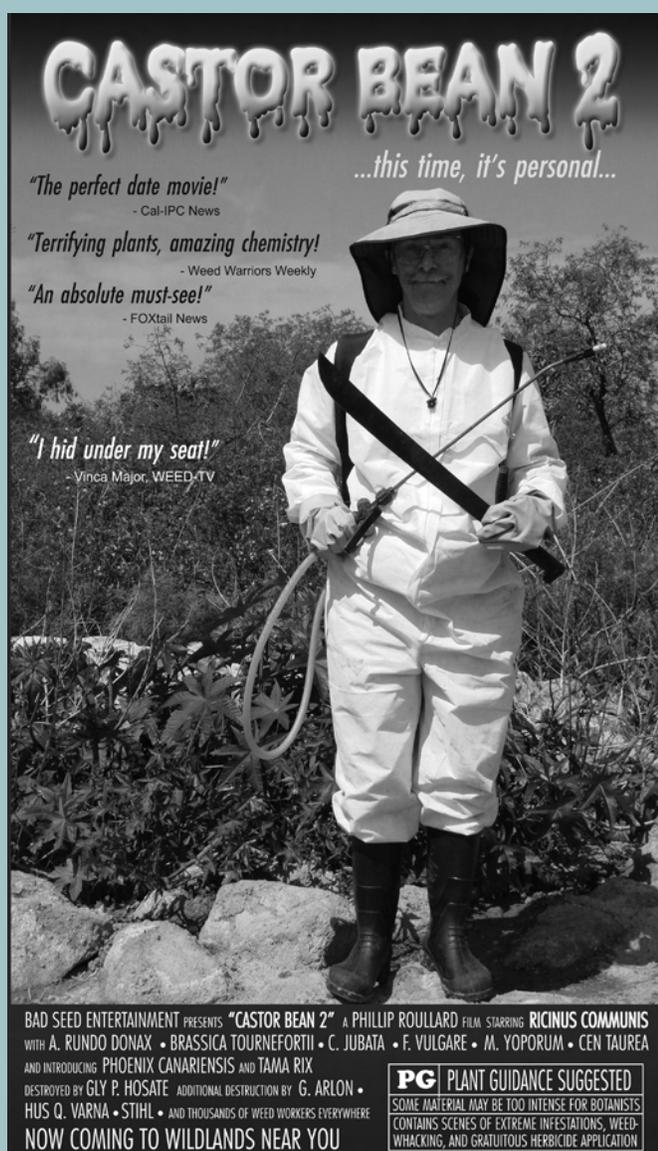


**Mike Kelly** of Los Penasquitos Canyon Preserve demonstrates his drilling technique for herbicide treatment of invasive palm species during the Torrey Pines field trip.

*See you next year in Chico!*  
*Mark your calendars for Oct. 2-4, 2008*

# 2007 Photo Exhibit

Thirty-eight entries were featured in this year's photo exhibit. Symposium attendees voted for their favorites, and these were the top picks. See this issue's cover for the first place photo!



4<sup>th</sup> Place: Castor Bean 2, The Movie ...this time, it's personal...  
Phillip Roullard and Callie Mack.



3<sup>rd</sup> Place: "Dangerous Beauty" Musk thistle (*Carduus nutans*), Verdi, NV. Eric Wylde, Santa Clara County Division of Agriculture.



2<sup>nd</sup> Place: Majors Creek, Santa Cruz: 2% Round-Up Pro being applied to pampasgrass. Jacob Bentley, California State Parks.

# “Weedos” in a Land Down Under

A report on EMAPi9 by Gina Darin, UC Davis



Just over 200 researchers, land managers, government representatives and students representing 27 nations from around the world met in Perth, Western Australia this past September for the ninth international conference on the Ecology and Management of Alien Plant Invasions (EMAPi9) and the second international Weed Risk Assessment Workshop (WRA2). California delegates, all of whom are Cal-IPC members who missed the Symposium in San Diego (for shame!), included Carla Bossard, St. Mary’s College of California; Steve Schoenig, CA Dept. of Food and Agriculture; Janet Leak-Garcia, UC Riverside; and Gina Darin, UC Davis.

Program session topics ranged from the biology and ecology of invasive plants to policy and management, and focused mainly on environmental weed issues.

“In addition to the normal networking opportunities created at an international meeting, we hope this conference in Perth leads to a greater understanding of how we deal with invasive plants ‘Down Under,’ and that delegates can take some useful techniques back home,” said Sandy Lloyd, Western Australia Dept. of Agriculture and President of the EMAPi9 organizing committee. Three presentations that demonstrate the diversity of topics covered were (1) reproductive thresholds of milkweeds (or cottonbush, as they say in Queensland), (2) asset-based and outcome-driven approaches to weed management on public land in Australia, and (3) invasive weed



Native kangaroo paw in King’s Park—wildflower season! Photo by Gina Darin.



Weeds “Down Under”: fertile capeweed carpets King’s Park. Photo by Gina Darin.

word for “rat’s nest.” The first sailors to visit thought the island was infested with large, hopping rats, which turned out to be small wallabies called quokkas. Unfortunately, the name stuck. On the island, we saw native vegetation along with weeds, restoration sites, gorgeous vistas looking out into the Indian Ocean and many, many quokkas.

EMAPi conference abstracts may be found on the Web at [www.lboro.ac.uk/research/cens/invasives/index.htm](http://www.lboro.ac.uk/research/cens/invasives/index.htm). The presentations from

control in National Parks in South Africa. Concerns over biofuels, climate change, and implications for weed risk assessment emerged as themes during many question and answer sessions.

Several presentations were relevant to California. Sarah Reichard, University of Washington, introduced everyone to Cal-HIP (Horticulture Invasives Prevention) in her presentation, “Can Voluntary Codes of Conduct Prevent Plant Invasions?” Steve Schoenig presented CDFA’s noxious weed eradication program and included information on Weed Management Areas. Janet Leak-Garcia talked about the genetics of artichoke thistle. I gave a presentation on prioritizing noxious weed populations for eradication. Randy Westbrook, USDA-APHIS, inspired conference-goers and started an international working group on early detection and rapid response.

The most inspiring talk of the conference was the presentation by Kate Blood, Department of Primary Industries, on the Weed Spotters of Victoria, Australia. Weed Spotters are people who assist the Victorian Government by keeping an eye open for and report potential, new or emerging weeds to the state. Weed Spotters are asked to be observant during their day-to-day activities and look out for a number of serious weeds in Victoria. This program has had amazing results.

On the final day of the EMAPi9 conference, my husband and I joined the field trip to Rottnest Island, so named for the Dutch

WRA2 are now posted at [www.hear.org/iwraw](http://www.hear.org/iwraw). The next EMAPi conference, EMAPi10, will be held in Stellenbosch, South Africa, August 24-28, 2009.

# The Human Dimension in Weed Work

Invited sessions at this year's Symposium addressed the human dimension of invasive plant management; from building coalitions that forge effective, non-traditional partnerships to analyses of public responses to restoration activities, topics engaged audiences and provoked thoughtful discussion. Presentations are now available at [www.cal-ipc.org](http://www.cal-ipc.org), and proceedings are forthcoming. Captions are by Pete Holloran, UC Santa Cruz, who co-chaired the sessions with Sharon Farrell of the Golden Gate National Parks Conservancy.

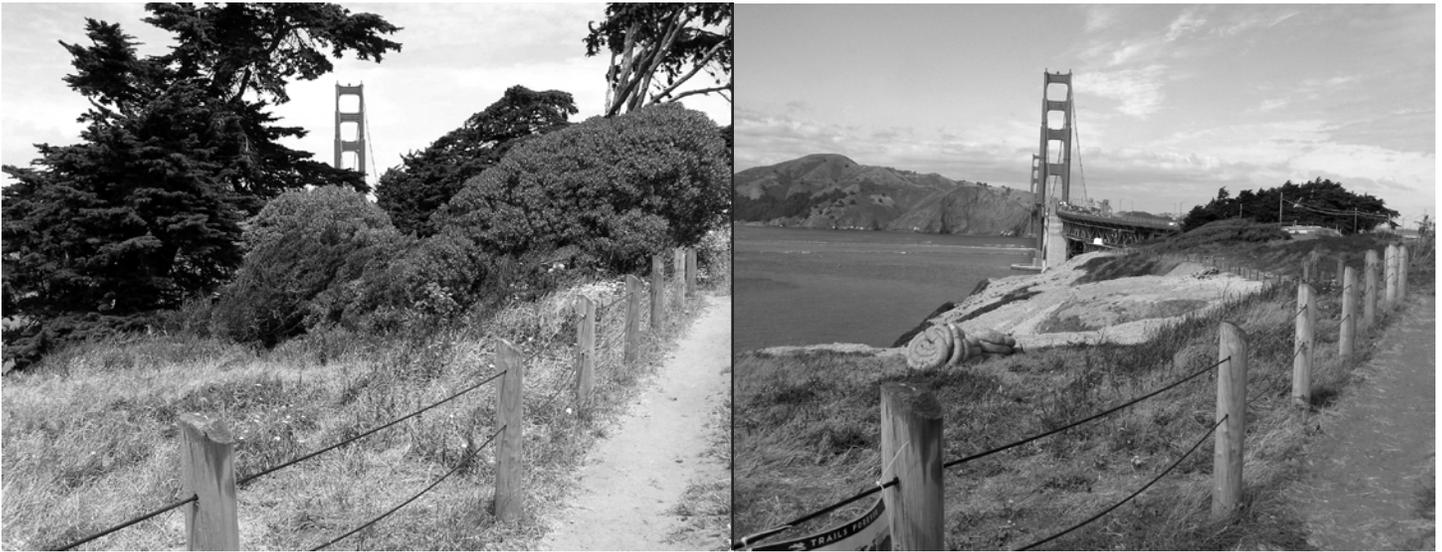
Kim Delfino of the Defenders of Wildlife and Kevin Kester of the California Cattlemen's Association walk the halls of Congress on behalf of the California Rangeland Conservation Coalition. Among their aims: conservation easements protecting 1 million acres of Central Valley grasslands. In her Cal-IPC talk, Delfino emphasized the importance of communication. "We agree on 95% of the issues," she said, "and don't let the other 5% of the issues take up 100% of our time." *Photo by Defenders of Wildlife.*



California Indian basket weavers rely on native plant materials gathered from managed landscapes throughout California. In her Cal-IPC talk on cultural issues in weed work, Shannon Brawley of the Cache Creek Conservancy described the diversity of opinions within the California Indian community about the positive and negative impacts of invasive plant management. Like the other two talks during the theme session on coalition building, Brawley's emphasized the importance of open and patient communication in building trust among people who may disagree about tactics. At left, weaver Deb McConnell (Hupa/Yurok/Quinalt) creates a cooking basket from hazel and spruce. *Photo by Jennifer Kalt.*

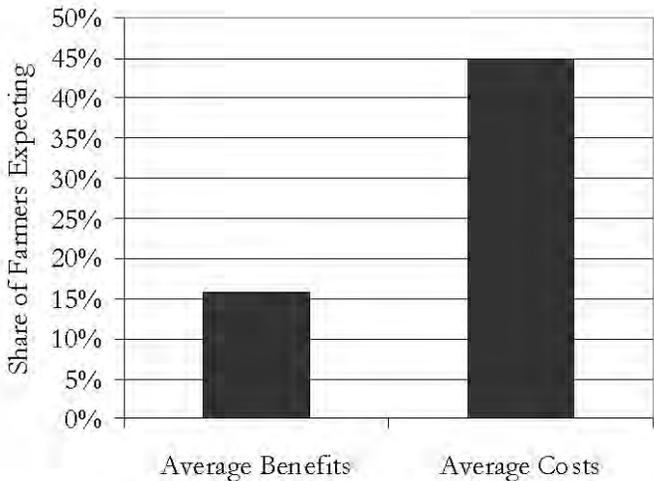
The California Horticultural Invasives Prevention (Cal-HIP) steering committee visits Marin Water District to see first-hand the impacts caused by a few invasive plants with origins in the horticultural trade. Betsy Peterson of the California State Floral Association and the California Seed Association, in her Cal-IPC talk on the project, described how these field trips—which have also included visits to botanical gardens, wholesale nurseries, and seed production facilities—cultivate trust, camaraderie and a better understanding of the issues faced by each stakeholder group. PlantRight's public outreach phase will be launched in spring 2008 (see page 13). *Photo by Sustainable Conservation.*





The serpentine cliffs near the Golden Gate Bridge witnessed dramatic change recently as part of a major restoration effort undertaken by the Golden Gate National Recreation Area and its partners (site before the project shown in left photo; the same scene after the project shown at right). In her Cal-IPC talk on increasing public engagement, Sharon Farrell (Golden Gate National Parks Conservancy) described how her Public Information Coordinators interacted directly with more than 6,000 park visitors over the last two years at six different project sites. Because public concerns were addressed through this outreach effort, project activities were able to proceed without being confronted by public outcry, despite the massive scale of operations. *Photos by GGNPC.*

In his Cal-IPC talk on strategic interactions across property boundaries, Mark Buckley of Environmental Incentives shared results of a recent survey in which farmers along the Sacramento River reported that they expect the costs of nearby restoration activities will outweigh the benefits to their farming operations. For instance, 8% believed that their land would benefit from having more pollinators around, while 48% responded that restoration efforts would increase weeds on their land. (The graph at right shows the average percentage of responses agreeing with a range of benefits and a range of costs). Buckley reminded us that a “good neighbor” policy sometimes involves listening to and acting upon the expectations of neighboring landowners, even when they differ from our own. *Graph by Mark Buckley.*



**The Goldilocks Challenge: \$500 prize to best entry**

Measuring performance is all the rage, and for good reason. Quantification allows decision makers to weigh the costs and benefits of complex issues. But which performance measures tell our stories most effectively?

Pete Holloran, whose Cal-IPC talk addressed performance measures for weed eradication projects, is offering a \$500.00 cash award for the best concise summary of an organization’s invasive plant management performance. Entries will help define the current state of performance measures in our community and provide good examples for us all.

Send entries to [peteh@ucsc.edu](mailto:peteh@ucsc.edu) by December 1, 2007. Entries must be no longer than two pages and contain

real data across several years. You should clearly specify management objectives, focus on outcomes rather than outputs, and include information about cost or effort. We are calling this the “Goldilocks Challenge” because the summary should contain just the right amount of information—not too much and not too little.

So tap into your competitive spirit and send in your own recommended performance measures for weed work! We will all be the better for it, and one of you will be the richer for it.



# Funding outside the box

By Laurel Brandt, Cal-IPC and UC Santa Barbara

A certain amount of creativity is required for writing grant proposals. You probably are well aware of the need to describe your project in a compelling way, but the need to match your project with a funding source whose goals align with yours is equally important. In order to find the perfect funding source to support your project, you may want to look beyond the usual dedicated weed control funding sources. This article will discuss two examples of creative funding

sources for invasive plant projects from the State of California: the Department of Water Resources Integrated Regional Water Management Program and the Wildlife Conservation Board habitat conservation programs.

## DWR Integrated Regional Water Management Program

Projects funded by the Department of Water Resources Integrated Regional Water Management Program (IRWM) must work to protect communities from drought, reduce local dependence on imported water, or improve local water quality. Not surprisingly, arundo and tamarisk are common targets for control, as their removal may increase surface water flow, improve groundwater percolation, and prevent obstruction of flood control channels. Other weeds may also be targeted. For example, IRWM funded the Humboldt County Fish Friendly Farming Program to remove English ivy, big periwinkle, and arundo, and revegetate with native plants to control sediment loads in streams. The IRWM grant program may fund planning projects in addition to on-the-ground control work.

The most important requirement of the IRWM grant program is that only projects that are part of a regional IRWM plan are eligible for funding. You must join an IRWM regional partnership in order to become involved in planning a proposal. To find out about an IRWM partnership in your area, visit the IRWM website at [www.grantsloans.water.ca.gov/grants/implementation/prop84/integregio\\_fundingarea.cfm](http://www.grantsloans.water.ca.gov/grants/implementation/prop84/integregio_fundingarea.cfm).

Planning efforts for IRWM programs funded by Proposition 84 and 1E are just beginning, so now is the best time to get involved.

*continued next page...*

## Previously funded projects

### Dept. of Water Resources IRWM

- Removal and monitoring of tamarisk, arundo and Russian olive in the Mojave River floodplain area, conserving 500 acre-feet of water per year. [www.mojavewater.org](http://www.mojavewater.org). Contact: Michael Limbaugh, Mojave Water Agency, [mlimbaugh@mojavewater.org](mailto:mlimbaugh@mojavewater.org), (760) 946-7023.
- Removal of 24 net acres of arundo in San Gabriel Valley riparian areas, increasing surface water flow, improving groundwater percolation, and preventing obstruction of flood control channels. [www.ladpw.org/wmdlirump](http://www.ladpw.org/wmdlirump). Contact: Hector J. Bordas, Los Angeles County Flood Control District, [hbordas@dpw.lacounty.gov](mailto:hbordas@dpw.lacounty.gov), (626) 458-5947.
- Planning and preparation of regulatory permits and CEQA documents for a regional Arundo and Tamarisk removal project in the Calleguas Creek Watershed, Ventura County. [www.watershedcoalition.org](http://www.watershedcoalition.org). Contact: Susan Hughes, Ventura County Executive Office, [susan.hughes@ventura.org](mailto:susan.hughes@ventura.org), (805) 654-3836.

### Wildlife Conservation Board

- Removal of tamarisk, eucalyptus, acacia, myoporum, and many annual invasive weeds on 7 acres of Devereaux Slough in UC Santa Barbara's Coal Oil Point Natural Reserve.
- Restoration of 551 acres of grassland and vernal pool habitat in Grassland Regional Park, Yolo County. The restoration plan includes control and monitoring of perennial pepperweed and annual grasses, and reseeding with native species.
- Removal and monitoring of *Ludwigia hexapetala* in the Dept. of Fish and Game's Laguna Wildlife Area in Sonoma County.

## Ways that weeds use water

### *Yellow starthistle*

- Yellow starthistle (YST) has deeper root systems than most annual grassland plants, allowing it to capture moisture from lower in the soil profile.
- Invasion of deep soil sites by YST results in soil moisture loss of about 1200 m<sup>3</sup>/ha/year. In shallow soil sites, soil moisture loss is lower: 1050 m<sup>3</sup>/ha/year. In the Sacramento River watershed, water loss according to these estimates would equal approximately 46,000 acre-feet (15 billion gallons) per year (Gerlach 2004).

### *Arundo donax*

- Arundo colonizes moist places like riparian areas, floodplains and ditches. Arundo invasions increase flooding and siltation in natural riparian areas (DiTomaso and Healy 2007).
- The amount of water used by arundo is about three times that used by native vegetation. Large infestations of arundo can significantly increase water loss from underground aquifers. This can be very detrimental, especially in arid regions where water is sparse (DiTomaso and Healy 2007).

# Get ready: PlantRight needs resource manager support in 2008!

Cora Puliatch, Cal-IPC Outreach Coordinator

You have heard about Cal-IPC's work with the nursery trade for several years now, and we know that most of our progress has been less than obvious. But the moment is nigh when the PlantRight campaign will go public, and we need our members to play an active role in making it effective.

PlantRight works in much the same way as our Don't Plant a Pest campaign by identifying invasives still in the trade and suggesting suitable alternatives. But there is one key difference—PlantRight has the involvement and support of all major stakeholders, including a super big one: the horticultural industry. We are moving forward in agreement, which will make all the difference.

So, if you have ever been frustrated about finding a weed for sale at a nursery, here is something you can do. First, check your ornery attitude at the door. (We are working together, remember?) Second, check out the [plantright.org](http://plantright.org) website. It has lots of useful information, plus it looks nice. Read the FAQs to help expand your knowledge about the program.

But here is where the herbicide hits the pampasgrass. This winter, we need to get the



**Betsy Peterson and Bethallyn Black** demonstrate an effective interaction between a weed worker and nursery worker at a PlantRight "Bootcamp" at the Symposium.

word out to nurseries.

Although we have published articles in nursery trade magazines and sent brochures, nothing will make an impression on a nursery like having someone local contact them. On our website you will find a sample letter introducing the program to nurseries. Just put it on the letterhead of your organization or WMA and send it to local nurseries. (There is also a sample article for newsletters to help you spread the word.)

Then, next spring, we will take the campaign to the gardening public. Our Speakers Bureau will make presentations to 100 garden clubs statewide. More information on this in our next newsletter!

As resource managers with knowledge of invasive plants in your area, you play a critical role in helping the horticultural community get fired up about this issue. Let's get 'er done!

*For more information on how you can help, contact me at [cnpuliatch@cal-ipc.org](mailto:cnpuliatch@cal-ipc.org) or (510) 843-3902.*



*Funding continued from page 12...*

## Wildlife Conservation Board

The Wildlife Conservation Board (WCB) has two programs that may prove useful for funding invasive plant control projects: the California Riparian Habitat Conservation Program (CRHCP) and the Habitat Enhancement and Restoration Program (HERP). CRHCP funds removal of invasive riparian plant species and active or passive restoration of native riparian vegetation. HERP is a more general program that expands the focus of the CRHCP to include projects outside of riparian areas, such as native grasslands and forests.

If you decide to write a proposal for either WCB program, there are a number of things to keep in mind. Nonprofit organizations, local government agencies, state departments and federal agencies are eligible to receive funds, and all proposals must outline other sources of matching funds or in-kind contributions. These

programs generally do not fund studies, operation, planning, design, or other pre-construction costs. When writing a proposal to WCB, remember that they are looking for long-term success. You may want to emphasize the benefits to habitat (especially for listed species and native fish), and how the project area will interact with surrounding areas, including weed presence upstream or downstream and land use practices in adjacent areas. Both WCB programs accept proposals at any time.

With a little research and creativity, weed workers may be able to connect their projects to larger environmental concerns and increase their possibilities for funding. If your project is not a good fit for grant programs at Department of Water Resources or the Wildlife Conservation Board, you may want to look further afield for a funding source that matches your goals.

## For more information:

Wildlife Conservation Board: [www.wcb.ca.gov/](http://www.wcb.ca.gov/), or Dave Means, (916) 445-1095.

Department of Water Resources: [www.grantsloans.water.ca.gov/grants/irwml/integregio.cfm](http://www.grantsloans.water.ca.gov/grants/irwml/integregio.cfm), or Tracie Billington, (916) 651-9226, [tracieb@water.ca.gov](mailto:tracieb@water.ca.gov).

## References

DiTomaso, Joseph M. and Evelyn A. Healy. 2007. *Weeds of California and Other Western States*. Berkeley: University of California Press. Vol. 2: 1034-1039.

Gerlach, J.D. Jr. 2004. The impacts of serial land-use changes and biological invasions on soil water resources in California, USA. *Journal of Arid Environments* 57(3): 365-379.

*Do you know of other funding sources for weed projects? Let us know for future profiles!*

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*News continued from page 3...*

**of kudzu, cogongrass, and Chinese or European privet** across 11 southeastern states. <http://invasive.princeton.edu/details.html>.

Scientists discovered that European wasp species introduced by USDA as **beneficial insects in southern California also attack *Arundo donax***. "We've confirmed that *Tetramesa romana* is genetically the same as wasps back in its native Mediterranean region, so the USDA won't have to import it to control giant reed," says Tom Dudley of UC Santa Barbara. <http://news.ucanr.org/newsstorymain.cfm?story=1020>.

Governors from Idaho, Nevada, Utah and Wyoming met to plan a **campaign against cheatgrass**, which causes extensive wildfire damage across the West. *Las Vegas Review-Journal*, 8/7/07.

**"Bonfire of the Superweeds"** explores the role of buffelgrass in Sonoran Desert wildfire. *www.hcn.org*, 8/20/07.

BLM is close to finalizing a **programmatic EIS on herbicide use** for weed control over nearly 1 million acres in 17 western states. Some environmentalists have opposed the planning document, which can be viewed at [www.blm.gov/wol/st/en/prog/more/veg\\_eis.html](http://www.blm.gov/wol/st/en/prog/more/veg_eis.html). *Land Letter* 8/2/07.

**Hydrilla has reappeared at Clear Lake** after several years with no reported sightings. CDFG has treated since 1994, and anticipated the reappearance after not treating last year. *Lake County Record Bee*, 8/24/07.

The Salem Statesman-Journal has launched a series on the **invasive species threatening Oregon**, with extensive online coverage. [www.statesmanjournal.com](http://www.statesmanjournal.com).

**Yellow starthistle rust is a bust**, failing to establish substantially in most California sites, reported CDFG biocontrol specialist Dale Woods at a statewide WMA meeting in Woodland. [dwoods@cdfg.ca.gov](mailto:dwoods@cdfg.ca.gov).

A USDA study indicates that **rising carbon levels may cause weeds to increase in size and seed production**. The study also found that poison ivy produced more skin-irritating chemicals when exposed to elevated levels of carbon dioxide. *LA Times*, 7/18/07.

Increased **biodiversity in urban parks improves the mental health of park visitors**. A study using surveys of park visitors in the U.K. found that visitors could roughly gauge which parks had greater diversity of species such as birds, butterflies, and plants, and felt more at ease in places with higher biodiversity. *Biology Letters*, 5/15/07.

# New Members and Donors

*Thank you for your generous support! This list reflects new members and donors since the last newsletter.*

## New Members

Sherry Adams (Audubon Canyon Ranch, Glen Ellen), **Albert Arnal** (Agri Chemical & Supply, Oceanside), **Raquel Atik** (RECON Environmental, San Diego), **Sasha Auer** (Center for Natural Lands Management, Riverside), **Lynne Baker** (Lakeside River Park, Lakeside), **Regina Ball** (Lompoc), **Jacob Barney** (UC Davis), **Anna Bennet** (CSU San Diego), **Skyler Bishop** (San Elijo Lagoon Conservancy, Del Mar), **Dawn Calciano** (Putah Creek Council, Davis), **John Cantlon** (Dupont, Lakewood, CO), **Colleen Carr** (San Diego Co. Dept. of Agriculture, San Diego), **Nicole Cartwright** (Tahoe RCD, South Lake Tahoe), **Michelle Caruana** (Natures Image, Lake Forest), **Ian Cecena** (CA Dept. of Fish & Game, San Diego), **Enrique Chavez** (Cal-Native Plants, Menifee), **Peter Chu** (UC Berkeley), **Patrick Conant** (Hawaii Dept of Agriculture, Volcano, HI), **Jim Corbett** (Habitat West, Escondido), **Damon Corley** (ACORN, Encinitas), **Michelle Cloud-Hughes** (CSU San Diego), **Gretchen Cummings** (Cummings & Associates, Ramona), **Peter Dalin** (UC Santa Barbara), **Kimberly Davis** (San Marcos), **Steve Davison** (Midpeninsula Regional Open Space District, Los Altos), **Sara Jo Dickens** (UC Riverside), **Tom Dinn** (Nufarm Americas, Queen Creek, AZ), **Jonathan Dunn** (San Diego Zoo), **Melinda Elster** (Morro Bay), **Donna Eto** (Earthworks Restoration), **Greg Even** (Padre Dam Municipal Water District, Santee), **Scott Fegley** (Huntington Beach), **Jenny Francis** (Tahoe RCD, South Lake Tahoe), **Sergio Garcia** (UC Cooperative Extension, Hollister), **Deborah Good** (USFWS Tijuana Slough, Imperial Beach), **Quinn Gregory** (Sacramento Conservation Corps), **Jennifer Haines** (San Diego Co. Parks and Recreation), **Linda Hamel** (Caltrans, Sacramento), **Jim Harrison** (CNPS, San Diego), **Keith Haworth** (Center for Natural Lands Management, Wildomar), **Amy K. Huie** (El Cajon), **Shirley Innecken** (RECON, San Diego), **Christopher Jones** (U. of Arizona, Globe, AZ), **Matt Kedziora** (Zoological Society of San Diego, San Diego), **Beth Keer** (Oakland), **David Kelly** (Garcia & Associates, Auburn), **Bruce Kidd** (Dow AgroSciences, Murrieta), **Diane Kodama** (USFWS, Newark), **Lisa LaMond** (Nature's Image, Lake Forest), **Cara Lamoreux** (Epsilon Systems Solutions, Ridgecrest), **Janice Lavallee** (Mission Trails Regional Park, San Diego), **James Law** (Santa Ana Watershed Association, Redlands), **John Leonard** (NPS, El Portal), **Lisa Markovchick-Nicholls** (US Navy, San Diego), **John Martin**

(USFWS San Diego NWR, San Diego), **Patrick McConnell** (Center for Natural Lands Management, Fallbrook),

**David McMichael** (Orange County Water District, Corona), **John McRae** (Six Rivers National Forest, Eureka), **Michael Medina** (NAVFAC Southwest, San Diego), **Alice Miller** (Joshua Tree National Park, Twentynine Palms), **Amanda Mills** (Midpeninsula Regional Open Space District, Los Altos), **Nicole Molinari** (UC Santa Barbara), **Harry Oakes** (Jones & Stokes, Sacramento), **Andrea Poteet** (California Conservation Corps, Fortuna), **Carol Presley** (Santa Cara Valley Water District, San Jose), **Emily Prud'homme** (Mono Lake Committee, Lee Vining), **Rich Records** (Target Specialty Products), **Lori Robinson** (Nature's Image, Lake Forest), **Jeannine Ross** (RECON Environmental, San Diego), **Phillip Roullard** (CA State Parks, San Diego), **Margaret Royall** (UC Irvine), **Gary Ruyle** (RLA, San Diego), **Paul Ryan** (CA Dept. of Boating and Waterways, Sacramento), **Miriam Sachs Martin** (Acterra, San Jose), **Hillary Saunders** (Golden Gate Parks Conservancy, San Francisco), **Bo Savage** (Los Angeles Conservation Corps), **Brad Schafer** (Jones & Stokes, Sacramento), **Heather Schneider** (Riverside), **Laura Scott Sellers** (Pasadena), **Alyssa Shook** (Tahoe RCD, South Lake Tahoe), **Geoffrey, Smith** (CNPS, San Diego), **Darren Smith** (CA State Parks, San Diego), **Markus Spiegelberg** (Center for Natural Lands Management), **Cara Stafford** (Catalina Island Conservancy, Avalon), **Jiri George Strnad** (URS, Sacramento), **Catherine Stupar** (Santa Rosa Junior College, Guerneville), **Yoshi Tamagawa** (UC Santa Barbara, Goleta), **Jill Terp** (USFWS San Diego NWR, Jamul), **Carlos Torres** (USDA Forest Service, South Lake Tahoe), **Peter Trotta** (Habitat Restoration Sciences, Escondido), **Amy Trujillo** (San Elijo Lagoon Conservancy, Encinitas), **Jason van Warmerdam** (Joshua Tree National Park, Twentynine Palms), **Melanie Vanderhoof** (Environmental Science Associates, Oakland), **Zach Vickers** (La Jolla), **George Vurlitis** (CSU San Marcos), **Matt Wacker** (MALT, Pt. Reyes Station), **Kyle Washburn** (Washburn Grove Management Inc., Hemet), **Ryan West** (RECON Native Plants, San Diego), **Teague Weybright** (Los Angeles Conservation Corps), **Brittany Woiderski** (El Portal), **Frank Wong** (UC Riverside), **Leslie Woolenweber** (San Dieguito River Valley Conservancy, San Diego)

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*Ravennagrass continued from page 5...*

now considered rare throughout the canyon. This is a remarkable effort, given the size of mature plants and that herbicides were purportedly not used.

Clearly, a cooperative regional effort between federal, state, and county entities as well as concerned landowners is needed to address the issue of spreading ravennagrass along Cache Creek, as it will continue to expand in the watershed without concerted control efforts. Moreover, it could easily move into the Sacramento River and Bay-Delta system.

To date, no control work has been done in the upper watershed in Lake County, although major efforts are underway along Cache Creek in Rumsey Canyon and Capay Valley in Yolo County. Along lower Cache Creek, control efforts were first initiated by John Watson, recipient of Cal-IPC's 2006 "Golden Weed Wrench Land Manager of the Year" award, who started work on this weed back in 2001. He has found that a 3% glyphosate formulation sprayed in late summer-early fall has proved effective in killing plants.

Last fall, the Yolo County Resource Conservation District, in cooperation with Yolo County Parks, private landowners, and contractors Joe Muller & Sons, working with a grant from the state Wildlife Conservation Board, began control efforts on parklands and several private ownerships. This work is continuing this year as part of a

larger, long-term program that also includes work on other invasive plants. Special efforts are made to avoid non-target plants through careful herbicide applications, aided by flagging non-target plants and using highly trained crews.

Unfortunately, decisions about controlling wildland weeds along waterways are not always straightforward. Generally, it is advisable to begin work upstream at the source and move downstream from there. This raises questions about the long-term effectiveness of the control program on Cache Creek since efforts began in the lower sections of the creek, and ravennagrass will continue to re-colonize downstream sites. Yet, the precise source location has yet to be identified and much of the upper creek infestations occur in remote areas on BLM property. As awareness of this plant grows and better location information is obtained in Lake County, we hope that control programs will be initiated in this upper watershed.

At this juncture, practitioners think that downstream control efforts are warranted, provided that follow-up measures are included to eliminate seedlings that might re-establish in future years. Moreover, in many sites, infestations are at low levels where effective containment measures could be accomplished at a relatively low cost. The alternative is to stand back and witness a further degradation of Cache Creek's biologically-rich native plant communities.



**Jose Luis Berber** and Salvador Hernandez of Muller & Sons treat ravennagrass with herbicide. *Photo by Tanya Meyer.*

We encourage Cal-IPC's members to learn to distinguish this plant from pampasgrass, and to be on the lookout for ravennagrass in other wetland areas around the state.

*Contact the authors at [cdthomsen@ucdavis.edu](mailto:cdthomsen@ucdavis.edu) and [meyer@yolorcd.org](mailto:meyer@yolorcd.org).*



**Sean Kenady**, Yolo RCD, roped in to work on a steep infested hillside above Cache Creek. *Photo by Tanya Meyer.*

# Readings & Resources...

## **Dodder Website**

Japanese dodder is a parasitic plant recently found in several California counties. A new website has information on identifying and reporting this pest. [www.dodder.org](http://www.dodder.org)

## **Environmental Science News**

Environmental Research Web includes news and opinion on a wide range of topics including climate change, biodiversity, renewable energy, pollution, economics, environmental legislation, health issues and sustainability. <http://environmentalresearchweb.org>

## **Aquatic Plant ID Key**

Careless disposal of aquarium plants is believed to be responsible for many of their escapes into natural habitat. The USDA with CDE and North Carolina State University has developed a key to help quarantine inspectors and local land managers correctly identify aquarium and pond plants of the world. Order the free CD at [www.lucidcentral.org](http://www.lucidcentral.org)

## **Expert Directory**

The Aquatic Nuisance Species Task Force website is building a directory that will provide access to experts on taxonomic identification as well as other aspects of ANS prevention and control. The directory is currently limited to the main state contacts, but these individuals can provide information on specific experts as needed. [www.anstaskforce.gov](http://www.anstaskforce.gov)

## **Eurasian Watermilfoil Activity Book**

A new book uses activities and coloring pages to explain the effects of Eurasian watermilfoil. Designed for elementary school children. \$2.00 each. [www.invasiveplants-edu-book.com/](http://www.invasiveplants-edu-book.com/)

## **Economic Research Report**

The USDA Economic Research Service has published a report describing research undertaken from 2003-2006 on the economics of invasive species management. [www.ers.usda.gov/Publications/AP/ap021/](http://www.ers.usda.gov/Publications/AP/ap021/)

## **Prevention Report**

The Nature Conservancy's Global Forest Partnership has published a report

entitled, "An ounce of prevention: How to stop invasive insects and diseases from devastating U.S. forests." [www.nature.org/initiatives/forests/files/ounceofpreventionsingle1.pdf](http://www.nature.org/initiatives/forests/files/ounceofpreventionsingle1.pdf)

## **Native Plant Posters**

Teachers, students and those working for or with natural resource agencies may receive two educational posters free when they buy two from Good Nature Publishing. Posters feature native plants and animals, invasive plants and botanical art. [www.goodnaturepublishing.com/offer.htm](http://www.goodnaturepublishing.com/offer.htm)

## **Online Permit Guide**

The Sacramento River Watershed Program has posted an Interactive Online Creek Restoration Permit Assistance Guide to step the user through the process and provides example projects to help the user understand what types of permits apply to various situations. [www.srup.org/watershed/permitguide](http://www.srup.org/watershed/permitguide).

## **EDRR Report**

The Environmental law Institute has released a report reviewing state-by-state early detection/rapid response activities for invasive species management. [www.elistore.org/reports\\_detail.asp?ID=11223](http://www.elistore.org/reports_detail.asp?ID=11223)

## **Online Ecology Reference**

Scientists have long complained about the poor understanding of science by the public and key policy makers. Earth Portal, a new project by the Ecological Society of America, provides free, timely, objective, science-based information about the environment from a global community of experts. [www.EarthPortal.org](http://www.EarthPortal.org)

## **Oregon Weed Mapping Website**

WeedMapper is a collection of spatial information on the distribution of weeds in the state of Oregon. Maps viewable at the state or county level. [www.weedmapper.org](http://www.weedmapper.org)

## **Monitoring Library**

The Monitoring Protocol Library is a searchable database of monitoring protocols and resource assessment methodologies. The Monitoring "Locator" allows users to identify what natural resource monitoring

is being conducted within a particular area. Users can learn about ongoing and historic monitoring according to the scales, targets and objectives that are of interest to them. <http://nrmp.nbii.gov/portallserver.pt>

## **Animal Import Report**

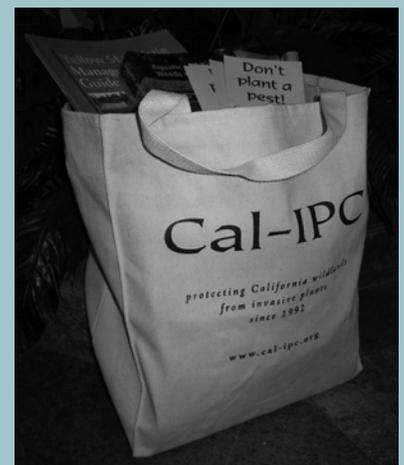
Defenders of Wildlife released "Broken Screens: The Regulation of Live Animal Imports in the United States," detailing the proactive steps that federal agencies charged with overseeing wildlife trade could and should take to reduce our risk. It is the most detailed analysis ever done of this trade. [www.defenders.org/animalimports](http://www.defenders.org/animalimports)

## **Roadside Weed Book**

The Federal Highway Administration in partnership with the Environmental Protection Agency and Natural Resources Conservation Service has published *Roadside Weed Management*, a sequel reference to the 1999 Roadside Use of Native Plants. Order a free copy by faxing your request for Pub. No. FHWA-HEP-07-017 to (301) 386-5394, Attn: Johnny Booze.

## **New Cal-IPC Gear!**

New this year! Cal-IPC canvas grocery tote for all your shopping and carrying adventures. And the classic, super stylish Cal-IPC short-sleeved t-shirts are available in white, sage green, and navy blue. Order at [cal-ipc.org](http://cal-ipc.org) or give us a call!



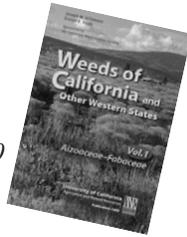
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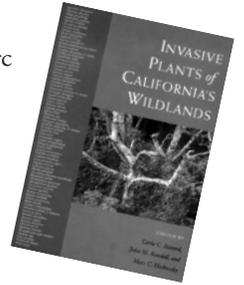
Joseph DiTomaso and Evelyn Healy  
UC Agriculture & Natural Resources, 2006  
*Identification guide to 750 weed species, with 3000 color photos. Detailed descriptions of morphology and biology. Includes a CD-ROM with all photos.*  
**\$103.00**



## Invasive Plants of California's Wildlands

Carla C. Bossard, John M. Randall and Marc C. Hoshovsky, Eds. University of California Press, 2000

*Biology and control information on 70 of the state's worst wildland weeds. Maps, photos, illustrations.* 360 pp. **\$25.00**



## Aquatic and Riparian Weeds of the West

Joseph DiTomaso and Evelyn Healy  
UC Agriculture & Natural Resources, 2003  
*Comprehensive identification guide to the West's riparian weeds. Photos, identification keys.* 440 pp.  
**\$40.00**



## The Weed Workers' Handbook

Cal-IPC and The Watershed Project, 2004

*Biology and control information on 25 SF Bay Area wildland weeds, plus background on organizing local projects.* Illustrations. 120 pp. **\$8.00**



## Grass and Grass-like Weeds of California

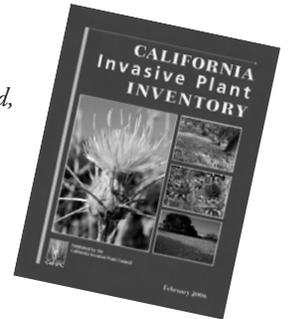
Joseph M. DiTomaso. California Weeds, 2004  
*Menu-driven CD-ROM identification guide to more than 200 invasive grasses and native perennials used in restoration. Requires Windows 95 or higher, 650 MB free hard-drive space.*  
**\$30.00**



## California Invasive Plant Inventory

Cal-IPC, 2006

*Summarizes the impacts, potential for spread, and distribution of more than 200 non-native plants that invade wildlands in California.* 39 pp. **Currently out of print.**  
*Online pdf at [www.cal-ipc.org](http://www.cal-ipc.org).*



## Broadleaf Weeds of California

Joseph M. DiTomaso. California Weeds, 2006

*Expert computer-based identification guide to 722 broadleaf weeds of California. Requires Windows 95 or higher.* **\$37.00**  
*Buy both CD-ROMs for \$60.00*



## The Use of Fire as a Tool for Controlling Invasive Plants

Joseph M. DiTomaso and Douglas W. Johnson, Eds., 2006

*Captures current state of knowledge on the use of fire to manage invasive plants in wildlands.* 49 pp. **\$5.00**



## Don't Plant a Pest! brochures

*Wildland-safe alternatives to invasive plants sold at nurseries. 14 panels. Choose: San Francisco Bay Area, Southern California, Central Coast, Central Valley, Aquatic Plants in California, or Trees in California. Central Valley and new Aquatic Plants of California are **free**. Otherwise, \$22.99/100 brochures [up to 10 free]*



## Yellow Starthistle Management Guide

Joseph M. DiTomaso, Guy B. Kyser, and Michael J. Pitcairn, 2006.

*Comprehensive overview of treatment methods for yellow starthistle.* Approx. 78 pp. **\$5.00**



## Biological Pollution brochure

*Describes ecological and economic impacts of invasive plants in California for a general audience. Tri-fold.* **\$12.00/100 brochures [up to 10 free]**



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# The WILDLAND WEED CALENDAR

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## 2008 Cal-IPC Wildland Weed Field Courses

### Basic Control *and* Weed ID (on consecutive days)

April.....*Santa Barbara*  
May.....*Tahoe*  
June.....*San Diego*  
July.....*SF Bay Area*

### Advanced Revegetation

October 1.....*Chico*  
(day before Symposium)

### Mapping

November.....*Bay Area*

The final schedule for 2008 field courses will be posted on the Cal-IPC website ([www.cal-ipc.org](http://www.cal-ipc.org)) in early 2008. For more information on field courses, contact Cora Puliatch at [cpuliatch@cal-ipc.org](mailto:cpuliatch@cal-ipc.org) or 510-843-3902.

### California Association of RCDs Annual Conference

**November 7-10, 2007**  
Rancho Cordova, California  
[www.carcd.org](http://www.carcd.org)

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### Monterey "War on Weeds" Conference

**November 16, 2007**  
CSU Monterey Bay  
<http://watershed.csUMB.edu/wil/>

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### Northern California Botanists Symposium

**January 14-15, 2008**  
CSU Chico  
[csuchico.edu/biol/Herb/norcalbot/index.htm](http://csuchico.edu/biol/Herb/norcalbot/index.htm)

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### California Biodiversity Council Meeting on California Wildlife Action Plan

**January 22**  
Sacramento, California  
<http://biodiversity.ca.gov/meetings.html>

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### Bay-Friendly Landscape and Gardening Conference

**February 29, 2008**  
UC Berkeley  
[www.stopwaste.org/homel/index.asp?page=787](http://www.stopwaste.org/homel/index.asp?page=787)

### Weed Science Society of America Annual Conference

**February 4-7, 2008**  
Chicago, Illinois  
[www.wssa.net](http://www.wssa.net)

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### National Invasive Weeds Awareness Week

**February 24-29, 2008**  
Washington, DC  
Weed workers from across the U.S. come to the Capitol to discuss invasive plant policy with federal agencies and Congress. If you are interested in going as part of the California contingent, contact Cal-IPC. [www.nawma.org/niwaw/niwaw\\_index.htm](http://www.nawma.org/niwaw/niwaw_index.htm)

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### California Invasive Weeds Day at the Capitol

**March 12, 2008**  
Sacramento, CA

Join weed workers from around the state to visit legislators in support of WMA funding and other issues. Co-sponsored by Cal-IPC. We encourage all members to consider attending—the event has grown stronger every year. [www.cal-ipc.org/policy/state/ciwad.php](http://www.cal-ipc.org/policy/state/ciwad.php)

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### Western Society of Weed Science Annual Conference

**March 11-13, 2008**  
plus special *Arundo & Phragmites* Symposium

**March 13-14, 2008**  
Anaheim, California  
[www.wsweedscience.org](http://www.wsweedscience.org)

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### National WMA Conference

**April 15-17, 2008**  
Reno, Nevada  
[cipm@montana.edu](mailto:cipm@montana.edu)

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### Weeds Across Borders Biennial Conference

**May 27-30, 2008**  
Banff, Alberta, Canada  
[www.nawma.org](http://www.nawma.org)

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## Quotable

“It’s the tiger salamander  
And the red-legged frog  
Yellow-legged frog  
And all the legged frogs

For it’s them that I love  
And it’s them that I owe  
For it’s their getting by  
That’s my getting by.”

*Bruce Delgado, from the original song he performed acapella at the 2007 Cal-IPC Symposium upon receiving the 2007 Golden Weed Wrench Award.*

“It gets in the water hyacinth and it hides, like it’s a thinking animal.”

*Mike Turner, Caddo Lake, Texas, on giant salvinia. New York Times, July 30, 2007*

# 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 beyond regular membership rates are tax deductible. **Join or donate online at [www.cal-ipc.org](http://www.cal-ipc.org).**

## 2008 Individual Membership

- Regular \$35
- Family \$60
- Contributing \$75
- Life \$1,000
- Joint Cal-IPC/SERCAL \$60
- Joint Cal-IPC/CNGA \$70
- Cal-IPC/SERCAL/CNGA \$100
- Student/Volunteer \$15

## 2008 Institutional Membership

- Regular \$150
- Small company or nonprofit \$100

## Donations

- for Cal-IPC programs: \$ \_\_\_\_\_
- for Cape Ivy Biocontrol: \$ \_\_\_\_\_
- (info online at [cal-ipc.org](http://cal-ipc.org))

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

Fax form with credit card info to 510/217-3500, or...

Phone us at 510/843-3902 with contact and credit card info.

- 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 our members' addresses with like-minded organizations. Check here if you *do not* want your information shared.

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Affiliation \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_

E-mail \_\_\_\_\_

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Invasive Plant  
Council

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