



Cal-IPC News

*Protecting California's Natural Areas
from Wildland Weeds*

Vol. 14, No. 2 Summer 2006 Quarterly Newsletter of the California Invasive Plant Council



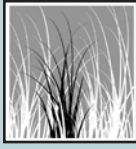
HAVE YOU SEEN THIS PLANT? "STRANGLEWEED" GRABS ATTENTION

Japanese dodder (Cuscuta japonica), also called strangleweed, parasitizes other vegetation, and has been reported recently from several counties in California. Story page 4.

Photo: Robin Breckenridge, CA Dept. of Food & Agriculture

Inside:

Weed Alert! Japanese dodder	4
Nursery group signs Codes of Conduct	5
2006 Symposium in Sonoma County	6
State WMA funding renewed	9



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A California 501(c)(3) nonprofit organization
Protecting California's natural areas
from wildland weeds through
research, restoration, and education.

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Cal-IPC News

Summer 2006 - Volume 14, Number 2

Editors: Doug Johnson and Elizabeth Brusati

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From the Director's Desk

Good news on multiple fronts

This summer has brought good news to California weed workers on several fronts. First, the state legislature renewed funding to the Weed Management Area program. This funding not only results in local weed control on the ground, it also brings diverse stakeholders together to do it.

Second, the California Association of Nurseries and Garden Centers (CANGC) took the major step of signing onto the Codes of Conduct developed through the so-called St. Louis accords. This acknowledges the key role nurseries have to play in keeping invasive plants out of horticulture. CANGC is an active participant in the ongoing work through the California Horticultural Invasives Prevention partnership, and their members will be key in making changes in the trade.

Both of these stories are reported in this issue of *Cal-IPC News*. Meanwhile, thanks to generous funding from the Resources Legacy Foundation's Preserving Wild California campaign, Cal-IPC has hired a new staffperson. Melissa Dozier joins us from the Olympic Park Institute in Washington state, where she conducted environmental education programs. As our Outreach Associate, she will be focusing on expanding the field course offerings and communicating with WMAs and regional partners statewide. We are thrilled to have her.

Over the last two years, Gina Darin (née Skurka) has laid a lot of the groundwork for this position, and we are incredibly grateful. We wish her all the best in her graduate work at UC Davis with Joe DiTomaso, and congratulate her on her recent wedding.



Cal-IPC's new Outreach Associate, Melissa Dozier

Not all news has been good this summer. The cover story on Japanese dodder reminds us that new weeds continue to find a foothold in California. The silver lining—we have an increasingly alert network to catch new invasions early before they get out of control. Not all invasives are quite as conspicuous as this bright yellow sap-sucking mass of spaghetti, though. Those working on early detection—the topic for the October 4 field course—have got their hands on one of our most important challenges.

Fires have taken their toll on wildlands this summer, too. Stories in newspapers including the *Los Angeles Times* have picked up on the role that invasive grasses can play in creating continuous fuels in desert habitats whose native cover is typically more spotty. Though it is difficult to isolate the impact of invasive plants in altered wildfire regimes, it is clearly a significant factor. Discussion about reducing fuels in the East Bay hills in order to prevent another major fire focuses on how to control blue gum eucalyptus and scotch broom.

And as extreme weather events push us ever closer to acknowledging the probability of irreversible (at least in the near term) climate change, we must begin to explore how these changes may further aid the spread of invasive plants.

All of these topics are ripe for research to guide management. Bridging research and management is at the core of Cal-IPC's mission, and we have chosen that very topic as the theme of this year's Symposium, our 15th. We hope you can join us in Sonoma County, and we look forward to more years of supporting the great work all of you do as part of the community of weed workers.

Wildland Weed NewsNewsNewsNewsNews

Caulerpa taxifolia, the so-called “killer algae” that invaded Agua Hedionda Lagoon and Huntington Harbor in Southern California, has been **declared officially eradicated** by the Southern California Caulerpa Action Team. The seaweed was first found in 2000. State legislation passed in 2001 made it illegal to sell, possess, or transfer *Caulerpa taxifolia* and eight other similar-looking *Caulerpa* species in California. In other parts of the world, especially the Mediterranean Sea, *Caulerpa taxifolia* has rapidly displaced native marine plants and animals.

www.sccat.net

Yellow starthistle has invaded more than 14.3 million of California’s 101 million acres, making it by far the fastest-spreading and most-invasive nonnative plant the state has ever seen. Researchers at the CA Dept. of Food and Agriculture and UC Davis found an **increase in infested acreage from 7.9 million to 14.3 million acres between 1985 and 2002**. The article includes a county-by-county table of yellow starthistle infestation levels. The first record of yellow starthistle in California was made in Oakland in 1869, and it was subsequently introduced many times as a contaminant of alfalfa seed. It spread slowly until the 1960s, when the rate of infestation began to increase. *California Agriculture, April-June 2006*, <http://californiaagriculture.ucop.edu>

Two new weeds have been detected in **Santa Barbara County**. *Carthamus baeticus* (smooth distaff thistle), a state-rated B noxious weed, was found in the Santa Lucia Ranger District of Los Padres National Forest. *Mentha pulegium* (pennyroyal) was found near Los Berros Creek in Lompoc. www.countyofsb.org/agcomm/WMA.htm

State Assembly Bill 984 (Laird), which would authorize a program for the **control of tamarisk in the Colorado River basin**, has passed the state Senate and now moves to the Senate Appropriations Committee. The bill would authorize the Dept. of Water Resources (DWR), to cooperate with other agencies within and outside California in the development of a tamarisk control program throughout the Colorado River Basin. This bill addresses the Governor’s concerns with a similar bill that he vetoed last year (AB 1466) by only granting

Important Cal-IPC Reminders:

SYMPOSIUM HOTEL REGISTRATION - Our room block at the Double Tree - Sonoma Wine Country is reserved until September 1, after which our conference rate of \$84 is no longer guaranteed. Normal fall rates there are upwards of \$200. Make your arrangements soon!

INVENTORY RECOMMENDATIONS - If you have additional information on a plant for the Inventory, please submit it online at cal-ipc.org before January 1. The Review Committee will update the Inventory based on your input.

BOARD BALLOT AND BYLAWS REVISION - We encourage all members to return their ballot for electing directors and ratifying the revised bylaws and Articles of Incorporation. The mailing sent to you gives background on the need for updating these documents.

UPDATES: New Don’t Plant a Pest! brochures will soon be ready for the Central Valley, Sierra Foothills, and Tahoe Basin regions... Regional landscaping alternatives information has been added to our website... CalWeedTalk and CalWeedJobs listservs have been increasingly active—sign-up instructions are at cal-ipc.org.

authority, rather than a mandate (which could require new funding), to establish a program upon appropriation of federal funding. <http://lleginfo.ca.gov/bilinfo.html>

A pilot project near Point Reyes has had success **teaching cows to eat distaff thistle and Italian thistle** by training them with weeds sprayed with molasses. Heifers at two ranches were trained to eat thistles this May. Research plots will be established to track the results of the training and the impact on thistle control. www.livestockforlandscapes.com/cowsweeds.htm

Scientists have found that **garlic mustard** (*Alliaria petiolata*), an invasive weed that has spread across much of the U.S., harms native maples, ashes, and other hardwood trees by **releasing chemicals harmful to a soil fungus the trees depend on** for growth and survival. Garlic mustard targets arbuscular mycorrhizal fungi, which form mutually beneficial relationships with many forest trees. *PLOS-Biology, May 2006*. biology.plosjournals.org

Researchers have developed an **economic model to address when managers should**

stop looking for regrowth of populations of invasive plants they’ve eradicated. Their theory determines the number of years of surveys with no detected plants that are required to minimize the net expected cost. Given that detection of a species is imperfect, the optimal stopping time is a trade-off between the cost of continued surveying and the cost of escape and damage if eradication is declared too soon. *Ecology Letters, July 2006*

Agricultural inspections at ports have declined since the formation of the Department of Homeland Security in 2003. For instance, inspectors in San Francisco now examine 19% of cargo shipments, compared to 40% in 2003. Inspectors check for noxious weeds and plant pests, among other agricultural problems. *Sacramento Bee, May 23, 2006*.

In June, the State of Nevada added *Arundo donax* (giant reed) and *Brassica tournefortii* (Saharan mustard) to its Noxious Weed List. http://agri.state.nv.us/PLANT_NoxWeeds_index.htm

Watch out for Japanese dodder!

Japanese dodder (*Cuscuta japonica*, Family Cuscutaceae) is a parasitic plant that entwines itself in the branches of trees and shrubs, sucking the life out of them as it grows up to six inches per day. It is a new invasive species in California with the potential to cause serious harm to both native and ornamental plants. County agricultural departments and the California Department of Food and Agriculture need your help to detect new infestations.

Although it has been found in only a few counties in California so far, this species is raising alarm based on its behavior in other states. It is on the Federal Noxious Weed List and now rated as an "A" noxious weed by the State of California. Japanese dodder was first detected in Redding in 2004, then Yuba County in 2005. This year, it has been found in Alameda, Contra Costa, Fresno, Los Angeles, and Sacramento Counties. Sacramento County alone contains at least 44 known locations of dodder. Species infested in California include California buckeye, California live oak, cypress, elderberry, pittosporum, native plum, native willows, roses, sweet potatoes, thornless blackberry, and fruit trees. Japanese dodder also parasitizes trees in Texas, South Carolina, and Florida. In southern Texas, Japanese dodder attacks 20 species of ornamental trees and shrubs, including crape myrtle. Where seeds are produced, they can remain dormant in the soil for 10 to 20 years.

Japanese dodder uses nutrients from the trees it parasitizes because it lacks chlorophyll that other plants use to produce energy by photosynthesis. Japanese dodder resembles masses of yellow spaghetti tangled in broadleaf trees and shrubs. The tendrils work their way into the limbs of

infested trees with root-like structures called haustoria that remove water and nutrients, weakening the tree. This action explains its other common names of devil's hair, devil's

been found producing seed in California.

Several native species of *Cuscuta* also grow in California, but there are several important differences between these dodders and Japanese dodder. Native *Cuscuta* normally occurs in wildlands or crops, including salt marshes, tomato, and alfalfa fields, while Japanese dodder has been found in residential areas. According to Dr. Tom Lanini at UC Davis, Japanese dodder is thicker than the native dodders, with vines that reach 2mm. Japanese dodder infestations can cover entire trees, while native dodders are typically much smaller. Native dodders are orange in color.

While agricultural officials do not know how Japanese dodder reached California, the plant is commonly used in traditional Asian medicine. Dodder seed and teas are used to promote health and to treat a multitude of afflictions. County agricultural officials in Sacramento are meeting with members of the Hmong immigrant community, who may plant dodder for medicinal purposes. Cultural outreach will be essential in efforts to control continued introductions of the plant.

It is legal to import sterilized dodder seed. Viable seed is subject to USDA quarantine, but such quarantines are not easy to enforce, and sampling has found that up to half of the seed on the

market is viable.

Controlling Japanese dodder requires drastic action, often the complete removal of the infested tree. Fragments of the haustoria that remain in the host plant after dodder is removed can regrow and cause a new infestation. Several years of control work may be required to completely remove dodder from an infested location. The Contra Costa County Department of

What does it look like?

- Vibrant yellow-green to gold leafless vine.
- Robust, round, twining stems that are fleshy and/or stout (1 – 3 mm in diameter), possibly with small red to purplish spots. Mature stems are comparable in size to cooked spaghetti.
- Unlikely to have flowers (normal flowering season is August – October). If flowers are present, they will be small (3-7mm), sessile, pale yellow to cream colored, in short, dense axillary spikes.
- Infestations often large, spreading, and web-like. Frequently covers large shrubs and small trees.
- Unlikely to be found in desert or high-altitude locations.

Information from CA Department of Food & Agriculture, www.cdffa.ca.gov/phpps/ipc/noxweedinfo/noxweedinfo_jap_dodder.htm

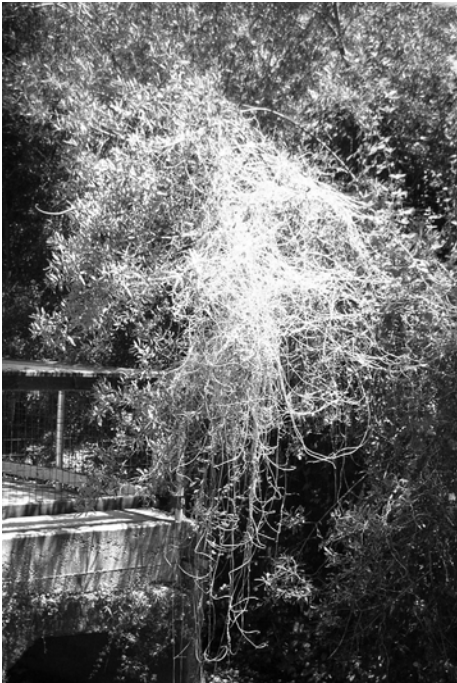


Japanese dodder tendrils resemble yellow spaghetti.

Photo: Dave Wilson, Sacramento Co. Dept. of Agriculture

guts, and strangleweed. The dense tangle of vines inhibits birds or other wildlife from using the infested trees.

Dodder can spread by fragmentation. Vince Guise, Deputy Chief Agricultural Commissioner for Contra Costa County, suspects that birds may have spread dodder while using the strands for nesting material. Dodder produces small white flowers, and spreads by seed in other states, but has not



Above: Japanese dodder along Cerrito Creek on the border of Alameda and Contra Costa Counties.

Right: Tendrils of Japanese dodder on an infested plant. *Photos: Brenda Grewell, USDA-ARS*

Agriculture removed several trees this spring, including a 20-foot tall apple tree. Other trees, including an elderberry, were partially removed because the dodder had infested only part of the canopy.

State and county officials need your help to detect new infestations. Keep your eyes open while hiking and even walking through your neighborhood, especially if you live in one of the counties currently known to contain Japanese dodder. While two of the Contra Costa sites were discovered by county agriculture detection specialists, three others were found through creek volunteers, and one by a reporter. In Sacramento, numerous reports were filed after a newspaper story.

Officials recommend that you contact your county agriculture department if you



find a suspected infestation of Japanese dodder. Do not remove the infestation yourself or treat it with herbicides, which are likely to kill the host plant. Tell local officials the location of the infestation as precisely as possible, including street address and species of host plant.

For more information:

1. Summary of dodder biology, concerns, and management by C. Markham, revised by R. Marushia. California Department of Food and Agriculture. www.cdffa.ca.gov/plbpps/ipc/noxweedinfo/pdfs/jap_dodder_summary.pdf
2. Contra Costa County Department of Agriculture, www.co.contra-costa.ca.us/department/agriculture/dodder.html
3. Friends of Five Creeks, Contra Costa County, www.fivecreeks.org
4. Sacramento County Department of Agriculture, fact sheet and media release, www.saccounty.net/agcomm
5. "New tangle in bid to wipe out invasive vine." E. Fletcher, *Sacramento Bee*, July 12, 2006. www.sacbee.com

CA nursery association signs invasive species "Codes of Conduct"

In March, the Board of Directors of the California Association of Nurseries and Garden Centers (CANGC) unanimously approved voluntary codes of conduct that nursery professionals can follow to prevent aggressive garden plants from invading wildlands and open spaces. The St. Louis Codes of Conduct, developed during a 2001 workshop at the Missouri Botanical Garden, includes codes of conduct for government, nursery professionals, the gardening public, landscape architects, and botanic gardens and arboreta.

The codes for conduct by nursery professionals include: assessing invasiveness of new plant species being developed for the horticultural market; working with regional experts to determine which species are or might become invasive; developing and promoting alternative, non-invasive plants; phasing out stocks of species known to be invasive in a particular region; following all laws on importation

and quarantine of plant materials; encouraging customers to choose non-invasive plants; and encouraging garden writers to promote non-invasive plants. CANGC joins 41 other organizations that have endorsed the Codes. These include the American Nursery and Landscape Association, American Society of Landscape Architects, American Public Gardens Association, and The Garden Club of America.

According to CANGC's Executive Vice President, Bob Falconer, "By adopting the St. Louis Voluntary Codes of Conduct, the California Association of Nurseries and Garden Centers engages 1,200 member companies in the effort to stop the spread of invasive plants. Nurseries can play an important role by choosing not to grow invasive species and choosing instead to promote alternative plants that don't cause problems in local ecosystems." CANGC's membership includes companies representing grower and retail nurseries, businesses allied with the lawn and

garden industry, horticulture students, researchers, colleges, and garden writers.

CANGC is one of the partners in the California Horticultural Invasives Partnership (Cal-HIP), which includes Cal-IPC, Sustainable Conservation, The Nature Conservancy, and representatives from the horticultural community. (The project was profiled in the Summer 2005 *Cal-IPC News*, with an update in Spring 2006.) "CANGC is a highly visible organization that has set a trend for other industry groups around the country to follow," said Terri Kempton, Project Manager of Cal-HIP. "Their commitment to fight the spread of invasive plants shows that the horticulture industry can be an environmentally responsible 'green' industry."

For more information on CANGC, visit www.cangc.org. To learn about the St. Louis Codes of Conduct, visit www.centerforplantconservation.org.

Research and Management: Bridging the Gap

OCTOBER 5-7, 2006. FIELD COURSE OCTOBER 4.

SONOMA WINE COUNTRY DOUBLETREE HOTEL, ROHNERT PARK, CA

EARLY REGISTRATION: \$225 BY SEPTEMBER 1

FULL PROGRAM, ONLINE REGISTRATION, AND ADDITIONAL INFORMATION AVAILABLE AT
WWW.CAL-IPC.ORG/SYMPOSIA

It's weeds in the Wine Country at this year's Symposium!

The Cal-IPC Symposium is the ideal place to learn the latest in invasive plant biology, management, and policy from researchers and practitioners working around the state. Invited speakers, contributed papers, working groups, field trips, posters, and trade exhibits make the Symposium the most comprehensive overview of wildland weed work in California. Join us for our 15th Annual Symposium!

Solving California's invasive plant crisis requires rapid translation of research results into management actions. In addition, natural resource managers are often the first to identify important questions that become compelling research topics. This year's Symposium explores commonalities and conflicts at the interface of research and management, with invited speakers from both realms. A special panel discussion will bring to light valuable perspectives on the future directions of research and management.

Keynote Speaker

- Ruth Coleman, Director, California State Parks

Special Panel Invitees

- Joe DiTomaso, UC Davis
- John Randall, The Nature Conservancy
- Carla Bossard, St. Mary's College of CA

Invitees will join speakers from the research and management sessions on the panel.

Contributed Paper Sessions

- Riparian and Aquatic Invasives
- Management & Economic Impacts
- Early Detection
- Restoration
- *Spartina* and *Lepidium*

Invited Speakers

Research:

- Peter Holloran, UC Santa Cruz
- Jodie Holt, UC Riverside
- Catherine Parks, US Forest Service

Management:

- Sharon Farrell, Golden Gate National Recreation Area
- Mike Kelly, Friends of Peñasquitos Canyon Preserve
- Janet Klein, Marin Municipal Water District
- Jaymee Marty, The Nature Conservancy

Laws & Regs:

- Courtney Albrecht, CA Dept. of Food & Agriculture
- Bill Cox, CA Dept. of Fish & Game
- Bruce McArthur, Sonoma County Agricultural Commissioner's Office
- Rachel O'Malley, San Jose State Univ.

Working and Discussion Groups

A traditional part of the Symposium, these groups allow attendees to discuss important topics and help Cal-IPC board members plan strategy for new and ongoing projects.

Working Groups:

- Mapping: Forming the California Weed Mapping Consortium
- Outreach: Spreading the Word through the Cal-IPC Speakers' Bureau
- Horticulture: Starting a Local Nursery Program
- Government Affairs: Developing Local Weed Legislation

Discussion Groups:

- Herbicides: Environmental Impact and Regulatory Challenges
- Management Techniques: New Info on Old Weeds
- New Weeds: What's Coming Your Way



Studying invasive *Ludwigia* in the Laguna de Santa Rosa. Photo: Terry Hershey.

Oct. 4 Field Course: *Tools for Early Detection*

To follow up on last year's popular field course the day before the Symposium, we will offer a one-day course on **Wednesday, October 4** at **Audubon Canyon Ranch's Bouverie Preserve** near Sonoma. "Tools for Early Detection" will give participants information for planning an early detection program.

Topics

- General biology and identification
- Voucher preparation
- Sampling techniques
- Data recording and management
- Question and answer session: how to make your early detection program work

A detailed agenda will be posted at www.cal-ipc.org/fieldcourses. You may attend the field course without attending the Symposium. Last year's course sold out; we encourage early registration. **Registration:** \$125 with Symposium registration; \$145 if not attending Symposium. Registrants receive membership (new or renewed) for 2007.

7 hours DPR credit for PCA continuing education are pending.



Last year's attendees beneath the trees in Chico. *Photo: Bob Case.*

Saturday Field Trips

- Kayaking the Laguna de Santa Rosa (limited to 15 participants- almost full at press time)
- San Pablo Baylands
- Marin Municipal Water District/ Mt. Tamalpais Watershed
- Golden Gate National Recreation Area

Plus...

Poster and Vendor Exhibits, Weed Alerts, Awards, introduction of new board members, raffle and auction, and all the networking you can take!

Credits for Licensed Applicators

We have applied to DPR for 2 hrs Laws and Regs credit, 12 hrs general credit for sessions, and 4 hrs credit for field trips.

Location

The Sonoma DoubleTree Hotel is located off Highway 101 in Rohnert Park, Sonoma County (www.dtsonoma.com, 707-584-5466). A discounted room rate of \$84/night is available for reservations made by September 1. Shuttle service is available from the San Francisco and Oakland airports. Free parking is available at the DoubleTree. Directions and a list of attractions in the Sonoma Valley are posted at www.cal-ipc.org/symposia.

Symposium Raffle and Auction

We'll lighten things up Thursday night at the Awards Banquet with a raffle and auction. A wide range of goodies will be up for grabs, from the practical to the eclectic. All are invited to donate fun, useful, beautiful, or bizarre items (please contact Marla Knight, maknight@fs.fed.us or 530-468-1238). Creativity is encouraged—weedy items that you've made are most welcome! Donation ideas include, but are not limited to:

- Weed arts and crafts * Weed removal and restoration tools
- Books, handbooks, field guides * Posters or artwork
- Recreational clothes, gear, and supplies * Trips and classes



Photo Contest

Deadline: September 1
Instructions for submissions:
www.cal-ipc.org/symposia

The winners of this year's 3rd Annual Photo Contest will be on display at the Symposium. Submit your entries by September 1 following instructions at www.cal-ipc.org/symposia. Categories include: Landscape, Specimen, Impacts, Before & After, Weed Workers, and Humor.

At left, "Cape Ivy Goddess" models one of the invasive plants attendees will see on the Golden Gate National Recreation Area field trip. *Photo: Jim Bromberg, Pt. Reyes Nat'l Seashore, 3rd place Humor, 2005.*

It's done! Next steps for the Inventory...

Joanna Clines, Inventory Committee Chair

After four years of hard work, the 2006 Cal-IPC Invasive Plant Inventory was printed and posted on the website in February, then distributed to members with the last newsletter. The Inventory was the culmination of countless hours by the Inventory Review Committee, Cal-IPC staff, board members, and many volunteers. It serves as a starting point for understanding the statewide impact of each invasive plant species, using transparent, scientifically sound criteria. Approximately 200 non-native plant species were assigned ratings based on information recorded in

The Inventory summarizes our collective knowledge. Everyone's input is needed, because published literature on most weeds is scant. Submit your observations at cal-

Plant Assessment Forms (PAFs). PAFs, with references cited, and an explanation of the rating criteria, are available at www.cal-ipc.org. I encourage you to spend some time looking at the Inventory on our web site;

there is an interactive database in addition to a PDF summary of the Inventory.

Our Inventory Committee is now turning its attention to future updates and refinements of the Inventory. We will be tracking new literature that is published on any of these plants. However, much of the critical information used, especially distribution, is from personal observation.

New or overlooked information about any of the currently listed species is welcome at any time. Especially important is new distribution information, monitoring or research on impacts to wildlands, or any information that could affect the overall statewide rating for that species. For now, email info@cal-ipc.org. We will be posting instructions on the website in order to solicit information

and comments on the Inventory from the membership and other interested parties. The expanded Inventory Review Committee plans to review new information this January, and intends to do

this once a year. In the future, we will pursue ways for submitting information on-line, including links to GIS databases and voucher information.

In summary, if you know of: (1) literature we missed that should be in the PAF for any of these species, (2) new literature for any of the species or for species that should be added, or (3) new habitats being invaded by these plants, please let us

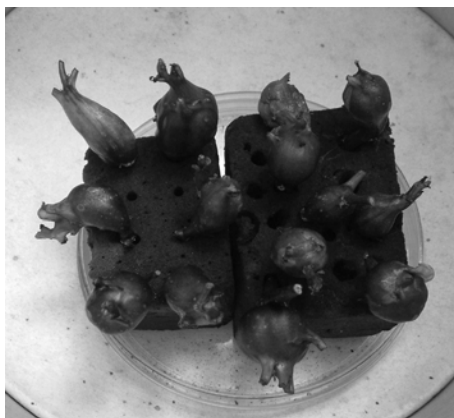
know.

Copies of the Inventory may be ordered through the website or by calling 510-843-3902. It is available on the website as a PDF on the website, and in a database.



Cal-IPC Board visits USDA research lab

The Cal-IPC Board of Directors held its July meeting at the USDA Agricultural Research Service's Western Regional Research Center in Albany (Alameda County). (Thanks to Ray Carruthers and Joe Balciunas for hosting us!) Directors and staff received an overview of some of the projects related to invasive plants, including remote sensing and greenhouse trials to test biological control agents. The lab's weed program serves the entire western US, and only a few years ago the entire program would have been closed but for an energetic campaign by weed workers. At our visit, researchers explained the years of testing proposed biological control agents undergo to ensure that they will attack only the targeted plant and not closely-related native or agricultural species. For more information on the lab, see www.pw.usda.gov. *Below Left:* USDA researcher Lincoln Smith examines biological control agents for yellow starthistle. *Middle:* Cape ivy leaves with galls produced by a gall fly. *Right:* Cal-IPC Board Secretary Wendy West looks at gall flies in a testing cage. *Photos by Bob Case.*



\$1.5 million restored to WMAs!

The 2006-2007 state budget signed by Governor Schwarzenegger includes \$1.5 million in the General Fund for the California Dept. of Food & Agriculture to support the state's network of Weed Management Areas (WMAs). Cal-IPC led an effort to support funding through AB 2479 (Cogdill) by collecting letters from over 100 organizations statewide. Those who sent letters deserve credit and thanks for making both the Senate and Assembly Budget Subcommittees aware of the need for this funding. Both Assembly Member Fran Pavley and Senator Sheila Kuehl, chairs of the respective subcommittees, commented on the number of letters they received, and the obvious breadth of support for the program. As of press time, we are providing input on how the program will be run, and also working to obtain additional funding for the program (AB 2479 had specified \$2.5 million).

Thanks for your letters:

Statewide Organizations:

- California Agricultural Commissioners and Sealers Association
- California Association of Resource Conservation Districts (RCD)
- California Cattlemen's Association
- California Farm Bureau Federation
- California Forest Pest Council
- California Native Grasslands Association
- California Native Plant Society (CNPS)
- California Society for Ecological Restoration
- Regional Council of Rural Counties
- Sierra Club California
- Trust for Public Land

Local & Regional Organizations:

- Acterra (Palo Alto)
- Agricultural Commissioner's Office of Santa Barbara County
- Alameda County Resource Conservation District
- Alameda-Contra Costa Weed Management Area
- Alpine County Board of Supervisors
- Audubon Canyon Ranch (Stinson Beach)
- Bay Area Open Space Council
- Big Sur Land Trust
- Butte County Resource Conservation District
- Cache Creek Conservancy (Woodland)
- Catalina Island Conservancy
- Center for Natural Lands Management (Fallbrook)
- CNPS Alta Peak Chapter (Tulare County)
- CNPS Dorothy King Young Chapter (Mendocino)
- CNPS Los Angeles/Santa Monica Mountains Chapter
- CNPS Milo Baker Chapter (Sonoma County)
- CNPS Monterey Bay Chapter
- CNPS Mt. Lassen Chapter
- CNPS Orange County Chapter
- CNPS San Luis Obispo Chapter Chapter
- CNPS Santa Clara Valley Chapter
- CNPS Sierra Foothills Chapter
- CNPS Yerba Buena Chapter (San Francisco)

- Center for Land-Based Learning (Winters)
- Channel Islands Restoration
- Colusa County Department of Agriculture
- Concerned Resource & Environmental Workers (The CREW) (Ojai)
- Conservation Biology Institute (Encinitas)
- Cummings Valley Protective Association (Tehachapi)
- East Bay Municipal Utility District
- El Dorado Invasive Weed Management Group
- Elsinore-Murrieta-Anza RCD (Riverside County)
- Farm Bureau of San Diego County
- Friends of Bidwell Park (Chico)
- Friends of Edgewood Natural Preserve (Redwood City)
- Friends of Five Creeks (Alameda & Contra Costa Counties)
- Friends of Switzer Canyon (San Diego)
- Garrapata Creek Watershed Council (Monterey)
- Glenn County Department of Agriculture
- Glenn County RCD
- Golden Gate Audubon Society
- Humboldt/Del Norte WMA
- Inyo & Mono Counties Agricultural Department
- Kern WMA
- Lake Tahoe Basin Weed Coordinating Group
- Land Trust for Santa Barbara County
- Lassen County Special Weed Action Team
- Los Angeles & San Gabriel Rivers Watershed Council
- Marin Conservation Corps
- Mariposa County Department of Agriculture
- Mendocino WMA
- Mendocino Coast Cooperative WMA
- Midpeninsula Regional Open Space District
- Mission RCD (Fallbrook)
- Mojave Desert RCD
- Mojave Desert WMA
- Mojave Water Agency
- Mountains Recreation & Conservation Authority (Malibu)
- Mountains Restoration Trust (Santa Monica Mountains)
- Napa County RCD
- Nature in the City (San Francisco)
- Ojai Valley Land Conservancy
- Palos Verdes Peninsula Land Conservancy
- Quail Ridge Wilderness Conservancy (Davis)
- Regional Association of Northern Counties Agricultural Commissioners & Sealers (Del Norte, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas/Sierra, Shasta, Siskiyou, Tehama and Trinity Counties)
- Sacramento River Watershed Program
- San Benito County Agricultural Department
- San Bruno Mountain Watch
- San Mateo County Board of Supervisors
- San Pablo Watershed Neighbors Education & Restoration Society (SPAWNERS) (Contra Costa County)
- Santa Barbara Audubon Society
- Santa Barbara Botanic Garden
- Santa Clara County Parks & Recreation Department
- San Diego County Department of Agriculture
- San Luis Obispo County Department of Agriculture
- Santa Lucia Conservancy (Carmel)
- Santa Margarita/San Luis Rey WMA
- Sierra Club - Santa Lucia Chapter
- Siskiyou County Board of Supervisors
- Solano Land Trust
- Solano RCD
- Sonoma Land Trust
- Southern Low Desert Resource Conservation & Development Council
- Surfrider Foundation, Ventura County Chapter
- Sutter County Board of Supervisors
- Tehachapi RCD
- Tehama County RCD
- Thirty-Second Street Canyon Task Force (San Diego)
- Trinity Resource Conservation & Development Council Inc.
- Tuolumne County Board of Supervisors
- Upper Salinas-Las Tablas RCD
- Ventura County RCD
- Yolo County RCD

High school students learn stewardship in Central Valley

Tanya Meyer, Center for Land-Based Learning, Winters

The Great Central Valley was once a diverse habitat of streams, wetlands, woodlands and grasslands. Agriculture and development have reduced the number and quality of these ecosystems. Removal of native vegetation has contributed to erosion, degradation of water quality, and loss of wildlife. Of course, an incredible number of weed species have replaced the native vegetation throughout the Valley.

The Center For Land-Based Learning, a non-profit organization based in Winters, operates the SLEWS (Student and Landowner Education and Watershed Stewardship) Program. SLEWS engages high school students in habitat restoration projects that enhance classroom learning and develop leadership skills while resulting in successful habitat restoration. SLEWS addresses the immediate need for healthier

so the SLEWS Program and its partners cover these costs. SLEWS is currently funded by grants and contracts with our restoration partners.

There are three SLEWS Program sites in the Central Valley: the Northstate area, which in 2005-06 worked with six schools on six different restoration sites in Butte, Glenn and Tehama Counties; the San Joaquin program, which worked with four schools at four sites; and the Sacramento Valley Program, based at our Farm on Putah Creek, which worked with 11 different schools at nine sites. Typically, a SLEWS class can plant about 300-500 woody species and up to 4,000 native grass plugs at a site, and our projects are mostly riparian plantings at ponds and



planting native vegetation, building and installing bird boxes, installing irrigation equipment, survivorship monitoring and removing invasive species, all to increase biological diversity and improve the health of the land. With our partnerships with restoration professionals from public agencies, local watershed groups and nonprofit organizations, our students install restoration projects that are successful.

One of the most important aspects of a successful project is good weed control. While our partners perform the heaviest weed control, such as spraying, disking and mowing, educating students about how and why the project works is essential. They learn to identify key weeds, the problems they cause, why we are replacing them with natives, and they hand weed around their plantings. We have discussions on the importance of biodiversity, and what constitutes high quality wildlife habitat. Students always ask why weeds are bad, how they got here, and why people brought them in the first place. They are concerned about wildlife, and understand that most native animals are adapted to use native plants, not weeds, for habitat. Most importantly, the students take their work seriously because they see how they are helping to heal the ecosystem.

For more information about individual sites, partners and schools, please visit www.landbasedlearning.org. Contact the author at tanyajmeyer@hotmail.com.



land and more wildlife habitat while meeting the long-term need to instill conservation and stewardship values in our young people. Most high schools lack the funding, expertise or resources to transport and teach students in the field,

along creeks, sloughs, and the Sacramento River. Participating SLEWS classes commit to a year-long project that evolves from season to season according to the restoration cycle. Field trip activities might include seed collecting, plant propagation,



“Conservation Across Borders” in San Jose

The Society for Conservation Biology held its annual international meeting in San Jose on June 24-28, meeting concurrently with the Society for Conservation GIS. The meeting focused on the theme “Conservation Across Borders”, working to cross boundaries between political entities and academic disciplines. Papers and posters covered a broad range of conservation topics, from marine conservation to invasive species to socioeconomic issues. Former Secretary of the Interior Bruce Babbitt gave the keynote address. A number of papers presented at the conference addressed invasive species in California and beyond. Below are excerpts from abstracts for presentations that were particularly relevant for Cal-IPC members. All abstracts and author contact information are available at www.conbio.org/2006 under the Program section.

Invasive Plants in California

Restoration of lizard habitat by experimental removal of invasive ice-plant. Toshia Comendant *et al.*

The removal of invasive iceplant (*Malepora crocea*, *Mesembrythemum crystallium*, *M. nodiflorum*, and *Carpobrotus chilensis*), was used in an experimental framework at Channel Islands National Park to investigate the potential impacts of iceplant removal on abundance of side-blotched lizards (*Uta stansburiana*). Spraying and leaving dead iceplant was found to be the most time efficient removal technique. Abundance of lizards was lower in areas with greater iceplant cover, indicating that restoration can increase lizard abundance.

The hits keep coming: Continuing plant invasions in California grasslands. Jeffrey Corbin *et al.*

The vast majority of the approximately 10 million ha of grasslands in California are dominated by non-native annual grasses and forbs. By no means, however, has the prominence of one group of invaders precluded the successful spread of other nonnative species. In some cases, earlier invasions appear to have facilitated subsequent establishment and spread of later invaders. Many recent invaders also have more dramatic impacts on ecosystem processes, and offer more complex restoration challenges, than the first wave of invading species that rose to dominance in the late 1800s. Recently spreading exotic perennial grasses, for example, are strongly competitive against both native perennial and exotic annual grasses and are very difficult to eradicate once established. Most alarming is evidence that traditional management techniques may not be effective in controlling these exotic perennial grasses.

Research-based, non-chemical restoration of coastal sage scrub in a southern Californian preserve. Sandra DeSimone.

Restoration of rare coastal sage scrub habitat at Audubon California's Starr Ranch Sanctuary in southern California is beginning the second year of non-chemical control of *Cynara cardunculus*. Results from field experiments were used to refine planing techniques for the local area. An experiment that investigated non-chemical techniques suggested that flaming and early brush cutting could control invasive annuals while natives established in early stages of

restoration. Over three years, native shrub cover in treated sites increased from 0-5% to 50-60%.

A stitch in time saves nine: An effective novel approach for proactively identifying harmful “sleeper weeds.”

Daniel Gluesenkamp.

Treating incipient weed populations before they become intractable reduces treatment cost and protects sensitive natural systems. I present a new method for identifying sleeper weeds that uses a well-supported principle: the best predictor of whether a plant will become invasive is whether it has invaded elsewhere. My technique successfully analyzes aggregate data derived from worldwide invasive plant lists (readily available off the internet), correlating taxon-specific citation rankings with easily obtained local incidence values. Application of this technique to a regional flora successfully flagged most of the species previously identified as “red alerts” by exhaustive expert review, and flagged several additional taxa overlooked by the more resource-intensive technique.

The effect of native forb abundance declines on invasive resistance in California grasslands. Kris Hulvey and Erika Zavaleta.

We investigated whether shifts in native species' abundances affect the susceptibility of grasslands to yellow starthistle invasion. This is important because changes in species abundance are more common than species extinctions, and ecosystem functions such as invasion resistance may be mediated by such changes. Using small containers, we simulated grasslands with varying abundance native tarweed (*Hemizonia congesta*) and invasive *Bromus diandrus*, then added yellow starthistle. Declining *Hemizonia* abundance increased the susceptibility to starthistle invasion. Starthistle invaded *Hemizonia* even at high abundances, indicating that restoration using solely supplemental *Hemizonia* seeding may not control invasion. Interestingly, *Hemizonia* continued to contribute to invasion resistance at low abundances, indicating that even rare forbs may be important in protecting California grasslands from invasion.

Did your group hold an event for California Invasive Weeds Awareness Week (July 17-22)? Did you receive coverage in your local paper? Let us know!

We listed Weeds Week events that were sent to us at www.cal-ipc.org (find the Weeds Week link on the front page). The Ventura County Star reported on invasive plants, and the Press Enterprise (Inland Empire) discussed the link between the spread of non-native grasses and increased fires in the desert. If your local paper covered an event by your group, please send us a copy of the article. We would also like brief descriptions of events organized by local groups or agencies related to Weeds Week, preferably with a few photos. We will use the information to increase our efforts to publicize the work of local groups to protect their local environment from invasive plants. Helping us share your efforts can serve as an example for others!

Continued on page 12

Ecosystem-level consequences of *Spartina* invasion in West Coast estuaries. Ted Grosholz *et al.*

Eastern cordgrass *Spartina alterniflora* has been introduced into California and Washington, resulting in significant impacts on native communities. Using manipulative experiments and addition of inorganic nutrients and stable isotope tracers, we documented substantial changes in community structure and ecosystem function following *Spartina* invasion. Native species diversity in mature stands of *Spartina* was strongly reduced, while several introduced species became more abundant in invaded areas. *Spartina* invasion also produced a dramatic shift in food web structure from a largely microalgal-based system dominated by surface feeders to a largely system dominated by organisms that feed below the surface and consume decomposing plant material.

Atmospheric nitrogen deposition and California biodiversity: Implications of climate change for conservation and restoration. Stuart Weiss.

Atmospheric nitrogen (N) deposition—smog acting as slow-release nitrogen fertilizer on terrestrial and aquatic ecosystems—is a profound and unprecedented change in “chemical climate.” In the San Francisco Bay area, fertilization allows N loving non-native annual grasses to invade nutrient-poor soils and crowd out native wildflowers and forbs that support the threatened Bay checkerspot butterfly. Regulatory actions to mitigate increased N deposition from power plants, roads, and urban developments have led to the conservation of hundreds of acres of serpentine. Key stewardship strategies to maintain habitat for the butterfly and many rare plants include managed cattle grazing, mowing, prescribed fire, and reintroduction of the butterfly to restored habitat. A state-wide analysis indicates that many other listed species and sensitive ecosystems across California are at risk.

Weeds Around the World

Controlling spatial spread of the introduced cordgrass *Spartina alterniflora*: A Bayesian decision analysis. Eric Buhle *et al.*

We used a mathematical simulation model to describe local spread of *Spartina alterniflora* in Willapa Bay, WA, and examine options for control. The model incorporates vegetative expansion of clonal patches and seedling establishment by sexual reproduction. The model allowed us to incorporate prior information on *S. alterniflora* growth and reproductive rates and to predict the probability of meeting control targets under different management scenarios. The most effective strategies were those that removed the smallest clones first and began relatively early in the invasion. These qualitative results are consistent with previous models of plant invasion, but our approach offers a rigorous statistical framework for confronting such models with data and for applying the results to decision analysis.

Measuring performance of invasive plant eradication efforts in New Zealand.

Pete Holloran.

New Zealand’s Biosecurity Act of 1993, still the world’s leading model for biosecurity legislation, has enabled local governments to pursue regional eradication of more than 70 different invasive plant species. I assembled up to ten years of annual reports, conducted unstructured interviews with biosecurity officers, and compiled case summaries for eradication efforts. I found significant variation among local bodies in eradication outcomes, with some making substantial progress towards regional eradication of targeted invasive plant species. Political factors explain much of the variation, with funding and leadership playing central roles. Most struggled to develop adequate performance measures to demonstrate progress towards eradication.

Conserving endangered plant species using fire and fire surrogates in an invaded, fire-adapted community at the Wildland-Urban interface. Jodi McGraw.

Fire exclusion in systems adapted to recurring fire can reduce native biodiversity and threaten persistence of disturbance-dependent plant species, many of which are poor competitors and require disturbance to maintain refugia from competition. I examined the direct and indirect effects (via exotic plant species) of fire and a fire surrogate on growth and survival of two federally endangered plants, *Chorizanthe*

pungens var. *hartwegiana* and *Erysimum teretifolium*. Both fire and its surrogate enhanced native plant cover and population growth of both endangered plants directly by removing accumulated litter that inhibits establishment and survivorship. In addition, fire disproportionately reduced invasive plant cover and, in doing so, indirectly facilitated endangered plant performance as well as the cover and richness of the native plant assemblage. Results have been integrated within management plans.

Social Science

Invasive weed management and the formation of new alliances and new divisions within the environmental movement.

Kari Norgaard and Chris Fryefield.

The management of invasive weeds has led to the development of both new alliances and divisions within environmental movement organizing. In communities across the West, ranchers and environmentally inclined land management groups that have differed sharply over grazing practices or the proximity of cattle to stream habitat now stand side by side as members of invasive weed coalitions. On state and national levels anti-pesticide groups mobilize against increased pesticides use for invasive weeds and the role of chemical companies in shaping the “invasive weed agenda.” These organizations may find themselves on opposite sides of the table with other large environmental NGOs who promote herbicides as part of weed management strategies.

But everybody’s doing it! Using social norms to promote conservation.

Jessica Nolan and P. Wesley Schultz.

Although it is commonly thought that conservation is popular, surveys show that many people underestimate the conservation efforts of their fellow citizens. This underestimation may create an obstacle to action when people perceive that participation from a majority of others is necessary to effectively address the problem. When people were told that a majority of people were conserving resources, they indicated they would increase their efforts. Furthermore, they generalized the information about conservation to faculty, residents of their and other states, and even their friends.

New and Contributing Members

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

New Members

Jerry Allison Landscaping, Inc. Watsonville - Paul Anderson, Corte Madera - Kim Batchelder, Sonoma County Agricultural Preservation and Open Space District, Santa Rosa - Richard Brody, Impact Sciences, Camarillo - Dan Bylin, City of Walnut Creek - California Native Plant Society, Santa Clara Valley Chapter, Palo Alto - Alisa Carlson, Kiko Mountain Goats, Lakeport - Michael Chasse, San Francisco State University - Michelle Cooper, UC Davis Bodega Marine Reserve, Bodega Bay - Michelle Coppoletta, USDA Forest Service, Quincy - Michael Danielczyk, Santa Rosa - Walt Decker, Fort Bragg - Harriet Dhanak, El Cerrito - Jessica Drummond, Forester's Coop, Grass Valley - Suzanne Easton, Bay Area Open Space Council, Napa - Ron Eng, California Dept. of Food & Agriculture, Sacramento - Carolyn Gaye, Emeryville - Sarah Gill, Richardson Bay Audubon Center, Tiburon - Thomas Gustie, Bishop Paiute Tribe, Bishop - Kaye Hall, Napa - Jim Hartman, Covina

Beth Hendrickson, California Dept. of Conservation, Sacramento - Barrett Holland, Impact Sciences, Camarillo - Julie Horenstein, California Dept. of Fish & Game, Sacramento - Nicole Jurjavic, Stillwater Sciences, Berkeley - Vicki Kemmerer, Napa County Agricultural Commissioner's Office, Napa - Carol LeNeve, Carmel - Helen Lindqvist, Tiburon - Diane Livia, Oakland - Bonnie Loox, Blankenship & Associates, Davis - Nancy Lozano, California State Parks, Tahoe City - Kathy Madden, Restoration Resources, Rocklin - Laura McCready, Sacramento County Dept. of Agriculture - Sean McStay, UC Santa Cruz, Felton - Laura Mercier, Tri-Valley Conservancy, Livermore - Marcel Moranton, East Bay Municipal Utility District, Valley Springs - Michelle Murphy, Golden Gate National Parks Conservancy, San Francisco - Erin Mustain, State Water Resources Control Board, Sacramento - Jim Rains, California Dept. of Food & Agriculture, Sacramento - Dr. Perry & Barbara Shoor, Atherton - Jackie Sones, UC Davis Bodega Marine Reserve, Bodega Bay - Chris Stier, Oceano

Jeff Thomas, Jones & Stokes, Oakland - Jeff Trow, Foothill Associates, Stevenson Ranch - Vern Van Vlear, Concord - Anthony Varnhagen, San Francisco - Enoc Vega, Restoration Resources, Rocklin - Jessica Viramontes, Arroyo Grande - Mary Ann Walker, Felton - Alice Wallace, Novato - Sally Warner, Weed Farms, Healdsburg - Paul Weir, Grass Valley - Sarah Wilson, San Francisco - Rhett Woerly, UC McLaughlin Reserve, Lower Lake

Donations to Cal-IPC

Joe Darin, Davis - Harriet Dhanak, El Cerrito - Christy Dietrich, Oakland - Jennifer Erskine Ogden, San Francisco - Dan Gluesenkamp, San Francisco - Joanne Horton, Santa Barbara

Donations to Cape Ivy Biocontrol

Cal-IPC sends 100% of these donations to USDA-ARS to support biocontrols.

Friends of Glen Canyon, San Francisco - Clark Natwick, Pacifica - Martha P. O'Neal, Millbrae - Barbara Pitschel, San Francisco - Jake Sigg, San Francisco

Review

Fear and Fishing in Lake Davis

DVD, 45 min., \$7.25 (checks only)

In 1994, the California Department of Fish and Game (CDFG) discovered that anglers had illegally introduced northern pike, a popular midwestern sport fish, into Lake Davis, a Sierra Nevada reservoir located in rural California. CDFG officials were concerned that pike would make their way downstream from Lake Davis into the San Francisco Bay-Delta, where a new predator could harm both commercially important and endangered native fish. Pike also posed a threat to Lake Davis, where the local economy depends on a

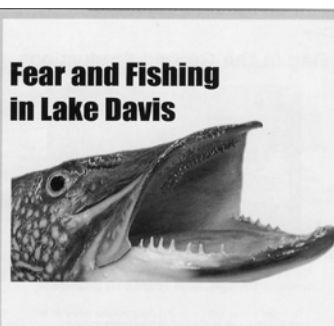
healthy trout fishery, an industry endangered by the invasive pike. To remove the pike, CDFG poisoned the lake. Residents in the nearby town of Portola, which depends on Lake Davis for its drinking water, were outraged.

"Fear and Fishing in Lake Davis" explores this conflict through interviews with local residents, agency biologists, and

elected officials, and news footage from the time of the pike conflict. It shows how lack of communication from state officials resulted in anger, fear, and mistrust by the townspeople of Portola. The conflict is an example of how ecological and social issues interact in invasive species management, and how things can go terribly wrong when local stakeholders are not involved in the process. The film ends on a more hopeful note, showing that CDFG and the town have come together to work on solving the pike problem through cooperation instead of lawsuits.

The film was produced by graduate students in the UC Davis Bioinvasions program as part of their interdisciplinary group project. The interviews include a wide cross-section of those involved in the controversy, putting a human face on the too-often simplified issue of a local community opposed to a government action. It would make an excellent teaching tool for high school or undergraduate environmental studies courses, and serves as a cautionary tale for those embarking on potentially controversial projects.

To order a copy or view a preview: www.cpb.ucdavis.edu/bioinv/projects/pike



Readings & Resources

Riparian Plant Guide: The *Guide to Native and Invasive Streamside Plants*, published by the County of Ventura's Planning Division, describes riparian habitats, invasive and native plants that live along streams, techniques for revegetating sites with native plants, and information on regulations for working around aquatic habitats. Available free of charge. Contact Lorraine Rubin, lorraine.rubin@mail.co.ventura.ca.us, 805-654-2466.

Aerial imagery: The California Spatial Information Library has released **County Compressed Mosaics** for the state of California. Each aerial photograph covers one-quarter of a USGS quad. These are

Have you seen a new resource your fellow weed workers should know about? Please contact edbrusati@cal-ipc.org.

interim files; high-resolution versions will be available when quality control is completed. They may be downloaded at new.casil.ucdavis.edu/casil/remote_sensing/naip_2005 or purchased on DVD from www.apfo.usda.gov

Weed Photos: Ventura County Master Gardeners has produced a **gallery of photographs of invasive plants**, with images of seedlings, flowers, and full plants, including both broadleaf plants and grasses. ceventura.ucdavis.edu/Weed_Science

Educational Materials: The Bureau of Land Management offers **fact sheets and other materials for children and adults**,

*Cal-IPC Publication
Available October 2006*

YELLOW STARHISTLE MANAGEMENT GUIDE

by Joe DiTomaso and Guy Kyser, UC Davis; Mike Pitcairn, California Dept. of Food & Agriculture

Introduction & Spread • Impacts • Biology & Ecology • Control Methods: Mechanical, Cultural, Chemical, Biological • Developing a Strategic Management Plan

Free (\$5.00 shipping/handling). Order at www.cal-ipc.org or call 510-843-3902

Available December 2006! Order yours at the Symposium.

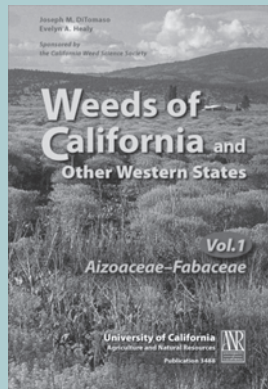
Weeds of California & Other Western States

By Joe DiTomaso and Evelyn Healy

Published by University of California, Dept. of Agriculture and Natural Resources

This two-volume, 1,900-page reference was developed over six years and will be the most comprehensive weed identification book ever produced in the United States. It complements the previously published *Aquatic and Riparian Weeds of the West*.

- 3,000 color photos of infestations, whole plants, flowers, seedlings, and seeds.
- More than 750 weed species described and photographed.
- Detailed descriptions of seedlings, mature plants, flowers, fruit, and roots, germination and propagation characteristics, descriptions of similar species.
- Includes a CD containing all photographs from the book.



Available at the Symposium.

Broadleaf Weeds of California

By Joe DiTomaso

CD-ROM for Windows

A companion to *Grasses and Grass-Like Weeds of California*, this CD will include an interactive identification key to approximately 750 weed species in California, including invasive species of wildlands. Photos included for all species.

including information on specific invasive plants, and suggestions for reducing their spread. BLM also hires interns for weed education programs. www.blm.gov/weeds or contact CA State Weed Coordinator Dianna Brink, 916-978-4645, Dianna_Brink@ca.blm.gov.

Tutorial: The Pennsylvania Department of Conservation and Natural Resources has a **new tool to help land managers** develop management approaches for invasive plants. The "Invasive Exotic Plant Management Tutorial for Natural Lands Managers" is designed as a "one-stop-shop" for users and includes information available on the internet and other forms of media. www.ma-eppc.org

Weed Campaign: From Utah, includes **resources for teachers** such as instructions for playing "kudzu tag" and "every weed for itself" to teach kids how weeds spread. www.ob-noxious.org/resources

Portable Vehicle Decontamination: KNB Sales of Visalia produces a **Vehicle Decontamination Trailer**, available to state and federal agencies. According to the manufacturer, the "Weed Washer" can be set up by two technicians and is operational in 15 minutes. Call 559-739-0676 or e-mail knbsales@earthlink.net.

The WILDLAND WEED CALENDAR

Know of an event that should be posted here?
Please contact edbrusati@cal-ipc.org.

Meeting the Challenge: Invasive Plants in Pacific Northwest Ecosystems

September 19-20

Seattle, WA

depts.washington.edu/urbhort/html/invasives/homepage.htm

California Weed Management Areas Statewide Meeting

September 20-21

Woodland, CA

Contact Gina Darin, gdarin@cdfa.ca.gov, 916-653-6197

15th Australian Weeds Conference: Managing Weeds in a Changing Climate

September 24-28

Adelaide, South Australia

www.plevin.com.au/15AWC2006

Cal-IPC Field Course: Tools for Early Detection

October 4

Bouverie Preserve, Glen Ellen, CA
(see page 7)

15th Annual Cal-IPC Symposium. Research and Management: Bridging the Gap

October 5-7

Rohnert Park, CA
(see pages 6-7)

6th Annual Oak Symposium
California Oaks: Today's Challenges, Tomorrow's Opportunities

October 9-12

Rohnert Park, CA

danr.ucop.edu/ihrmp/symposium.html, 510-642-0095, or forestry@nature.berkeley.edu

Quotable

“Underfoot the ground is patched with climbing arms of ivy wrapped around the manzanita, stark and shiny in the breeze.”

- From “Saint Stephen” by Jerry Garcia and Robert Hunter, performed by the Grateful Dead. Submitted by Erin McDermott.

Announcing:

Wildlife and Invasive Plants

January 30-31, 2007, Monterey, CA

A joint symposium organized by Cal-IPC and the Western Section of The Wildlife Society (TWS)

Bringing together weed workers and wildlife biologists to discuss interactions between invasive plants and wildlife, this symposium will be held in conjunction with the TWS-Western Section's annual meeting. Invited speakers, contributed papers, and posters. Tentative topics:

Impacts of Invasive Plants on Native Wildlife and Habitats

Use or Spread of Invasive Plants by Wildlife

Response of Invasive Plants to Removing Invasive Wildlife

Balancing Invasive Plant Control with Reducing Harm to Sensitive Wildlife Species

Call for Papers

Abstracts submitted through the Western Section website at www.tws-west.org. Additional information will be posted at www.cal-ipc.org and www.tws-west.org

Nevada Weed Management Association

October 11-13

Elko, NV

agri.state.nv.us/PLANT_NoxWeeds_index.htm

Natural Areas Association Annual Conference. Conserving and Restoring Frequent Fire Landscapes of the West: Linking Science and Practice

October 24-26

Northern Arizona University, Flagstaff, AZ
www.naturalarea.org/conference.asp

CA Society for Ecological Restoration (SERCAL) Annual Conference

October 26-28

UC Santa Barbara
www.sercal.org

Southern California Botanists

October 28

CSU Fullerton

Natural history of Santa Monica Mountains.
www.socalbot.org/symposia.php

National Tribal Invasive Species Conference

November 7-9

Sparks, NV

Contact Robin Powell, rpowell@plpt.nsn.us

3rd International Fire Ecology and Management Congress

November 13-17

San Diego, CA

<http://emmps.wsu.edu/firecongress>

Northern California Botanists

January 18-19, 2007

CSU Chico

csuchico.edu/biol/Herb/norcalbot/index.htm

Knotweed Symposium

March 14-15, 2007

Portland, OR

In conjunction with the Western Society of Weed Science annual conference.

www.wsweedscience.org

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.**

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- Joint Cal-IPC/SERCAL \$60
- Joint Cal-IPC/CNGA \$70
- Cal-IPC/SERCAL/CNGA \$100
- Student/Volunteer \$15

2006 Institutional Membership

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

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- (info online at cal-ipc.org)*

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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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*Photo contest entries
due September 1!*