



Cal-IPC News

*Protecting California's Natural Areas
from Wildland Weeds*

Vol. 16, No. 1 Spring 2008 Quarterly Newsletter of the California Invasive Plant Council



Arundo Hook

More ways to slay the giant reed

Controlling Arundo donax, one of California's worst weeds, is made difficult by its density around native vegetation. A new tool developed at Sonoma Ecology Center—the Arundo hook—helps target herbicide applications more effectively. Story page 4.

Photo courtesy Mark Newhouser, Sonoma Ecology Center

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

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From the Director's Desk

Passion into action

The Cal-IPC board met recently at Dye Creek Lodge in the Lassen foothills for its annual strategic retreat. Discussion focused on the many program directions Cal-IPC is pursuing, as well as how to increase funding for these efforts. As they explored how to ask fellow weed workers for donations, a motto emerged: donations turn "passion into action."

For those who care deeply about the issue of protecting California from invasive species, making a donation is one more way of expressing their passion. Each board member has made a significant financial contribution. Several other individuals have made major contributions recently to create steadier funding for our work in the future. With the help of these individuals, the board recently established two financial tools—an endowment and a reserve fund—to help us continue doing the work we do.

The endowment account was opened at the Marin Community Foundation with generous gifts from two long-time weed workers, Greg Omori of Oceanside and Jake Sigg of San Francisco. And the reserve fund has been kicked off with a special contribution from past board member Steve Schoenig. (See page 6 for the whole story.)

As if to reward us for creating these accounts, we received a legacy donation from a longtime weed worker, June Bilisoly of Portola Valley, who passed away recently (see profile on page 7). The board has split this gift between the endowment and the reserve.

I have written before in this space that environmental foundations needed to make invasive species a priority in their grant giving. I am pleased to say that another foundation has taken on this priority. The Richard and Rhoda Goldman Fund awarded a grant to Cal-IPC for our state advocacy work to maintain funding for the Weed Management Area program and to create an interagency Invasive Species Council. We greatly appreciate not only the funding but the example being set for other foundations.

And the advocacy we do under this grant is resulting in (you guessed it) more and steadier funding for on-the-ground weed management projects. Of course, with so many important funding needs in the state, it is hard to press for expanded funding. But it is clear that whatever we do not address today may cost a lot more tomorrow.

Steady funding is something all organizations dream about—being able to plan multi-year programs that build toward major accomplishments. Weed workers know that the challenges we face today will need continued attention in the future. Setting up financial structures like the endowment and reserve account build our capacity to address invasive plants over time. Though we hope to work ourselves out of a job, that may take quite a while.



The Cal-IPC Board gathered recently for their annual strategic retreat, this year in the Lassen Foothills. *Photo Joanna Clines.*

Wildland Weed NewsNewsNewsNewsNews

The **California Aquatic Invasive Species Management Plan** was signed by the governor in January. The plan guides action by state agencies, but it is relevant to everyone working on this issue in California. www.dfg.ca.gov/invasives/plan

California Ag Day, held March 25 on the Capitol steps in Sacramento, featured speeches by US Secretary of Agriculture Ed Schafer and California Secretary of Agriculture AG Kawamura. Both focused on the threat of invasive species to the state's agriculture and environment. www.cdfa.ca.gov/agday08/

Cal-IPC member **Caroline Ridley won an Emerging Public Policy Leader Award** from the American Institute of Biological Sciences. She will take time off from her doctoral studies at UC Riverside to travel to Washington, DC for advocacy training. She and fellow UC Riverside student Robin Marushia participated in our Day at the Capitol events on March 12 in Sacramento. www.aibs.org

Alaska is creating a **state Invasive Plant Coordinator position** to implement a state-wide strategic plan. The position will serve under the Dept. of Natural Resources. HB 330 at www.legis.state.ak.us/basis/

Florida scientists released a study that examines US import regulations for plants. They conclude that implementing a **system akin to the weed risk assessment system used by Australia would save the US billions of dollars** and reduce the time to process applications for new imports. www.nature.org/initiatives/invasivespecies/press/press3378.html

Several **California cities are developing local invasive plant bans**, including Oceanside and Encinitas in San Diego County. Efforts are motivated in large part by ongoing risks from wildfire and flooding. *North County Times*, Feb. 16, 2008

Wildflowers are blooming in southern California after fire and gentle rains, but **frequent human-caused fires are bad news for native plant communities** adapted to longer fire cycles. *Orange County Register*, Feb. 28, 2008

Antarctica is vulnerable to invasion by a wide range of organisms, including insects, grasses and mosses. A new Australian program, "Aliens in Antarctica," aims to address the threat. <http://uk.reuters.com/article/environmentNews/idUKL2431326620080128>

US Geological Survey maps show that **there is suitable habitat for non-native pythons in much of the southern US**, as well as California coastal areas. www.usgs.gov/newsroom/article.asp?ID=1875

The California Dept. of Food & Agriculture **border inspections reported recent interceptions**, including diffuse knapweed with bee colonies from Washington, Scotch thistle with bee colonies from Oregon, and Russian thistle with oat hay from Utah.

Cal-IPC Updates

Membership rates increase

Regular membership dues have been raised \$5 to \$40, with student membership costing \$20 and institutional membership for three individuals costing \$150. New donor levels have been structured as well. See the membership form on the back cover for details.

Donate your tax rebate

Put your tax rebate to work protecting wildlands by making a donation to Cal-IPC! See back panel for donor levels.

Call for nominations

The Cal-IPC Board of Directors is accepting nominations until July 1 for new board members. Know someone that has a lot to offer? Or maybe you want to nominate yourself? Elections will be held this fall with new board members announced at the Symposium in October. Board terms are two years, beginning in January 2009. The board meets five times each year at locations around the state, and requires a commitment to fundraising and to working on a program committee. Please direct nominations and questions to Board President Jason Giessow at jgiessow@cox.net.

Researchers have initiated a **first pass at assessing the global impact of invasive species on marine biodiversity**. The authors also present tools for strategically addressing the challenge. www.frontiersin ecology.org (Select e-View for papers in the pipeline for publishing.)

Even pear trees can be invasive, it appears. In the last decade, the **ornamental Callery pear has begun spreading in the Midwest**. Researchers are using the situation to study how tree populations become invasive. www.csrees.usda.gov/newsroom/impact/2008/nri/01153_pear tree.html

2008 Cal-IPC Symposium
Oct. 2-4, Chico State University

See page 8 for details.

Wildland Weed Field Courses

NEW! Discounted Rates for Restoration Volunteers!

Register at www.cal-ipc.org, or call us at 510/843-3902.

South Lake Tahoe:

Lake Tahoe Community College
May 28 - Biology & Identification
May 29 - Control Methods

San Diego:

Mission Trails Regional Park
June 6 - Biology & Identification
June 7 - Control Methods

Berkeley:

Brazil Room, Tilden Regional Park
July 23 - Biology & Identification
July 24 - Control Methods

Chico:

Location to be determined.
October 1 - Revegetation Techniques
Registration opens in June.

Berkeley:

East Bay Regional Parks District,
Trudeau Training Center*
November 6* - Mapping

**To be confirmed. Registration opens August.*

Using the Arundo hook to bend-and-spray

Mark Newhouser, Sonoma Ecology Center

Applicators worth their QAC know that if you try to spray a 25-foot tall plant with nothing but a backpack sprayer, you will take a shower in overspray and probably damage every other plant within 15 feet of the target. Not exactly meeting your objective.

Arundo donax poses a particular problem for those of us working on relatively small, scattered, and remote infestations. The challenge is multiplied when infestations are surrounded by native vegetation, sensitive species, and/or water. It is virtually impossible to make directed, strategic foliar spray applications to *Arundo* without climbing up a ladder or in some way moving or cutting vegetation. You can use a ladder to spray *Arundo*, but it is hard work, potentially dangerous, not always feasible, and the subject of another article.

Rather than climbing or reaching up to the plant, you can bring the plant closer to you. Some applicators have used a board or a ladder to lean on *Arundo* to bend it over so that it is closer to the ground and there-

fore easier to spray. These crude methods of manipulating plants to facilitate spraying them have evolved into a number of methods. This article addresses the “Bend and Spray” method and the “Hook,” a tool used to pull plants toward you or bend them over for easier spraying.

Bend-and-spray on *Arundo* may have started in Southern California when someone leaned a ladder on a clump of *Arundo* and the canes could not support the weight, fell down (along with the ladder and the occupant) and stayed on the ground. The cane had snapped but remained intact with the stems, allowing the applicator to spray the plant and still get sufficient translocation of the herbicide to the roots.

Later, practitioners under the tutelage of Jason Giessow, with the Santa Margarita and San Luis Rey Weed Management Area and other pioneers in the San Diego region began “prepping” cane for spraying by bending cane away from desirable vegetation and onto itself. The cane bent away from a tree would resemble a crater from a bomb blast

with the cane splaying outward. The cane bent onto itself resembles a tall haystack. One of the most memorable moments of a demonstration of this method was when Jason’s team of cane “preppers” scrambled up a ladder, proceeded to bend over the cane forming the top of the stack about 12 feet off the ground and then used the top of the stack as a scaffolding, walking and working from the top of the stack to complete the



The bend-and-spray technique is useful for treating small and remote infestations of *Arundo* in sensitive habitat.

Advantages of the bend-and-spray technique

- Precise strategic spraying of target species
- No overhead spraying, meaning less work for applicator
- All spraying is directed down and can be done with little or no drift even when wind picks up, resulting in less exposure for applicator and non-target species
- Safer spraying for applicator – no climbing ladders
- High herbicide efficacy – equal to foliar spray on unbent stems
- Most appropriate for small, scattered, and remote infestations, especially in mixed vegetation where directed spraying is a challenge

Disadvantages

- Bending canes is laborious
- Slight risk of injury bending canes
- Bending labor can be costly
- Not appropriate for large infestations

Remember to...

1. Always pump the sprayer before reaching with the hook. You cannot pump once you reach!
2. Resist the temptation to reach for the easy outside canes first. Always reach for the inner canes since they will spring back to the center, out of the way and will not drip all over you.
3. Before hooking the canes and walking backwards, scope out a safe travel path and look behind you just before backing up. Tripping over a low branch with a full backpack is not fun!

bending process. It was amazing watching grown men walk across the top of an *Arundo* clump!

In recent years, we have experimented with the bend-and-spray method and found that by imitating nature, we can more easily treat *Arundo*. Often, *Arundo* is bent over by floodwaters, allowing the bent-over but living canes to lay down and aggrade sediment.

This area of layering is usually devoid of desirable vegetation and forms a good foundation for bending over canes for spraying. Also, it is easier to bend that direction since the canes are already leaning that way.

The basic bend-and-spray technique requires grasping the cane with two hands between stem nodes and bending or snapping the cane so that it splits longitudinally without breaking off. If done properly, over 90% of the bent canes will remain intact for spraying. Some canes partially break off, but still effectively translocate herbicide. Bending at the nodes is not recommended because they tend to break off completely. If a cane breaks off, toss it aside so that it does not interfere with spraying living canes.

The next step is to form a fan shape on the ground with the bent canes. Once a single layer is done, the bending crew, or “preppers,” is sent on to the next clump, allowing the applicator to spray the fan of canes on the ground. Do not bend too much at a time or you will not get adequate spray coverage. Also, always plan a bending route so that you can negotiate your way through a clump without having to step over bent canes.

With a crew of two or three preppers and one applicator, the team can rotate between three or four clumps at a time, bending and spraying one layer before moving to the next clump. Ideally, the preppers are always one clump ahead of the spray applicator and when the rotation is completed, the last sprayed layer has dried.



The **Arundo hook** is designed specifically for use with the bend-and-spray technique, and can be made from a few easily-found, inexpensive materials.

The Hook

The Arundo hook is a tool that enables the applicator to get complete foliar spray coverage including the growing tips of Arundo. The hook, a simple shepherd’s hook-like device that resembles a swimming pool rescue hook, was developed to reach up and pull canes down or to maneuver it away from desirable vegetation in order to spray it. The latest model consists of an 8’ wooden pole with a an 18” PVC hook with an additional side hook on top for pushing canes or other vegetation to the side or down and out of the way.

The hook is very useful on small patches that you can circumnavigate and where you can reach to the center of the clump. The basic hook technique is to insert the hook vertically into the upright canes and then turn the hook horizontally to grab approximately 10 canes. The next step is to pull towards you while stepping back and sliding the hook up the canes. As you slide the hook up the stems, the cane will bend toward you allowing you to spray the full



Advantages of the hook

- Allows applicator to manipulate vegetation for precise spraying
- Allows applicator to work solo, working the hook with left hand (between pumping) and spraying with the right hand
- Gathers about 10 canes and concentrates them for a quicker application time
- Uses less herbicide spraying the gathered canes
- Less overspray and risk of non-target damage
- Reduces cost from labor and herbicide savings
- Alternates use as walking stick to aid hiking rough terrain and climbing steep banks with a loaded backpack
- Narrow width allows for passage through cane thickets
- Serves as a big stick when defending against varmints and territorial creek dwellers

Disadvantages

- Hook can be heavy for some folks (a second person can help)
- When walking backwards with a hook full of canes, there is a risk that you can trip or step off a cliff

length of the cluster of canes in the hook. Then, walk back toward the clump, push and turn the hook vertically to release the canes and then grab the next cluster.

Keep in mind that these tools were developed most specifically for Arundo and for spraying with glyphosate, which requires good coverage for high efficacy. However, the bend and spray method and hook can be used for other species. I frequently use the hook for applications in mixed vegetation, where I have to tease out non-natives from natives to make strategic applications. Whether holding a native out of harms way, or pinning a bad weed to the ground for a final shot, the hook is an extension of my arm and a helping hand.

**Hook assembly instructions
on page 13...**

Funding for the future!

The people behind Cal-IPC's new endowment and reserve funds

The founders of every nonprofit organization envision a day when its caretakers can look up for a moment from the tasks of month-to-month fiscal survival and begin planning toward a more secure future. Stable income supporting the core budget can free resources for multi-year projects and significant impacts—impacts that can better manifest the magnitude of its vision. With the support of dedicated members, Cal-IPC has recently taken important steps towards that security by creating an endowment and an operating reserve.

In 2007, generous donations from Jake Sigg and Greg Omori helped Cal-IPC realize the dream of opening an endowment fund. The endowment is a place for legacy gifts as part of individuals' estate planning. Cal-IPC permanently entrusts these gifts to the Marin Community Foundation for investment. Over time, as contributions and interest accrue, income from this account will provide an steady source for Cal-IPC's budget.

The operating reserve complements the endowment by providing short-range security from cash-flow fluctuations. The reserve was recently established through a gift by Steve Schoenig in memory of his late father, Ed Schoenig.

Nonprofit organizations try to maintain a reserve equal to at least three months worth of operating expenses to bridge temporary cash flow bottlenecks, which happen because income patterns can be uneven. Unlike the endowment, the reserve is kept in an easily mobilized form, as its purpose is be available when needed.

The people behind the creation of these important accounts have long histories of caring for native habitat. One is a volunteer, one a businessman, and one a government employee. They each have passions that they turned to work to create change in a world they care about long before they were in a position to give financially. And finally, when the fruits of their labors matured, they directed some of that abundance in the same direction as their passions, with remarkable results. Here are their stories.

Jake Sigg

San Francisco, CA



“There is no sorrow above the loss of native land.”

Euripides, from *Medea*

“Given my nature, I think I would have been one of those people who would love the land even if I had been raised in a city,” says Jake Sigg, who was born and raised on a Montana ranch in a large family who grew all of their own food. Jake credits his early life spent working with the land for reinforcing an intimate relation to the land, which fuels his passion today.

Jake worked as a gardener for Golden Gate Park for 32 years, and acknowledges the purchase of a house 41 years ago as “the principal factor in [his] present situation of having disposable income,” which allows him to offer significant support not only Cal-IPC but to other nonprofits, as well. “A gardener being a major donor of several nonprofit organizations? Only in this time and in this place,” muses Jake.

After his 1990 retirement, he began volunteering seriously for the California Native Plant Society, eventually serving as President as well as Chair of the Invasives Exotics Committee. Once he realized that invasive plants were displacing as many native biological communities as development, removing invasive plants from native communities became his focus. Jake's history with Cal-IPC reflects this sustained focus: “When the Cal-IPC was being formed in 1992, I joined the effort, and have been strongly supporting the organization since.”

Jake takes a broad view of the invasive species issue, explaining that “the free movement of vast numbers of nonnative organisms around the world is creating havoc, and is likely to be one of the great mistakes that human society will come to regret ignoring.”

He sees Cal-IPC as an organization taking action on this mistake: “It is amazing what Cal-IPC has accomplished in a short 15 years, and I am pleased to be able to help the organization.”

Greg Omori

Oceanside, CA



Twenty years ago, fresh out of college at Cal Poly, San Luis Obispo, Greg Omori began working for his family's business, Agri Chemical & Supply, Inc., just as it started its first invasive plant control project: a contract to remove thousands of acres of artichoke thistle on Camp Pendleton Marine Base. Of the project, Greg recalls, “My brother Gary and I used to walk the hills of Camp Pendleton navigating through rattlesnakes—luckily we avoided being bit!” Despite what may have been a rather harrowing first encounter with invasive plant removal, Greg stuck with it, working to expand their business in invasive plant control.

“We're still treating small populations of artichoke thistle on Camp Pendleton, among other invasive species, which include arundo, tamarisk, perennial pepperweed, fennel, and yellow starthistle,” says the now veteran supporter of invasive plant management. In more recent years, Agri Chem has

expanded services to include native restoration. Agri Chem's approach to weed control, Greg explains, is an aggressive treatment of the invasive coupled with respect for the sensitive habitat that they work to protect. He emphasizes that native habitat restoration is critical to preventing new weed introductions.

As part of his motivation to contribute to the endowment launch, Greg cited the value of Cal-IPC to the success of his family's business. Cal-IPC, he says, "is important to our industry for all the work it does, including promoting invasive weed awareness to the public and generating more support for the invasive weed industry." Cal-IPC also supports Agri Chem's projects, he says, with information and training through its symposia, field courses, and newsletters.

"We believe that continued support of Cal-IPC will help all of our industry to do a better, more efficient job controlling invasive weeds," says Greg. "We are very happy and honored to support Cal-IPC."

Steve Schoenig

Davis, CA

Steve Schoenig spent his early years in eastern Los Angeles County near undeveloped areas which he witnessed being overrun by invasive plants. At the same time, his childhood proximity to Rancho Santa Ana botanic gardens fostered his appreciation of

native plants.

Steve is currently a Sr. Environmental Scientist at the Cal. Dept. of Fish & Game, where his focus is promoting biodiversity. His career path has taken him through undergraduate training in entomology, gradu-



ate work in invasive insects and biocontrols, and jobs as a biomedical researcher and a statistician for the state's biocontrol program. Ten years ago, he was asked to launch a GIS effort to support the Cal. Dept. of Food & Agriculture's weed programs, a project that eventually morphed into a position as state weed coordinator. Steve served on the Cal-IPC Board of Directors 1999 - 2007 and was President in 2006.

Steve is an advocate for early detection and rapid response, explaining, "It's all about triage and addressing the most urgent needs, which allows the somewhat small

amount of resources we have to be used on the high priority issues." He praises Cal-IPC for addressing the need for prioritization through its weed mapping and risk assessment projects.

On why he finds it important to support Cal-IPC's financial longevity, Steve says, "It's like Cal-IPC used to be a little funky airplane with a lawnmower engine, and now we've got a jet plane, but as soon as we run out of fuel, it still hits the ground, just harder and faster. The reserve fund is designed to offer backup fuel for the Cal-IPC jet."

Steve emphasizes the value of both the "incredibly dedicated volunteers" who sustained and grew Cal-IPC in the early years as well as the newer staff who have "taken it to a completely new orbit." Supporting that staff, he believes, calls for the security provided by a reserve fund.

A foundation for the future

It has been clear from the start of Cal-IPC that the organization would not exist, let alone thrive, without the passionate action of its supporters. Through their generous contributions, Jake, Greg, and Steve each found an important way—along with their own daily work on invasive plant issues—to turn their passion into real impacts. They recognized how the abundance in their lives could be put to work on behalf of protecting California's biodiversity. The accounts they have established form a foundation that will fortify Cal-IPC and allow its work to continue for many years to come.

June Bilisoly

Cal-IPC Legacy Donor

When June Bilisoly passed away recently, we learned that she had included Cal-IPC in her will. Her legacy gift will live on in the Cal-IPC endowment, helping the organization carry on its work in the future.

On November 11 of last year, June Bilisoly passed away in Portola Valley, a small town at the oak-wooded foot of the Santa Cruz Mountains on the San Francisco Peninsula. The town hosts an annual broom pulling event, and June was a member of the crew that started the tradition.

June was an only child who chose to

not marry or have children. She graduated from Mills College in 1952, and was a long-time supporter of groups including Committee for Green Foothills (protecting open space on the peninsula), Jepson Herbarium, and California Native Plant Society, as well as Cal-IPC. She was an ardent proponent of native plant preservation long before understanding of the issue was as widespread as it is today.

Cal-IPC member Paul Heiple, a veteran member of CNPS who worked alongside June as a member of the Portola Valley Conservation Committee, remembers her as a private person who loved backpacking and foreign travel and advocated passionately for invasive plant removal to preserve the native plants she loved. Paul recalls an encounter with June in 2000 when the

two of them were involved in activism for the preservation of Portola Valley in response to proposed new development. Paul heard June ask a consultant in charge of fuel reduction, "Why are you taking out native shrubs and leaving French broom? If the reason you are clearing is to reduce the danger of fire, the broom should be the first to go, not the last!" But the consultant could not find the plants, so June and Paul went themselves to remove the broom, and leaving a large pulled plant to mark the location for the consultant. This year, the annual Portola Valley Broom Pull was dedicated to June, and her friends and neighbors worked in her honor to pull the descendants of the broom she and Paul removed eight years ago.

Soil impact from basal bark treatment of wild fig trees

Soil residues, and off-target effects resulting from treatment with Garlon® 4

Katherine A. Holmes, Graduate Group in Ecology, UC Davis, and Alison M. Berry, UC Davis Road Ecology Center

Triclopyr is one of the most commonly used herbicides in natural areas. Basal bark herbicide applications, which involve applying herbicide to the lower portion of trunks or stems, are often used in restoration activities since this method allows treatment of individual invasive plants within a community of natives. Basal bark treatments require

Figs create dense groves that can dominate and supplant native trees and shrubs. They are common in the remnant riparian forests of California's Central Valley and foothills and can reproduce vegetatively from root sprouts and broken branches as well as from seeds dispersed by animals.



The high stem density found in invasive fig groves, like this one in Caswell Memorial State Park, poses a challenge in controlling the trees.

the use of concentrated herbicide solutions and, when applied to invasives with high stem densities, may result in the application of large quantities of herbicide for a given area.

This study evaluated the use of basal bark treatments for controlling *Ficus carica* (edible fig), a densely-stemmed, problematic invader of riparian forests in California.

California dried fig production has averaged 28 million pounds over the last five years. All dried figs harvested in the United States are grown in California's Central Valley. californiafigs.com

For these reasons, *Ficus carica* received a "Moderate" rating in the 2006 Cal-IPC Inventory.

We tested the effects of basal bark treatments of 25% triclopyr (trade name Garlon® 4) on research plots located in six different groves of figs. These treatments resulted in herbicide application rates that exceeded the labeled maximum use rate. After five months, soils near the fig trunks contained high levels of triclopyr residues, suggesting that the chemical made its way into soils during this period and was not completely degraded. Although the mortality of native plants transplanted into treated fig groves



Inspecting fig tree rings to learn more about the treatment's success.

was low, it was significantly greater than the mortality experienced by native plants transplanted into untreated control sites.

Although very effective in controlling invasive fig trees, the high herbicide application rates resulting from basal bark treatment preclude the use of this treatment in large fig groves. These treatments may be appropriate, however, when fig groves are small or isolated enough to prevent over-application on a per area basis. Unfortunately, neither limited basal bark applications of 25% triclopyr (less than 40% stems treated) nor foliar spray treatments of 2% glyphosate and 1% triclopyr were effective control measures. Further investigation is needed on ways to control large invasive fig groves, including basal bark treatments with more dilute solutions of triclopyr and stem injections with either triclopyr or another systemic herbicide.

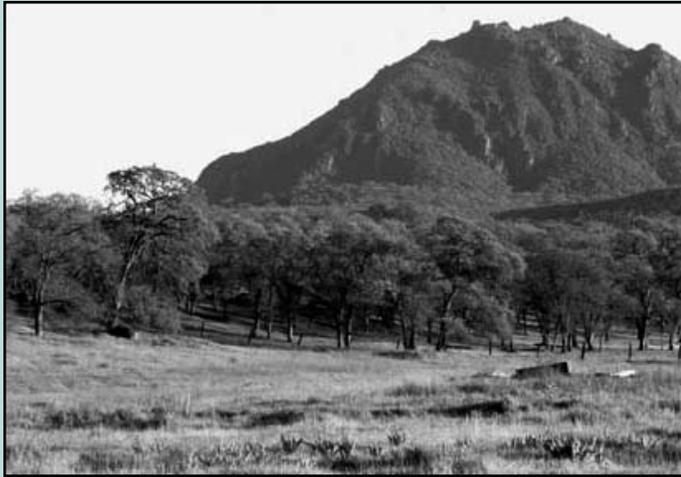
For more information:

Tu, M., C. Hurd, and J. M. Randall. 2001. *Weed Control Methods Handbook: Tools and Techniques for Use in Natural Areas*. The Nature Conservancy. Available: tncweeds.ucdavis.edu/handbook.html
 Bossard, C. C., J. M. Randall and M. C. Hoshovsky. 2002. *Invasive Plants of California's Wildlands*. University of California Press, Berkeley, CA. Available: www.cal-ipc.org

The 17th Annual Cal-IPC Symposium

The Future of Invasive Plant Prevention & Management

October 2-4, 2008, Chico State University



Sutter Buttes near Chico, technically the world's smallest mountain range

Cal-IPC members will receive the preliminary program and additional information by mail in May.

Registration will open in June. We encourage you to register online. Register by August 29 for the early discount. Students and Symposium volunteers are eligible for discounts.

Exhibit space is available to Symposium sponsors, with several levels of sponsorship. See our website for information.

Donate items for the **raffle and auction!** Be creative, be practical—artwork, books, tools, weedy novelty items—anything a weed worker could want. Contact Tanya (meyer@yolorcd.org) if you have an item to donate.



A favorite from the 2007 photo exhibit. *Photo: Rich Atmore*

Join 350 weed workers at Chico State University to share the latest information on invasive plant biology and management. This year's special sessions will focus on the future of invasive plant prevention and management in California, addressing issues such as climate change, future weed spread, future research priorities, and careers in the field.

The **Revegetation Field Course** on October 1 will provide in-depth training on revegetation as part of invasive plant management.

Call for papers! Abstracts for papers and posters are due July 1, 2008. See instructions on our website.



2005 Symposium on campus at Chico State

Submit photos for the 5th Annual Photo Exhibit. Symposium attendees will vote for their favorites, which are featured in the fall issue of *Cal-IPC News*.

New for students! Our first-ever student paper and poster contest is open to graduate and undergraduate students, as well as recent graduates. First-place paper and poster presenters receive \$250. Featured also are a career panel and job board.

It's all online at
[www.cal-ipc.org!](http://www.cal-ipc.org)

New opportunities in Sacramento and D.C.

It's spring again, when weed workers turn their attention to the weeds growing in the field. Spring is also legislative season, when weed workers try to impact the overall policy environment in which we work. There were new issues in Sacramento and



Ed Duarte, Heather Brady, and Josh Huntzinger teamed up to advocate for WMA funding in Sacramento this March.

Washington, D.C. this year, offering some exciting opportunities.

Protecting funding for Weed Management Areas (WMAs) was, as always, a central focus of Invasive Weeds Awareness Day at the Capitol on March 12 in Sacramento. Given the extensive cuts in the existing budget year (2007-08) and the proposed budget for next year (2008-09), it is important to consolidate the \$1.5 million currently allocated for the program. Though last year's bill to increase funding to \$2.5 million as originally passed by the legislature in 2006 (SB 311 from Sen. Dave Cogdill) is still "on suspense" in the Appropriations Committee, the current budget climate makes any increases in funding virtually impossible.

Teams of attendees at Weeds Day visited all 120 legislative offices—80 Assembly and 40 Senate—and found strong support for continued program funding. At this point, funding for the current budget year is intact

despite 10% cuts to many programs at the Cal. Dept. of Food & Agriculture (CDFA), and funding for the program remains in the proposed budget for next year. This is significant progress. In past years, weed workers have not been able to maintain the program through tough budget years.

Creating a state Interagency Invasive Species Council is a renewed effort to strengthen coordination for response to weeds and other invasive organisms. Such councils exist in Oregon, Washington, Idaho, Hawaii and Arizona, enabling state agencies, federal agencies, universities and stakeholder organizations to work together on invasive species issues. Weeds do not recognize fences at the local level, and the same type of coordination facilitated by WMAs is required at the state level.

In California, AB 2631 (Wolk) passed the legislature in 2004, and proposed creation of such a council. However, the development of the bill was flawed, and many stakeholders and agencies did not support it. Because Gov. Schwarzenegger was "blowing up boxes" at the time, he saw the council as additional bureaucracy and vetoed the bill. In the veto he instructed CDFA and the Resources Agency to come up with a plan to improve coordination. A short-lived effort by the Resource Agency's Biodiversity Council brought together representatives from 22 state and federal agencies. A recent Cal-IPC survey of these representatives found that 86% support forming a council. Weeds Day attendees encouraged legislators to support formation of such a council, whether through legislation or by supporting the departments in forming the body on their own.

S. 1949 (Reid), the 100th Meridian Revolving Loan Fund, was a central focus of National Invasive Weeds Week (NIWAW) advocacy in late February. The bill would provide \$80 million annually for high priority invasive species control work in western states. Though the funds are technically loans, they do not need to be fully repaid, and repayments can begin up to ten years later. Advocates at NIWAW worked to make the bill national in scope.

Revising "Q-37" regulations was another top federal issue. Through Quarantine 37, or Q-37, the US Dept. of Agriculture regulates the import of horticultural stock, one of the top pathways for introduction of invasive plants. The regulations have been widely recognized as too lax. Though USDA has initiated revision, the process has been slow. As demonstrated at Cal-IPC's international workshop on risk assessment in October 2006, countries like Australia have already developed effective screening protocol, and these have been tested in the US by researchers in Hawaii and Florida (see *Cal-IPC News* Winter 2006-07; proceedings at cal-ipc.org). Advocates encouraged Congress to make this important prevention policy a top priority.

Funding for biocontrol development at the USDA Albany lab was again a key position for our California team. Such funding supports important biocontrol work on brooms, Cape ivy, Russian thistle, and other weeds. The team also asked our legislators to **restore research funding to the University of California Integrated Pest Management program**, which has been key for supporting invasive plant studies in the state.

Finally, our team promoted the concept of a **National Network of Invasive Plant Centers** such as Cal-IPC, the Center for Invasive Plant Management in Montana, and others across the country. Such a network would serve to coordinate regional programs on early detection, outreach, and information resources.

One letter from your organization can help!

Help protect funding for the Weed Management Area program by sending a letter of support on organizational letterhead. See www.cal-ipc.org for a sample letter and instructions. Letters from more than 100 organizations helped secure WMA funding the last two years – show Sacramento it's still important!

PlantRight goes public!

After years of developing a strong partnership between the horticultural industry and stakeholders ranging from environmental groups to governmental agencies, the California Horticulture Invasives Prevention (Cal-HIP) partnership has gone public with the PlantRight campaign. The public outreach campaign was initiated this spring at the statewide level with three kick-off events at the Huntington Botanical Gardens (San Marino), Tilden Botanic Garden (Berkeley), and the UC Davis Arboretum. Educational events will continue throughout the year at the local level with presentations to garden clubs and other concerned groups.

Kick-off events were attended by home gardening opinion leaders, the horticultural industry and the media. These events led to multiple news articles throughout the state, including articles on the front pages of the gardening sections of the *San Francisco Chronicle* (March 15, 2008) and *Los Angeles Times* (April 10, 2008). The articles help advance the PlantRight campaign by increasing public and industry awareness of invasive species in horticulture and empowering Californians to stop the new introductions of invasive plants.

During 2007 Cal-HIP provided a list of invasive horticultural plants to nurseries, along with suggestions for possible alternatives. The program aims to convince businesses of all sizes, from local retailers to national chains, to transition invasive plants out of their nursery stock, and commit to supplying non-invasive alternatives. As the public education campaign grows, we expect growing customer demand for environmentally-friendly plants, which will spur greater participation from retail nurseries and their suppliers.

Cal-IPC has been a core member of Cal-HIP since its inception in 2004. Executive Director Doug Johnson says he is “excited

Is “sweet broom” invasive?

Each spring, concerned Cal-IPC members call the office to report broom for sale at their local garden center. But which broom is it? The answer points out the complications in addressing invasive plants for sale.

Most broom plants currently available for sale in California are labeled “sweet broom” (*Cytisus spachianus*, *Cytisus x spachianus*, or *Genista racemosa*), purported to be a sterile and therefore non-invasive cultivar. Though five other broom species are listed in the Cal-IPC Inventory as invasive in California, sweet broom has not been reported

growing outside cultivation, and we are not aware of it doing so elsewhere in the world. Dr. Fred Hrusa with the California Dept. of Food & Agriculture Herbarium has seen this plant for many years with no evidence of spread. Broom biocontrols researcher Dr.

Andy Sheppard from Australia says that it is frequently planted there, but they have not seen evidence of it “jumping the fence” into natural areas. To add to the confusion, hybridization and horticultural cultivars within the broom group make it difficult to tell species apart, and plants on nursery shelves may be mislabeled.

Cal-IPC and Cal-HIP are coordinating with researchers at UC Davis to work towards answering some of the questions about sweet broom: What is actually being sold under this name in nurseries? What is its relationship to other brooms? Does it have potential to hybridize with other brooms?

Bottom line—for now, Cal-IPC does not actively discourage the use of sweet broom. Science has not to date indicated that it is invasive, and we are supporting research to help clarify the situation. The PlantRight campaign provides a powerful opportunity to influence the horticultural community on the issue of invasive plants. Weed workers throughout the state can make the campaign a success, so that there will be well-informed dialogue in the future over plants like sweet broom.



to be working directly with the nursery industry leaders on this problem because they interact daily with all the plant lovers out there, and these are the people most likely to help address the invasive plant problem.”

You can help!

In order to reach more home gardeners, Cal-IPC is working to bring the campaign to the local level with the assistance of you, our membership. Our goal is to have Cal-IPC members give presentation to 100 local garden clubs and to attend 15 local plant sales to educate plant enthusiasts and home gardeners about their opportunities to choose non-invasive plants.

Cal-HIP has created a PowerPoint pre-

sentation, brochures, and regional handouts geared for presenting to garden clubs. Cal-IPC is working to locate and contact interested garden clubs throughout California, and we welcome your suggestions of local groups or upcoming plant sales.

This is your chance to help protect the places you love, to educate your community on the problems associated with invasive plants, and to become a part of this historic state-wide campaign!

To learn more, contact Outreach Coordinator Heather Brady at hjbrady@cal-ipc.org or (510) 843-3902.

Visit www.plantright.org for additional information on the campaign.

2008 Update Adds a Plant and Revises Distribution Data

In January, the Cal-IPC Inventory committee met for its annual review. This year's revision focused on updating information on the geographic distribution of plants already on the list. Last July, participants in a meeting at UC Riverside reviewed the Inventory and found several plants that should have been listed in the south coastal region. In addition, Weed Management Areas provided data on 36 species last summer as part of our Weed Risk Assessment project, enabling us to confirm additional regions invaded by 26 species. This information has now been incorporated into our online database.

WMAs are currently helping us with data for the remaining 220 species on the Inventory, and we will continue to update distribution information after that data is compiled.

The committee added one new plant to the Inventory and revised information on another. *Genista linifolia* (flax-leaf broom or Canary Island broom), evaluated by John Knapp, was tentatively added as a "Moderate" species based on its invasiveness on Santa Catalina Island. So far, it is known to occur only on the Channel Islands. Populations may have existed on the mainland in the past, but we know of none persisting now. We are awaiting some additional information before finalizing the listing of this plant.

Thanks to additional information provided by Cal-IPC members Chip Steers and Cindy Burrascano, we revised the plant assessment for *Chrysanthemum coronarium* (crown daisy). The overall rating remains Moderate. As always, the Cal-IPC Inventory

rates plants based on their statewide impacts and potential for spread. In the future, we hope that regional groups will develop lists for specific areas of the state in order to refine information to reflect the varied climates and geography of California.

This year's committee is Joe DiTomaso, UC Davis (chair); Edie Allen, UC Riverside; Joanna Clines, Sierra National Forest; Mike Kelly, Kelly and Associates; John Randall, The Nature Conservancy; Cynthia Roye, California State Parks; Andy Sanders, UC Riverside; and Peter Warner, California State Parks.

Submit Inventory information to Project Manager Elizabeth Brusati, edbrusati@cal-ipc.org.

Thank You for Supporting our Work!

Recent Donors

John P. Anderson (Ft. Funston Green Team, San Francisco), **Margaret Berry**, **Jason Casanova** (Los Angeles), **Bob Case** (Concord), **David Chang** (Santa Barbara County Agricultural Commissioner's Office), **Chris Christofferson** (Plumas National Forest, Chico), **Joanna Clines** (Sierra National Forest, North Fork), **Catherine M. Davis** (East Lansing, MI), **Conejo Valley Garden Club** (Thousand Oaks), **El Cerrito Garden Club**, **Jim Duncan** (Ashland, OR), **Jennifer Erskine-Ogden** (San Francisco), **Meryl A. Faulkner** (Project Wildlife, La Jolla), **Doug Gibson** (San Elijo Lagoon Conservancy, Encinitas), **Jason Giessow** (Encinitas), **Dan Gluesenkamp** (Audubon Canyon Ranch, San Francisco), **Bud Hoekstra** (Berry Blest Organic Farm, San Andreas), **Mike Kelly** (San Diego), **David Loeb** (Berkeley), **Fritz Maytag** (San Francisco), **Cheryl McMormick** (Santa Lucia Conservancy, Carmel), **Tanya Meyer** (Davis), **Mark Newhouser** (Sonoma Ecology Center, Eldridge), **Michael Peterson** (Teichert Aggregates, Sacramento), **Kate Symonds** (US Fish &

Wildlife Service, Santa Rosa), **Wendy West** (UC Cooperative Extension, Placerville), **Matt Zlatunich** (San Francisco)

Cape Ivy Donations

CNPS Orange County Chapter, **CNPS Santa Cruz County Chapter**, **Steve Hartman** (CNPS Los Angeles Chapter, Reseda), **Halli Mason** (CNPS Los Angeles Chapter, Reseda), **Bob Rutemoeller** (Gualala)

Welcome, New Members!

Jennifer Bridgewater (USDA, Forest Service, S. Lake Tahoe), **Allegra Bukojemsky** (Biohabitats, Inc., San Francisco), **A. Crawford Cooley** (Novato), **Lee Delaney** (Western Shasta RCD, Anderson), **Lori Dieter** (Chico), **Nancy Dawaon Dollard** (City of Walnut Creek), **Dan Efseaff** (River Partners, Chico), **Donna Ellis** (Studio City), **Jesse Gomez** (Newhall Land, Piru), **David Gorton** (San Joaquin Co. Public Works, Stockton), **Marcy Hachman** (UC Cooperative Extension, Stockton), **Sarah Hoskinson** (UC Davis), **Xiaohong Huang** (CA Dept. of Water Resources, Bakersfield), **Valerie Kay**

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Making your own Arundo hook

Unlike a swimming pool hook, which can cost \$80 or more, this hook is made with a wooden closet rod pole and PVC fittings and costs approximately \$30. The pole is Douglas fir for minimal flexibility, and maximal strength, lightness and absorption. Although aluminum is lighter, it can be too flexible and the non-porous surface will drip herbicide down the handle. Fabrication time: approx. 30 minutes.

Hook parts list

- 2 – 3/4" PVC electrical sweeps
- 1 – 3/4" PVC T
- 1 – 3/4" PVC end cap
- 1 – 3/4" PVC 90
- 2 – 3/4"x 3" PVC pipe
- 1 – 5/16" x 2" bolt and locknut
- 2 – 5/16" washers, bent to curve around PVC
- 1 – 1 1/4" x 8' D. fir closet rod
- PVC primer and glue

Tools needed

- Razor knife
- Sanding block, 80 grit
- PVC cutter or saw
- Drill, 5/16 bit
- Ball peen hammer
- Vise or clamp

Construction

Cut the 2-3" PVC pipe sections
Primer and glue PVC (at each step, straighten on flat surface before glue sets)

- Glue sweeps to T to form larger hook
- Glue 3" sections to 90 and end cap to form small hook
- Glue small hook to large hook
- Using the female end of the PVC sweep, mark the amount of wood to carve off the end of the closet rod.
- Roughly carve away wood starting 2" from end of rod using razor knife.
- Test fit with end of PVC.
- When carved end is close, switch to sanding block and evenly smooth

the carved area, testing fit often, until it fits snugly and rod inserts fully into the PVC sweep

- Sand the end of the handle to remove any splinters
- With the handle completely inserted into the PVC and laying flat, mark the PVC 3/4" from the end and drill a 5/16" hole through the PVC and wooden rod.
- Bend the washers in the vice with the ball peen hammer until they wrap around the PVC
- Insert bolt with curved washers and tighten lock nut just until PVC begins to distort.

Note:

The bolted section is the most vulnerable part of the tool, so it is important that the wood and PVC fit well and the stress of the bolted area is dispersed by the curved washers to prevent the PVC from cracking. If it does fail, the hook can be reversed and attached to the other side.



Mark Newhouser is Restoration Director at the Sonoma Ecology Center. Contact him at mnewhouser@sonomaecologycenter.org.



Quotable

“Tiny quagga and zebra mussels are invasive species that represent an environmental nuclear bomb for California’s reservoirs and waterways.”

Tom Stienstra, Outdoors Writer, San Francisco Chronicle, April 3, 2008

“The state has strategic plans in place, but implementation is impossible without a formal interagency coordinating body given resources and responsibility to undertake the work. Oregon, Washington, Idaho, Hawaii and Arizona have established such “Invasive Species Councils” in the last several years. It is high time that California did so as well.”

Doug Johnson, guest commentary in Ag Alert, March 19, 2008

“In addition to everything else to worry about, now comes the Burmese python. The giant snakes are slithering from Florida toward the Bay Area, very slowly to be sure, but inexorably. And they can strangle and eat an entire alligator. The US Geological Survey released a map Wednesday showing that the Bay Area has comfortable climatic conditions for the python. The snakes weigh up to 250 pounds and slither at a rate of 20 miles per month.”

San Francisco Chronicle, February 21, 2008

“Seventeen percent of the rare, threatened, or endangered plants in California are in genera that are recorded as hosts of the light brown apple moth, and 41 percent of the threatened or endangered insects in California feed on plants in genera recorded as hosts”

Kevin Hoffman, State Entomologist, California Dept. of Food & Agriculture, “Need to Put Money Where Our Moth Is”, Monterey Herald, April 5, 2008

“Invasive species issues are the most important issues in the universe. The known universe—there may be something big going on in Alpha Centauri we haven’t figure out, but... It took 257 million years for us to evolve five continents worth of diversity. It will take a few hundred years to lose that. If we fail to act, we’re going to have one continent’s worth of diversity. Forever.”

Dan Gluesenkamp, “Non-Invasive Ways to do Holidays in Hawaii” on Youth Environmental Road Trip, <http://blip.tv/file/781189>

THE WILDLAND WEED CALENDAR

California Native Grasslands Association Annual Conference - Conserving California's Grasslands: Policies and Practices

May 1-3, 2008

Santa Rosa

www.cnga.org/action/conference.php

Southern California Wetlands Recovery Project Symposium

May 6-8, 2008

San Diego Convention Center

www.lasgrwc.org/WRP/symposium2008

Fourth Annual Bringing Back the Natives Garden Tour

Sunday, May 4, 2008

East Bay, San Francisco Bay Area

www.bringingbackthenatives.net

Bay Area Open Space Council Annual Conference

May 21, 2008

San Francisco

<http://loppenspacecouncil.org>

Weeds Across Borders Biennial Conference

May 27-30, 2008

Banff, Alberta, Canada

www.nawma.org

Weed Day

July 17, 2008

UC Davis

<http://wric.ucdavis.edu>

Cal. Invasive Weeds Awareness Week

July 21-27, 2008

A great time to meet with your legislators, show off your weed management projects, or conduct outreach campaigns.

www.cal-ipc.org/policy/state/ciwaw.php

SERCAL Annual Conference - Restoration's Bigger Picture: Linking Local Restoration with Regional and Global Issues

August 13-16, 2008

Santa Rosa

www.sercal.org/2008_conference.htm

Statewide Master Gardeners' Conference

September 24-26, 2008

Asilomar

http://groups.ucanr.org/mg_conference/

Statewide WMA Meeting

Fall 2008

Woodland

www.cdfa.ca.gov/PHPPS/IPC/weedmgmtareas

Cal-IPC Symposium

October 2-4, 2008

Chico State University

www.cal-ipc.org

Southern California Botanists' Symposium

October 2008

CSU Fullerton

www.socalbot.org/symposia.php

Readings & Resources

Know of a resource your fellow weed workers should hear about? Please contact info@cal-ipc.org.

New Journal

Invasive Plant Science & Management debuted in January, with over a dozen articles. Dr. Joe DiTomaso serves as editor. All abstracts and some articles are available online. www.wssa.net/WSSA/Pubs/IPSM.htm

Special Journal Issue

A recent issue of the journal *Diversity and Distributions* (Vol. 14, No. 2) focused on invasive species. "Fifty years of invasion ecology: The legacy of Charles Elton" is available at available online at www.blackwell-synergy.com/toc/ddi/14/2

Genetics Resources

As discussions continue about the potential genetic risks of landscaping with native plants, several resources provide useful background on the topic, including "The intersection of conservation and gardening: An overview of the consequences of growing California native plants" by Bart O'Brien in *Fremontia* from the California Native Plant Society. <http://cnps.org/cnps/publications/fremontia/Fremontia29-1.pdf>. "Genetic pollution and the use of native plants in restoration and landscaping" was presented by Deborah Rogers of the Center for Natural Land Management at a CNPS conservation meeting, and is available at www.cnps.org/cnps/conservation/conference/2007/index.php. This site includes other useful links, such as fact sheets from the University of California's Genetic Resources Conservation Program.

Workshop Materials

Presentations and handouts from the UC cooperative Extension workshop "Yellow

starthistle control and preventing the spread of invasive weeds in El Dorado County" are available at <http://ceeldorado.ucdavis.edu>

Field Guide

Selected Invasive Weeds of the Central Sierra Nevada - A Field Guide is now available. The guide includes color photos for identifying each weed as well as details on description, reproduction, origin, habitat, and control. <http://ceeldorado.ucdavis.edu/files/40826.pdf>

Book

American Chestnut: The Life, Death and Rebirth of a Perfect Tree, by Susan Freinkel, is the story of chestnut blight and the efforts to thwart it, both historical and current day, including hypervirulence, backcross breeding, genetic engineering, and attempts to breed for natural resistance. The author places the blight in the broader context of invasive species and forest pests.

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.**

Membership

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 Organization* \$150

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

Joint Memberships

- add SERCAL only +\$25
 add CNGA only +\$35
 add SERCAL & CNGA +\$65

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

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

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