



# Cal-IPC News

*Protecting California's Natural Areas  
from Wildland Weeds*

Vol. 12, No. 1, Spring 2004

Quarterly newsletter of the California Invasive Plant Council



## Scottish Scourge

Scotch thistle (*Onopordum acanthium*), once used by Scottish nobility to protect castles from invaders, has become an invader itself in far northern California (feature story p. 4). Agricultural Commissioner Joe Moreo stands in front of a Scotch thistle infestation in Modoc County.

Photo courtesy Carri Pirosko, CDFA

### Inside:

New Tools: Flaming  
Bladder senna project in Chico  
California Conservation Corps  
Genetically modified weeds?



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A California 501(c)3 nonprofit organization

### Our Mission

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

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## Cal-IPC News

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## From the Director's Desk

### The politics of weeds

Spring is an active time of year, and not just in nature. Lawmakers get busy with budgets and legislation, and weed workers advocate for increased support. Our California delegation joined other states' representatives at the National Invasive Weed Awareness Week in February. Then, in March, groups in California organized Invasive Weed Day at the Capitol, which brought attendees to Sacramento for visits with agency representatives and legislators.

What are we after? Resources, for one. The tremendous amount of work accomplished by Weed Management Areas in the last several years was energized by the availability of seed money. Though grants were not large, they leveraged extensive local participation in many counties. Coordination is a second goal. The WMAs have illustrated the effectiveness with which agencies and land managers can collaborate at the local level. We need similar action at the regional, state, and federal levels. Responsiveness is a third, related goal. When new infestations are identified, it is key that we be able to respond quickly—the resources must be in place and the relationships must already be coordinated.

Recent state legislation introduced by Assemblymember Lois Wolk of Davis seeks to address some of these problems. AB 2631 is designed to create a California Invasive Species Council made up of representatives from eight state agencies, as well as an advisory committee that would help the council develop statewide plans for action. The Nature Conservancy has taken the lead on developing the legislation, with input from a range of stakeholders. Wolk sponsored the legislation after being disappointed in the lack of resources and coordination shown in response to the discovery of the invasive New Zealand mud snail in her district.

Whether such a council will improve matters remains to be seen, but it is certainly a step forward in getting official recognition of the severity of the invasive species problem. We thank The Nature Conservancy, as well as the many stakeholders that have worked with them. If the council is created, we will actively lend our support to the mission of increasing resources and coordination.

Tired of politics? Well, that's OK, because we're here to follow the developments for you and let you know when it's important to act. In the meantime, this issue of *Cal-IPC News* features new info on flaming as a tool, the California Conservation Corps, a successful eradication project in Chico, glyphosate-resistant creeping bentgrass, and more.

Have a great weed season out there!



**Washington D.C. in February.** The perfect time to get legislators thinking about spring...and invasive plants.

Photo by Brianna Richardson

# Wildland Weed NewsNewsNewsNewsNews

On February 24 the U.S. House of Representatives **passed HR-2707**, the “Saltcedar and Russian Olive Control, Assessment, and Demonstration Act.” This bill authorizes \$6 million to assess the extent of the saltcedar and Russian olive infestation in western states, and \$125 million through 2010 for demonstration control projects. The companion bill S-1516 is on the Senate calendar. Legislation text available at <<http://thomas.loc.gov>>

SePRO's herbicide **Renovate** (triclopyr) will be registered for use in California in April, 2004. This aquatic herbicide targets parrotfeather, water primrose, Eurasian watermilfoil, and purple loosestrife. For more information contact Scott Shuler at <[scotts@sepro.com](mailto:scotts@sepro.com)>

The U.S. Fish and Wildlife Service's “**Stop Aquatic Hitchhikers!**” program has enjoyed success in its first year, including: 54 formal partners, an email news service with more than 700 subscribers, generation of local and national news coverage, and leveraging approximately \$1.8 million in direct and in-

## Save the Date! 2004 Cal-IPC Symposium October 7-9 in Ventura Invasive Plants and the Wildland/Urban Interface

kind support for outreach activities.  
<[www.protectyourwaters.net](http://www.protectyourwaters.net)>

Voters in **Mercer Island, Washington** defeated a ballot proposal that would have increased property taxes to raise \$12.5 million over 10 years for fighting English ivy and other invasive plants in the city's forests and open spaces. <*Seattle Times, March 10*>

A draft **Alternative Consultation Agreement** has been proposed between the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Environmental Protection Agency. The agreement will increase the EPA's responsibilities for assessing effects on threatened and endangered species

as part of their evaluation and re-evaluation of herbicides. All EPA determinations will no longer be reviewed by the services; instead they will only conduct “periodic reviews.” The agreement will also require the EPA to post its endangered species determinations on-line and to review new research conducted by private and university researchers. Debate about the agreement continues between environmentalists, pesticide companies, and agency representatives. <[www.epa.gov](http://www.epa.gov)>

Several studies have shown that California's weeds are getting increasingly resistant to the popular herbicide Roundup. Weed ecologist Tom Lanini estimates that **Roundup-resistant weeds** now affect 5,000 acres of California farmland. <*UC Davis Magazine, V.21, no.3, Spring 2004*>

The Union of Concerned Scientists and the National Environmental Coalition on Invasive Species announced the release of the **Call to Action on Invasive Species**. Signed by almost 800 invasive species experts and 120 citizen's groups, the Call to Action challenges the federal government to take a “more comprehensive approach to protecting our resources.” <[www.ucsusa.org](http://www.ucsusa.org)>

In 2003, the Connecticut legislature created an **Invasive Plants Council**, which makes recommendations to the state government about which plants should be banned from sale. The state's General Assembly is expected to review the IPC's recommendations in the upcoming legislative session.  
<[www.hort.uconn.edu/cipwg](http://www.hort.uconn.edu/cipwg)>

The governor of Hawaii, Linda Lingle, pledged \$20 million over the next four years to support the **Hawaii Invasive Species Council** in her State of the State address.  
<[www.hawaii.gov](http://www.hawaii.gov)>

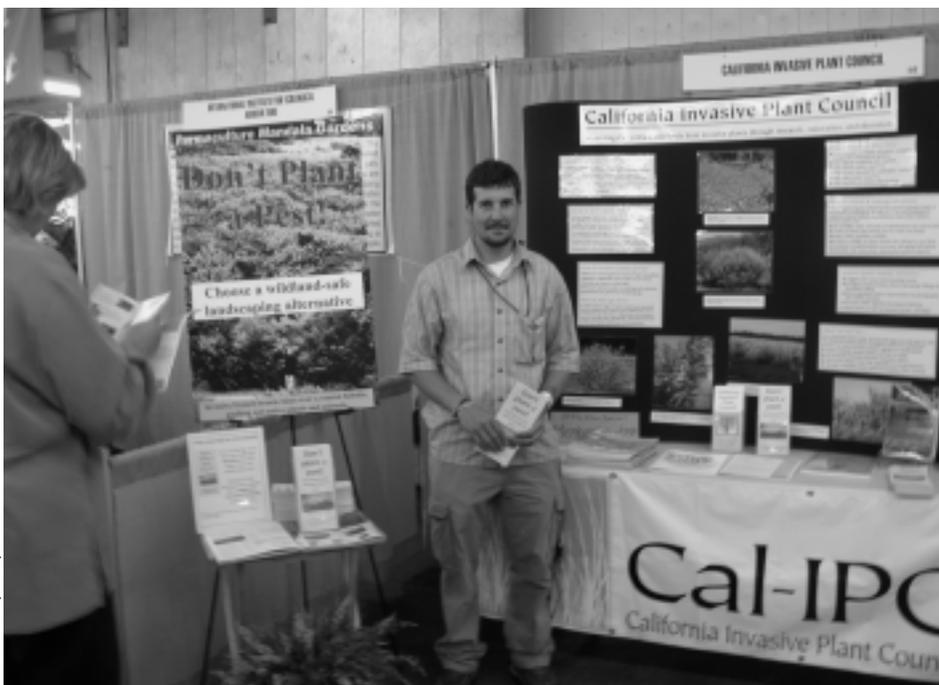


Photo courtesy Holly Crosson

**Scott Taylor of the San Francisco Weed Management Area** helped staff Cal-IPC's booth at the San Francisco Flower and Garden Show. The show was held March 17-21 at the Cow Palace. More than 2000 visitors left with the Cal-IPC 'Don't Plant a Pest' brochure, and several joined as members. The overwhelming response to our message was one of support; “I hate broom!” was a common refrain among visitors.

# The A-rated North

A profile of the beautiful but threatened northeastern counties of California

By Brianna Richardson

The words “northern California” make most people think of the San Francisco Bay Area, though Humboldt redwoods may occur to a few adventurers. But California covers more territory than that, and some of the state’s most spectacular scenery and unusual invasive plants can be found north of Redding. If you’ve driven Interstate 5 to Oregon, you may have “seen” northerneastern California, but you’ve missed many of the best parts. Home to the Klamath, Shasta-Trinity, Lassen, and Modoc National Forests, this area also boasts the Warner Mountains, Mount Lassen, and Goose Lake. There are national wildlife refuges, wilderness areas, and the best fly-fishing in California on Fall River and Hat Creek. The high deserts, snowy mountains, volcanic uplands, montane forests, woodlands, and valleys of Modoc, Lassen, and Siskiyou counties still look much like they did 150 years ago. With a combined population of just 87,688, these counties still have lots of wide open spaces.

Unfortunately, the scenery is not the only thing unique to northeastern California. This region is also home to the highest density of A-rated noxious weeds, those weeds for which the California Department of Food and Agriculture mandates eradication. Many of these weeds aren’t found, or are found in very limited numbers, in other parts of California. Leafy spurge, squarrose knapweed, diffuse knapweed, spotted knapweed, Scotch thistle, dalmation toadflax,

perennial sowthistle, musk thistle, plumeless thistle, and taurian thistle are some of the invaders the northeastern counties contend with.

Surprisingly, many of the invasive plants that “get all the press” are almost absent in the northeast counties: pampasgrass, broom,

Cape ivy, and *Arundo* are all scarce. Yellow starthistle, while present, is very limited and is in fact treated as an A-rated weed in both Lassen and Modoc counties, because it is uncommon enough there to be considered eradicatable.

Shared borders with Oregon and Nevada, both of which host invasive plants not yet widespread in California, are the primary reason so many A-rated plants are found in the northeast. Sharing fire-fighting equipment between states also brings the seeds and plant parts of these invaders into the area. And because so much of the land is undeveloped—rangeland, forestland, wildland—it is particularly susceptible to invasion.

Many of the weeds in the northeast are well-suited to invading other parts of California—they just haven’t gotten there yet. Luckily for the rest of us, northeastern California takes its weed work seriously.



Photo © 2001 CDFA



Photo courtesy Carri Piroshko, CDFA

**Above: Scotch thistle flower head.**  
**Right: Weed workers remove a young Scotch thistle with shovels.**

This perennial grows to eight feet in height and more than six feet in diameter, with stems up to four inches thick. The leaves are covered in a dense mat of hair. The globe-shaped flowers range from dark pink to lavender. Each plant produces as many as 30,000 seeds, which last up to 20 years in the soil.

Joe Moreo, Modoc County Agricultural Commissioner, estimates that 99% of the energy, time, and resources of his office are spent fighting Scotch thistle, which is widespread in Modoc county, but scarcely known elsewhere in the state.

**Leafy spurge (*Euphorbia esula*)** infests more than five million acres in the United States and southern Canada. The plant's sap causes blisters in the mouths of cattle, rendering infested rangeland useless. Control costs in Montana, the Dakotas, and Wyoming are estimated at \$40 million a year, with indirect costs running as high as \$89 million. There are only four known populations in California, three of which contain fewer than 100 plants.



Photo © 2001 CDFA

Agricultural Commissioner's Offices, weed management areas, and public agencies in the area accept their responsibility to eradicate A-rated weeds uncompromisingly. The county noxious weed programs in Modoc, Lassen, and Siskiyou counties include mapping, monitoring and surveying, and prodigious amounts of on-the-ground control. In 2003, these county agricultural offices logged more than 13,000 personnel hours in on-the-ground control.

During the treatment season, the Modoc County Agricultural Commissioner's office has 10 spray rigs out on any given day, and the roadside program hires 12 seasonal staff. According to Joe Moreo, the county's Agricultural Commissioner, they have an annual budget of \$300,000 for weed control and they spend 90% of it spraying. They begin with helicopters and follow up with truck-mounted sprayers. Moreo sees the spray program as a way to hold these species in check until effective biocontrol agents are available.

Lynne Turner, the Agricultural Biologist for the Lassen County Department of Agriculture, says the department begins the season with chemical treatment of dalmatian toadflax in mid-March. They treat spotted and squarrose knapweed and Scotch thistle throughout the season, performing 15-20 hours of aerial spraying, followed with truck spraying and manual removal. On average, they treat 800 net acres of noxious weeds each year and an additional 200 miles of roadsides.

In addition to on-the-ground control, the northeastern counties also utilize cutting edge GIS technology and boast several weed mapping experts. Largely self taught, these mappers come from an invasive plant field background and have a good sense of what works and what doesn't when mapping weeds. They've formed a northern weed mappers group and have almost completed the task of putting all the weeds in the north onto one map. They hope to expand the map to include Washington, Oregon, Nevada, and Arizona. In addition, they want to design a common legend, with symbols for each weed, that will be freely available on-line to anyone mapping weeds in the west. Moreo believes they will need approximately 200 distinct symbols to map all the weeds west of the Mississippi.

Recently, Carri Pirosko of the California Department of Food and Agriculture has established formal monitoring plots and is collecting both quantitative and qualitative data. Her goals are to assess different treatment methods and to determine how long it takes to eradicate various weeds from a particular site.

In addition to mapping and monitoring, the northeastern counties perform extensive surveys each year as a first line

of defense against these A-rated weeds moving south into the Sacramento valley. Every major highway and many minor paved and unpaved roads are surveyed annually.

The northern county Agricultural Commissioner's offices partner extensively with other agencies, neighboring counties, and neighboring states. Moreo's office collaborates regularly with Nevada State Wildlife Areas and weed management areas, and on occasion lends spray equipment to Pershing and Washoe counties. Turner's office is a member of the Lassen SWAT (Special Weed Action Team) weed management area, which has 26 cosignatories. She does note, however, that Nevada's Scotch and musk thistle control programs are not as aggressive as Lassen county's, "which leaves [Lassen County] fighting."

Moreo also talks about the challenges that come with being on the border. The single infestation of leafy spurge (*Euphorbia esula*) that existed in Modoc county has been eradicated. But source populations remain just over the borders to the north and east. He is also concerned about aquatic weeds that may come in from Oregon and Nevada.

Other challenges that may seem more familiar to weed workers in the rest of the state include shortfalls in funding, personnel, and equipment. Funding, in particular, is a concern.

North continued on p.14...



Photo courtesy Carri Pirosko, CDFA

CDFA's Carri Pirosko with a pile of Scotch thistle that has been manually removed.

# Think Heat—An introduction to flaming as a weed control tool in wildlands (Part 1 of 2)

by Ken Moore, Founder, Wildlands Restoration Team, Santa Cruz, CA

*Editor's Note: The second installment in Think Heat, including results from research plots established by Ken Moore and Carla Bossard, will be published in an upcoming edition of the Cal-IPC News.*

It was a sight to drive fear into the heart of even an old veteran weed warrior like me. Using volunteers, I had begun the initial removal of French broom in state parks in the Santa Cruz mountains, and now a vast green carpet of broom seedlings, triggered by removing the cover of those parent plants, was rising from the ground like a tidal wave. As the number of cleared sites mounted, I began to wonder if we could hold the ground we had gained. Watching workers who had enthusiastically pulled large plants for hours fade fast when faced with this seemingly endless carpet of seedlings, I knew I was in trouble. I needed a new approach—and if I was to prevent seed set on these hard won sites, I needed it quickly.

I had read that flaming was an old technique used to control weed seedlings in row crops using tractor mounted equipment, and the idea of using a hand held torch to control invasive species in wildlands intrigued me. I was skeptical, but I was also desperate. Spraying wasn't an option with my volunteers, and the broom was coming up everywhere—and fast. Results of an initial trial with a borrowed torch were encouraging, so I researched the range of equipment being made and bought my first flaming gear.

I soon realized I was on to something. With only a little practice, I was getting well over 90% kill in one application. Flaming was reasonably fast, and very effective. The equipment required little maintenance and was not expensive. I soon bought more equipment, established some safety rules, and trained a few of my best helpers. They were enthusiastic, and they quickly learned the technique. Bingo. Seed set was prevented, and thousands of hours of previous hard work was not squandered.



Moore 'green flaming' French broom seedlings.

Flaming has been a key component of my broom control strategy ever since. I would not have been able to prevent seed set from re-occurring on many of my sites without it. Because I now had such an effective follow-up tool, I had the confidence to undertake the removal of all the remaining broom I found in my work area, which

is scattered over some 40,000 acres in six state parks in the Santa Cruz Mountains.

I am giving flaming workshops with increasing frequency, and have now trained many people in several other agencies in this area. Many of these people are experimenting with flaming other species, and I am looking forward to getting their feedback.

St. Mary's College of California professor and former Cal-IPC president Carla Bossard has set up research plots on some of my sites to document the effectiveness of flaming on French broom, and to determine how this relatively light application of heat produces mortality without actually burning the plant. In an upcoming article, we will jointly present her conclusions with the anecdotal information I am gathering from practitioners elsewhere and my own trials, which I am now beginning on other species here. (If any of you have used this technique, contact

me soon so we can include your findings as well.)

Our article will also describe the variety of flaming equipment that can be used for wildland weed control, the technique, safety protocols, and other considerations. Based on Carla's findings and the information I am gathering, we will try to synthesize guidelines on the types of plants flaming might be expected to be effective on here in California, some which it may not be effective on, and why.

For now, here is some basic information about flaming:

## 'Green' Flaming

Flaming, sometimes called boiling, wilting, or blanching, can probably be used to control many as yet untested broadleaf species

when they are in the very early stages of growth, and may present a viable alternative to spraying in these circumstances. Since the only byproduct is carbon dioxide, it has minimal environmental impact.

Contrary to what the name seems to imply, this method of flaming does not involve incinerating the plant. Heat is applied just long enough to produce visible wilting. Plants do not become brown and appear dead until the next day. How this quick application of heat kills the plant is the subject of much theorizing, and a combination of factors may be involved. The results of Carla's research on the cause of mortality will be presented later.

Flaming provides an effective way of coping with the huge flush of seedlings which is often triggered by the initial removal of parent plants, when the site is relatively free of vegetation. This window usually lasts two to four years on my sites, and these are the years which typically produce the largest crops of seedlings. Flaming becomes less efficient in succeeding years as small broom seedlings become harder to see and treat among native species re-establishing on the site.

Flaming creates no ground disturbance, allowing conditions favoring invasion to be brought to an end much sooner than with hand pulling.

While flaming is not quite as fast as spraying herbicide, it can be applied more selectively, and there is no wind drift of spray to jeopardize nearby plants. And, because plants are killed when very small, there are no residual dead stalks in the way to hinder future follow-up efforts.

Flaming must be done when the ground and vegetation is too wet to carry fire, and in California this coincides with the time many of our weedy species are at the right growth stage—late winter and early spring. I like to flame best when it is actually raining, as it eliminates any chance of backfire and allows me to work safely in conditions when other control methods are at least unpleasant, or, as in the case of spraying, infeasible.

So is flaming the answer to all our problems? Certainly not. As with any method, flaming has significant limitations. Site conditions may not be wet enough during the short time when the seedlings are small enough for flaming to be possible. Although the equipment has effective built-in safety devices, improper training or

**Heat, continued on p.13...**

## NIWAW V: Capitol Weeds

The fifth annual National Invasive Weeds Awareness Week (NIWAW) was held February 23-28 in Washington D.C. People from all over the country (and at least one from Canada) met in Washington to learn what is being done about invasive plants at the federal level, and to meet with their representatives to discuss invasive plant issues and legislation.

This year's California delegation included David Chang, Santa Barbara County Agricultural Commissioner's Office; Bob Case, Contra Costa County Department of Agriculture; Nelroy Jackson, National Invasive Species Advisory Committee; Steve Schoenig, California Department of Food and Agriculture; and Brianna Richardson, California Invasive Plant Council.

Mornings were spent in briefings with federal agency representatives from the U.S. Department of Interior and the U.S. Department of Agriculture, who outlined existing and future programs for dealing with invasive weeds and invasive species in general. We learned that: the U.S. Geological Survey is coordinating a network of invasive species databases to allow for early warning on new weed pests; the Pulling Together Initiative will

continue funding Weed Management Areas on a competitive basis; the U.S. Fish and Wildlife Service supports biological control and will expedite all requests for review; and the U.S. Forest Service supports increasing funds available through its competitive grant process.

Afternoons were spent visiting legislators on Capitol Hill. The California delegation met with 14 California legislators to discuss the work being done in the state, and how the federal government can help.

One of the goals of this year's NIWAW was to encourage legislators in the House to adopt and pass the language of Senate bill S-144, also known as the Craig bill. If passed, this bill will provide \$100 million for "weed management entities" around the country. The bill is currently in the House Resources Committee, and has not been brought up for a vote.

Another key goal for the legislative visits was to encourage support for a national early detection/rapid response system, including a \$50 million contingency fund. The California delegation also garnered support for the Broom Biological Controls funding request that is being introduced by

**NIWAW, continued on p.9...**



**California delegation (from left):** David Chang, Bob Case, Steve Schoenig, Brianna Richardson, Nelroy Jackson.

Photo courtesy: Brianna Richardson

## Project Profile

# Bladder Senna Eradication Project in Chico's Bidwell Park

By Susan Mason, Friends of Bidwell Park

In April, 2003, a small group of citizens in Chico formed a park advocacy organization, Friends of Bidwell Park. They were starting to discuss ways to help the 3,670 acre park, when the Chico Park Director commented that he was concerned about bladder senna spreading in the park's Cedar Grove area. This seemed like a good first project involving two areas of concern—invasive plants and the need to enlist more volunteers to help the park. At the time, we were novices regarding invasive plant removal.

A botanist identified the shrub of concern as bladder senna (*Colutea arborescens*) and we started looking for it in the park, eventually mapping 62 infestation sites up to four miles apart, ranging in size from a few plants to thousands. Fortunately, we started work in May, when the plant was covered with yellow blossoms, so it was easy to spot. As we mapped, park visitors told us of other sites. Some of the older infestations had thickets of bladder senna so dense we couldn't see any other plants growing there. The original planting maps of the Cedar Grove area from 1900 showed only one bladder senna at that time—at least 250,000 plants from just one shrub!



Photo courtesy: Susan Mason

**A volunteer** uses a weed wrench to remove bladder senna shrubs in Bidwell Park.

We wanted to learn more about the plant's characteristics, but little accurate, scientific information was available, so we had to rely on our own observations. Bladder senna is a large shrub in the pea family and is originally from the Mediterranean area. It spreads only by seeds, which are large (3–4 mm) and hard-coated. It is high in tannin and we found little evidence that any part of the plant was being used by wildlife for food.

Generally, there is a single taproot, three to five feet long, although plants that had been previously cut back also developed lateral roots. Growth rings indicated that some of the larger shrubs were at least 30 years old. Most infestations were along the edges of footpaths, making it clear how the plant spread. Park walkers obviously found the large pods irresistible, picking and popping them as they walked along. According to Jepson, there have been three confirmed sightings in California in Butte, Nevada and Los Angeles counties. The Nevada County plants are at the Empire Mine State Park and were also planted about 100 years ago. A local botanist described them as "struggling to survive." The higher elevation, lower winter temperatures and planting locations away from trails may account for the difference in the plant's invasiveness between the two locations.

Bladder senna was definitely a problem in our park, though, and we decided to eliminate it rather than just reduce the number of plants. In addition to the site map, we created a spreadsheet describing the characteristics of each site, and



Photo courtesy: Susan Mason

**Bladder senna pods.** Hikers pick and pop the pods as they walk, spreading seeds throughout the area.

setting priorities for removal based on distance from the main infestation, the site's isolation, presence of poison oak and Himalayan blackberry, and other factors. We kept track of individual volunteer hours and locations worked as a means of documenting the amount of time required to remove just one invasive plant species from the park. We were interested not only in future grant prospects, but also in convincing our local City Council that Bidwell Park needed more funding for maintenance.

After a few early attempts to pull out plants in Cedar Grove (we later learned these particularly hard-to-remove shrubs had been cut to the ground several times in an earlier attempt to control the spread), we focused our summer and fall efforts on removing the seedpods to reduce further population expansion. Since a mature plant can have as many as 1000 pods, this proved to be a time-consuming task. We learned that the pods were indehiscent, meaning that they remain closed at maturity, which gave us a longer time period to complete the pod removal. In October, we sponsored a "Make a Difference Day" project with 35 volunteers removing 12 garbage bags full of pods in just a few hours. About the same time, our project got a major boost when park volunteer, Laura Nissim, who had been working five hours every day

Photo courtesy Susan Mason



Photo courtesy Susan Mason



**A trail in Bidwell Park** before bladder senna removal (top) and after removal (bottom).

to remove ivy and privet decided to focus on bladder senna instead.

Laura and other regular volunteers live in nearby Paradise, a community that has its own park system. Fortunately for us, when these volunteers offered their services to the Paradise park department, they were turned down. Paradise's loss is our gain as they have subsequently volunteered hundreds of hours in Bidwell Park. "Working in the park as we have been doing is the most satisfying thing I have ever done," is Laura's view of her work in Bidwell Park.

Besides the essential volunteer cadre, an adequate supply of the proper tools, offering regular weekly weeding sessions, disposal of the pulled shrubs by the Chico Park Department, and the use of email for organizing have been essential to the project.

From experimentation, we knew that the Weed Wrench was the only way to efficiently remove these plants, which have a woody stem and long taproot. We started with six

wrenches borrowed from the local California Native Plant Society, Mt. Lassen Chapter. We also wrote to local businesses, asking that they buy and donate weed wrenches to the Park Department. While we worked, we talked to passersby about invasive plants, explaining how we could remove even more invasives if we had more wrenches (providing price sheets to them, of course), and also asked other local environmental organizations to help. The community responded to our requests, and now we own or have access to 17 wrenches for weekly weeding sessions. This has also increased the availability of these tools to other local organizations doing invasive plant removal since we can share them as the need arises.

Generally, we discarded well-wrapped seedpods in our own trash containers, but dealing with the huge

amount of vegetation produced by pulling the mature shrubs (up to 30 feet tall) required a different solution. When we realized that on-site composting was impractical due to the stiff, fibrous nature of the plant, the Park Department maintenance staff stepped in, hauling away many truckloads. Disposal, we discovered, is an issue that should be discussed and resolved in advance of any work.

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***"Working in the park as we have been doing is the most satisfying thing I have ever done."***

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Besides publishing the weekly weeding schedule on our website calendar, we send a brief, weekly, email newsletter to people who are helping or have indicated an interest in helping. It includes our next weeding location, an update on our progress, and information about other upcoming local activities that might be of interest to our readers. So, how are we progressing on our removal project? By the end of February

2004, we'd logged more than 1500 volunteer hours and removed the bladder senna plants from all of the sites. We developed a simple monitoring plan that will require just a few days of volunteer effort every year until we're sure that all of the seed-bank has germinated and been eliminated. As the project neared completion, our volunteer group discussed and voted on which invasive plants to remove next. With 82 potentially invasive plants in the park, we have lots of choices.

*For more information or to contact Susan visit [www.friendsofbidwellpark.org](http://www.friendsofbidwellpark.org) or email [info@friendsofbidwellpark.org](mailto:info@friendsofbidwellpark.org).*

### **...NIWAW, continued from p.7**

northcoast Representative Mike Thompson.

Participants in NIWAW found it to be educational, enlightening, and occasionally discouraging. It was a chance to get a glimpse of how politics really works. Many of the legislators were candid with their predictions of success or failure for the Craig bill. "It was frustrating to see this money, which would be a windfall for California's weed management areas, tied up in what looks like personal disagreements between legislators," says Cal-IPC's Brianna Richardson. At the same time, she learned a lot about how to talk to and persuade legislators. "They do care; they just may not know it yet. These are very busy people, but when you bring an issue to them directly, especially when you travel all the way across the country to do so, they take you seriously."

Bob Case found the trip to Washington to be a great chance to convey to the country's decision-makers the threat invasive plants pose to the natural heritage of the country, and to the ecological systems he loves. He considers the chance to deal with this issue at the federal level a career highpoint. "I was glad to hear about support for invasive plant management from federal agencies such as the Forest Service and the National Park Service at the highest levels. I was discouraged that the effort and resources committed to the problem was, as we all know, very little and terribly late. I was glad to meet many Weed Warriors from all over the county and hear about problems and solutions. I want to continue this effort and continue educating land stewards about the threat and their obligation to monitor and manage our public and private lands to be free of invasive plants." ■

# Hard Work, Low Pay, Miserable Conditions: The California Conservation Corps pulls weeds

The motto of the California Conservation Corps (CCC) is “hard work, low pay, and miserable conditions,” words that ring true with many land managers around the state working to remove invasive plants. The CCC was established in 1976 to engage young people in “meaningful work, public service, and educational activities that assist them in becoming more responsible citizens, while protecting and enhancing California’s environment, human resources, and communities.” CCC crews participate in a variety of activities including fire fighting, trail building, low-income home improvement, restoration, and invasive plant removal. For many land managers, finding sufficient personnel can be an obstacle to effective weed removal. For some, the CCC may be a solution.

A typical CCC crew consists of 10-15 men and women between the ages of 18 and 25. They are trained in the use of hand and power tools and bring their own tools and vehicles to project sites. Specialty crews and mini-crews can be customized to fit the needs of special projects. Crews are based out of Chico, Sacramento, Richmond, Fresno, Los Angeles, Pomona, San Diego, and San Bernadino, but work all over the state.

There are a number of advantages to using the CCC for invasive plant removal. Tim Cass, Senior Water Resources Specialist for the San Diego County Water Authority, has found the CCC to be a good source of cost-effective manual labor. He states that contractors often want to use heavy equipment, which, while less expensive than labor, can be damaging to the natural habitat surrounding a project site. He hired the CCC to remove an acre of eucalyptus and palm trees along Escondido creek, and was particularly happy with the care they took when felling the trees. Using ropes, they guided the falling trees away from desirable native vegetation.

Cass also enjoys the flexibility he gets when hiring the CCC. Because he works for a public agency, in order to hire contractors he has to outline detailed project specifications and solicit bids. With the CCC, he can simply hire them for a set amount of time and organize the project as it goes. As a bonus, if the crew finishes ahead

of schedule, they can work on other projects he has lined up, without complicated contract changes.

Cass has worked with the CCC on several occasions and feels that no project is too big for the crews. He is currently negotiating to hire them for an additional 30-acre invasive plant removal project along Escondido Creek, which he expects will take two years to complete.

Not all land managers have been happy working with the CCC. Typical problems that can arise include: unavailability of crews when they are needed, often because fire-fighting takes priority over other projects; low productivity, usually attributed to ineffective supervision; and high turnover, both of crew members and of whole crews.

David Boyd, of California State Parks, found that CCC crews often arrived late, worked slowly, and occasionally didn’t finish projects they had been hired to complete. In his experience, a mature stand of broom was more than the CCC crew had bargained for. He acknowledges that hiring the CCC is about more than just weed removal—it’s a service to the crew members and the community, but he believes that if the CCC wants to stay competitive as a source of labor for land managers, they should charge less and hire more effective supervisors.

Cass does advise land managers to work closely with the crews, particularly the crew supervisor. Many sponsors indicate that the crew supervisor is the key to a crew that does the work correctly, efficiently, and with a good attitude. Often, sponsors deal only with the supervisor, so making sure he or she understands the project and can motivate the crew is essential to getting the job done right.

Jennifer Wheeler, a botanist for the Bureau of Land Management Arcata Field Office, hires the CCC regularly and enjoys great relationships with the supervisors she’s worked with. Since 1996, she has used CCC crews to remove *Ammophila arenaria* (European dune grass), *Carpobrotus chilensis* (sea fig), and *Lupinus arboreus* (bush lupine) from Manila Dunes at Humboldt Bay. Last year, after finishing the removal of 20 acres of these invasives, including extensive follow-up, the crews planted 20,000 culms of *Leymus mollis*, native dune grass, collected from an adjacent donor site.

Wheeler says that because she hires the crews so regularly, she often gets free labor. Crew supervisors have to keep the crews working, even when they don’t have contracts. When this happens, they will usually call Wheeler and offer their services for free. For the Manila Dunes project, Wheeler received a \$40,000 grant from the National Fish and Wildlife Foundation and an additional \$43,000 in free labor from the CCC.

CCC crews are trained on general procedures in invasive plant removal and tool use before they are hired by a sponsor. Additional training (in plant recognition, for example) is largely left to the sponsor or supervisor. Wheeler used to conduct trainings at Manila Dunes, but found it to be too cumbersome due to the regular



Photo courtesy Brianna Richardson

**CCC San Jose Crew Three** tackles an *Opuntia ficus-indica* infestation at Pulgas Ridge open space, in San Mateo County.

turnover of crews and crew members. She now relies on the supervisors and knowledgeable crew members to instruct the crew on which plants to pull and which to leave in place. Bob Frechou, Project Coordinator for the CCC Northern Coastal Service District has supplied Wheeler with crews for several years. He says that the turnover is intentional in the case of Manila Dunes. He tries to rotate crews through the project every two weeks, because after 14 days of pulling *Ammophila*, productivity can start to slide.

Frechou admits that the work isn't always fun for the crew members, but in his experience, even members who hate it develop an appreciation for having done the work over time. He emphasizes the importance of showing the crew what they are trying to accomplish. At Manila Dunes, crews are shown before and after photographs of *Ammophila* removal on the dunes. The difference is remarkable, and inspires the crew

to work hard.

For land managers with more weeds than people, the CCC can be a flexible and useful source of labor. "I love the program and like to support the work they do," says Wheeler. Cass agrees, "They're a very spirited group."

Federal, state, local, and nonprofit agencies may contract with the CCC on an hourly or per-project basis. For more information, contact one of the CCC's three district offices to find the location closest to you. A Project Coordinator at the nearest CCC location will be able to discuss your project needs, crew capabilities, technical supervision, and crew availability.

CCC State Director Wes Pratt encourages California agencies to consider the CCC for upcoming efforts. "The CCC is eager to help



Photo courtesy Brianna Richardson

**Cactus juice** made the steep slope very slippery.

We've long been involved in removing exotic species and replacing them with California native vegetation."

*CCC District Offices:*

*Northern California (530) 241-3030*

*Central California (916) 341-3209*

*Southern California (909) 592-5910*

## Genetically Modified Weeds?

*The information in this article was taken from the USDA APHIS Preliminary Risk Assessment on *Agrostis stolonifera* genetically modified for resistance to Roundup. The complete document is available on-line at [www.aphis.usda.gov](http://www.aphis.usda.gov).*

The Monsanto Company and the Scotts Company have submitted a petition to the U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA APHIS) asking that *Agrostis stolonifera* (creeping bentgrass) genetically modified to be resistant to glyphosate not be regulated under the Code of Federal Regulations: 7 CFR part 340, "Introduction of Organisms and Products Altered or Produced Through Genetic Engineering Which Are Plant Pests or Which There Is Reason to Believe Are Plant Pests." This would be the first perennial, non-row crop plant to be released with glyphosate resistance genes.

APHIS has reviewed the 432-page petition from Monsanto/Scotts and performed their own Preliminary Risk Assessment, in addition to soliciting public comment through the Federal Register. The public comment period ended on March 5, 2004. APHIS will now prepare a "thorough environmental document," which will be announced in the Federal Register and a second public comment period will ensue. In order for the GM creeping bentgrass to be regulated, APHIS must find that it will injure or damage agricultural crops, native plants, or beneficial insects.

*A. stolonifera* is a popular grass for lawns and turf, particularly golf courses. It is a widespread perennial that establishes without cultivation in various habitats, particularly disturbed areas. *A. stolonifera* is not a noxious weed. It is, however, found on a number of invasive plant lists including those from Wyoming, the Pacific Northwest, Colorado, and the National Park Service. The grass is considered a weed in Japan, Australia, New Zealand, Chile, the U.K., and Canada. In the U.S. it is considered a weed in lawns, grasslands, riparian areas, and wetlands. The APHIS risk assessment states that "*Agrostis stolonifera* is a moderate invasive threat on the California coast in wetlands."

If glyphosate-resistant creeping bentgrass is approved, it could create the potential for the glyphosate-resistance trait to escape cultivated populations and emerge in wild, weedy populations. The APHIS risk assessment reviewed a pollen model that predicted pollen dispersal and gene introgression would be limited at some sites and extensive at others, depending on local conditions. This could pose a significant challenge to management and restoration activities, since glyphosate-based herbicides are a primary control tool in

riparian areas and the only available herbicides for estuarine wetlands.

In addition, *A. stolonifera* can form hybrids with at least 13 naturalized or native species of *Agrostis* and *Polypogon* in the United States, and the hybrids are often fertile. Many of the naturalized grasses that hybridize with *A. stolonifera* are considered weeds in parts of the U.S. The ability to hybridize may allow glyphosate resistance to appear in these other grass species. The resistance could, in fact, end up in species that don't hybridize directly with *A. stolonifera* but that hybridize with species that do.

Despite the possibility of glyphosate resistance spreading to weed populations of *A. stolonifera* and other grasses, the APHIS preliminary risk assessment concludes that the information "provides evidence of no major unintended effects from introduction of the genetic material conferring glyphosate tolerance into the genome of creeping bentgrass." Meanwhile, as Monsanto works to develop other glyphosate resistant perennial grasses, scientists worry that this may be only one of many genetically modified potential "superweeds." ■

# Sacramento Weed Day a ‘Rousing Success’

On March 24<sup>th</sup>, land managers, landowners, agency personnel, and concerned citizens met in Sacramento for the first annual Invasive Weed Day at the Capitol. Modeled on National Invasive Weeds Awareness Week in Washington D.C., Invasive Weed Day at the Capitol was a chance for people to learn about what the state agencies are doing about invasive plants, and to educate their legislators about the threat posed to California by these invaders.

The event was sponsored by the California Invasive Weeds Awareness Coalition (CALIWAC) and was, in the words of its primary organizer (and Cal-IPC board member) Wendy West, a “rousing success!”

Attendees first met with staff from Caltrans, the California Department of Fish and Game, and the California Department of Food and Agriculture. They then split up and visited the offices of 45 Assembly and Senate representatives, where they reminded legislators that even during this difficult budget climate, invasive weeds are a growing threat. Information packets about invasive plants and statewide issues were left during each visit; packets were also dropped off at an additional 10 representatives’ offices.

## Paying for Volunteers

In 2001, in a change designed to help protect workers, California expanded the definition of public works projects in the labor code to include “construction, alteration, demolition, installation, or repair work done under contract and paid for in whole or in part out of public funds.”

Based on this, the state’s Department of Industrial Relations (DIR) interprets “public works projects” to include not only public agency projects, but also projects that receive state-issued grants. Many restoration and watershed projects that include invasive plant removal rely on such grants, and are therefore considered public works projects. The labor code also requires public works projects to pay all workers “prevailing wages.”

Though not the intent of the code changes, a recent case in Redding has demonstrated serious implications for restoration work. Restoration projects that receive state grant money and that include any paid workers (for example contractors operating heavy equipment or spraying herbicides) must also pay volunteers wages comparable to those of the contractors.

Only projects that use solely volunteer labor, or that request, in writing, an exemption from the DIR at least 45 days prior to starting the project, are exempt. Due to budget and personnel cuts, review of these requests for exemption is expected to be slow. The impact of this change on restoration and other groups that use volunteers could be enormous.

Assembly member Loni Hancock has introduced legislation to exempt environmental restoration projects from the prevailing wages requirement, but the new law likely won’t be in effect until 2005.

Urban legislators were visited, and educated about how invasive weeds affect their districts as well as rural districts. The overall response of the legislative offices was one of interest and concern.

At the same time, a team from CALIWAC met with deputy secretaries of the Governor’s office, CDFA, and the Resource Agency. The team was encouraged to develop a white paper outlining the regulatory constraints that hinder early detection and rapid response actions throughout the state. ■



Photo courtesy Doug Johnson

**Assemblymember Tim Leslie (right)** with his Legislative Director, Kevin O’Neill, holds a silk weed bouquet presented to him by CALIWAC representatives.

At the same time, some labor unions, legislators, and environmental groups have asked Governor Schwarzenegger to administratively exempt watershed restoration programs. Letters have been sent to the Governor from the California Watershed Network (CNW), the Sierra Club, and the California Conference of Carpenters.

Meanwhile, grantors and grantees alike are trying to sort out their obligations and many restoration projects scheduled for this summer may have to be postponed or cancelled. This is generating significant media attention, with articles appearing in the San Francisco Chronicle, the Santa Rosa Press Democrat, Sonoma-Index Tribune, San Mateo County Times, and San Francisco Examiner, among others.

*Information about this issue is changing rapidly. For the most current news, subscribe to the Watershed Volunteers list serv by sending a blank email to: [watershedvolunteers-ubscribe@topica.com](mailto:watershedvolunteers-ubscribe@topica.com). Additional information is also available at [www.aoinstitute.org/watershedvolunteers](http://www.aoinstitute.org/watershedvolunteers) and [www.watershednetwork.org](http://www.watershednetwork.org).*

## Letters

Please continue to utilize human help rather than chemicals. Low-risk prisoners, hiking groups, support groups for obsessive-compulsives, testosterone-ridden teens needing an outlet for their abstinence, church service groups... Regrettably, I’m a senior with a very bad back.

Jean L. Salmon,  
Santa Clara

# New and Contributing Members

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

## Foundation Grants

**The True North Foundation**

## Generous Donations

**Friends of Los Penasquitos Preserve**

(San Diego)

**Swimmer Family Foundation**

(Beverly Hills)

## Sustaining

**Tim Hyland** (CR Restoration, Santa Cruz)

**Connie Rutherford** (Ventura)

**Sharon Franklet** (Pinnacles National

Monument, Paicines)

**Ellie Insley** (Glen Ellen)

**Noel Perry** (Woodside)

## Contributing

**William McCoy** (CNPS, Berkeley)

**Jim & Barbara Peugh** (Friends of Famosa Slough, San Diego)

**Donald R. Kirk** (Palo Cedro)

**Doug & Rosemary Corbin** (Richmond)

**Larry M. Jones** (Richmond)

## Family

**Walter Earle & Margaret Graham**

(Mostly Natives Nursery, Tomales)

**Katrina Strathmann & Tom Elliott**

(San Francisco)

**Courtney Clarkson & Roy Leggett**

(San Francisco)

**Lynn Houser** (CNPS, Santa Rosa)

## Institutional, Contributing

**Natures Image, Inc.** (Lake Forest)

**Washburn Grove Management** (Hemet)

**Los Angeles Conservation Corps**

**Agri Chemical & Supply** (Oceanside)

## Institutional

**City of Palm Desert**

**Thomas Reid Associates** (Palo Alto)

**Elkhorn Native Plant Nursery**

(Moss Landing)

**Jones & Stokes** (Sacramento & San Jose)

## Individual Members

**Joel Abraham** (UC Berkeley), **Trudi Eldridge** (Magalia), **Robert Steers** (UC Riverside), **Sean M Watts** (UC Santa Barbara), **Edith Horwood** (Oakland), **Jean Salmon** (Santa Clara), **Marni Temple** (Point Richmond), **Andrea Craig** (Humboldt State University, Bayside), **Katrine Thomas** (Merritt College, Oakland), **Anne Power** (Cal Poly San Luis Obispo), **Barbara Meislin** (Tiburon), **Mark Jacobucci** (Irvine Community Development Corp., Newport Beach), **Anuja Parikh** (Santa Barbara), **Molly Martindale** (Richmond), **Richard Nichols** (EDAW, San Francisco), **Andrea Woolfolk** (Elkhorn Slough NERR, Watsonville), **Douglas McKinney** (D & D Wildlife Habitat Restoration, La Mesa), **Harry Spanglet** (Cal Dept of Water Resources, Sacramento), **David K Woolf** (David Wolff Environmental, Los Osos), **Ruth Horn** (Fairfax), **Elena Court** (Brisbane), **Georgia McDaniel** (CSW/Stuber-Stroeh, Santa Rosa), **Jody Olson** (Cal Army National Guard, Atascadero), **Julie Fontaine** (Trestles Environmental Corporation, Fallbrook), **Jeanne Bland** (CNPS, Santa Monica), **Tom Edell** (Caltrans, Cayucos), **Sydney Fowler** (Layfayette), **Cynthia Gause** (Department of Boating & Waterways, Sacramento), **Paul Heiple** (CNPS, Portola Valley), **David Keil** (Cal Poly San Luis Obispo), **KW Botanicals** (San Anselmo), **Stewart Nelson** (All Seasons Weed Control, Grass Valley), **Diona Roja** (Fort Bragg), **Lynn Overtree** (Wildlands Management Services, Seaside), **Glen Holstein** (Zentner & Zentner, Davis), **Andrea Adams-Morden** (Carpinteria Salt Marsh Friends, Carpinteria), **Vanessa Johnson** (The Land Trust of Napa County, Napa), **Karen Mason** (RECON, San Diego), **Cathy Nowak** (Orange County Harbors, Silverado Canyon), **Cathy Pinto** (California Weed Science Society, Salinas), **Beth Dyer** (Santa Clara Valley Water District, San Jose), **Megan Trainer Fitch** (Anteon Corp., Carlsbad), **Joseph A Donohoe** (San Francisco), **Joan Marlowe** (CNPS, Cupertino), **Stephen Stocking** (San Andreas), **Clark Cowan** (Santa Barbara), **Sally Knost** (Colfax Garden Club, Colfax), **Dr. Robert T. Neher** (University of La Verne, La Verne), **Linda Caruthers** (Los Gatos), **Ellen Edelson** (San Francisco), **Mark Bourne** (Windsmith Design, San Carlos), **Kathleen Jones** (Mountain View), **Leslie Lian and Edward Tuttle** (Woodside), **Therese Tuttle** (Tuttle & Van Konynenburg, L.L.P. Modesto), **Paul Zellman** (Ukiah), **Dick Zembal** (Orange County Water District, Fountain Valley), **Anouk Mackenzie** (Watershed Institute, San Francisco), **Rick Tata** (San Jose).

## ...Heat, continued from p.7

careless use can result in injury or wildfire. In addition, the range of species on which this method proves useful may be limited.

Flaming as presently practiced is thought to be less effective on grasses and other monocots, and results on some broadleaf species have not as yet been encouraging.

### 'Black' Flaming

In an attempt to determine whether flaming can control grasses and other resistant species, we are experimenting with an alternative method of using the torch to actually incinerate the plant. This must be repeated often enough and at the right times to exhaust the plant's reserves. Since this

alternative method differs both in the way the treated plant looks and in the way it produces mortality, I've coined the terms 'black flaming' to describe this new method, and 'green flaming', or wilting, to describe the more commonly used method described above. Because black flaming will require repeat applications which may extend into drier seasons, this method may not be usable in many regions of the west. In addition, it will require a greater expenditure of time and resources than spraying, so its usefulness may be limited to situations where spraying is not an option. Species that black flaming is currently being tried on are veldt grass, bull thistle, English ivy, periwinkle, and hoary

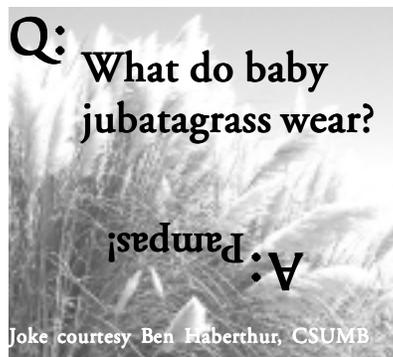
cross. Many of these species are very difficult to control any other way than with herbicides, and even herbicides are not very effective in controlling English ivy. Because it has the potential to be a much needed option, I feel it is worth spending the time to test. But I expect it will take some time before we know whether black flaming will prove to be a useful tool.

*Contact Ken with any flaming experiences at [ken@wildwork.org](mailto:ken@wildwork.org) or by phone evenings at 831.464.2329.*

# Readings & Resources

A new version of the U.S. Army Corps of Engineers **Noxious and Nuisance Plant Management Information System-PMIS** has been released. The CD-ROM provides rapid access to current information on management and control methods for over 100 terrestrial, aquatic, and wetland plants. It includes in-depth text information, maps, videos, illustrations, and photographic quality diagrams and images. The system is linked to specific web pages that allow for quick updates as information changes. To request a copy visit <[www.wes.army.mil/el/pmis/pmishelp.htm](http://www.wes.army.mil/el/pmis/pmishelp.htm)>

Australia and California have many invasive plants in common. In Australia, the problem is estimated to cost A\$4 billion annually. A new 32-page booklet—**Killing Us Softly: Australia's Green Stalkers**—has just been



...North, continued from p.5

According to Moreo, the state has always been a great partner in funding, but can no longer help due to budget limitations. He is hoping that the Noxious Weed Control Act (S-144) passes at the federal level, but will wait and judge the value of the bill by how much money actually goes toward killing weeds and how much gets used for administration. Turner solved some of her funding problems by applying for Title II funding through the local Resource Advisory Committee. A first time grant writer, she was initially apprehensive, but her proposal has now been funded two years in a row.

Because of the unique weeds and challenges facing the northeastern counties, and their consummate dedication to controlling A-rated weeds, there are some "weed-fighting" firsts that have happened up north. The concept of

published by the Collaborative Research Center for Australian Weed Management. The booklet lays out a comprehensive plan for curbing the problem in Australia and is available online in two parts at <[www.weeds.crc.org.au/publications](http://www.weeds.crc.org.au/publications)>

An article entitled "**Invasive Plants and the Green Industry,**" by Robin A. Harrington, Ronald Kujawski, and H. Dennis P. Ryan of the University of Massachusetts appeared in the *Journal of Arboriculture*, Vol. 29, No. 1 in January, 2003. The article discusses invasive horticultural plants and current work to solve the problem. <<http://joa.isa-arbor.com>>

**Predicting the potential invasive distributions of four alien plant species in North America**, by A. Townsend Peterson and Monica Papes, was published in *Weed Science*, Vol. 51, No. 6 in November 2003. The authors used ecological niche modeling to predict the geographic course of invasions of hydrilla, *Sericea lespedeza*, Russian olive, and garlic mustard in North America. They found the method highly successful at predicting the geographical invasion potential of these species. The complete article is available at <[www.wssa.net](http://www.wssa.net)>

The Union of Concerned Scientists has produced "**invasion portfolios**" for three states: Texas, West Virginia, and Alaska. These 16-page booklets outline the environmental and economic damage caused by invasive species in each state. The reports are available at <[www.ucsusa.org](http://www.ucsusa.org)>

Weed Management Areas was born in the north, with Lassen SWAT, established in 1994, being one of the first. Invasive weed education and outreach also got a head-start in the north. The "Selected Noxious Weeds of Northeastern California" handbook was a first of its kind and every year weed tours, county fair displays, weed workshops, and other events are held.

The work done in northeastern California is extensive and essential to protect the rest of the state from some of the worst weeds in the country. For those interested in fighting weeds, a trip up north is a great way to learn about new weeds to watch for. It's also a great way to learn more about the beautiful state we are trying to protect. Pirosko and your far-north weed partners encourage you to join them for the Knapweed Workshop, July 7th in Adin, the Modoc Weed Tour on July 8th,

Five articles in the February 2004 edition of the journal **Conservation Biology** explore the pros and cons of biological control.

The Nevada Natural Heritage Program has successfully **mapped *Bromus tectorum*** (cheatgrass) over 46% of Nevada at 30-meter resolution with +/- 9 percent accuracy. The mapping report, poster, and GIS data are available at <[www.heritage.nv.gov](http://www.heritage.nv.gov)>

Registrations are now being accepted on-line for the National Wildlife Refuge System's **electronic field trip** entitled "Invasive Species... America's Least Wanted." The field trip is geared toward fourth through sixth graders and will be available through June 30, 2004. <[www.efieldtrips.org/invasives](http://www.efieldtrips.org/invasives)>

The 7th Conference of the Parties to the **Convention on Biological Diversity** was held February 9-20, during which a decision was made on the recommendation forwarded by the CBD's Subsidiary Body on Scientific, Technical and Technological Advice with regard to invasive alien species. The decision will soon be available at <[www.biodiv.org](http://www.biodiv.org)>

Equal diversity in disparate species assemblages: a comparison of native and exotic woodlands in California, an article by Dov Sax, examines the **effect of *Eucalyptus globulus* on native biota** and was published in *Global Ecology & Biogeography* (2002) 11.

or the Siskiyou Weed Tour in late June or early July (date tba). ■

## Northern Frights: the worst weeds Up There

*Carduus acanthoides* (plumeless thistle)  
*Carduus nutans* (musk thistle)  
*Centaurea diffusa* (diffuse knapweed)  
*Centaurea solstitialis* (yellow starthistle)  
*Centaurea stoebe* L. (spotted knapweed)  
*Centaurea virgata* (squarrose knapweed)  
*Chondrilla juncea* (rush skeletonweed)  
*Cirsium arvense* (Canada thistle)  
*Cirsium ochrocentrum* (yellowspine thistle)  
*Euphorbia esula* (leafy spurge)  
*Isatis tinctoria* L. (dyers woad)  
*Lepidium latifolium* (perennial pepperweed)  
*Linaria genistifolia* (dalmation toadflax)  
*Lythrum salicaria* (purple loosestrife)  
*Onopordum acanthium* (Scotch thistle)  
*Sonchus arvensis* (perennial sowthistle)  
*Tribulus terrestris* (puncturevine)

# The WILDLAND WEED CALENDAR

If you have or know of an event that you would like to see mentioned here, please contact <brichardson@cal-ipc.org>.

## Sudden Oak Death Training

April 22 & May 19  
Felton, CA/San Rafael, CA

“Basic Management of Sudden Oak Death in Woodlands and Landscapes: Recognition, Sampling, Treatment, and Mitigation Measures.” These workshops are free and open to anyone. <[www.suddenoakdeath.org](http://www.suddenoakdeath.org)>

## 2004 Annual Conference of the California Native Grass Association

April 22-24  
Modesto, CA

“Native Grasses and Graminoids: Tools for Protecting Water Quality.” The conference will include three tuition-based workshops, technical sessions, and three field trips. <[www.cnga.org](http://www.cnga.org)>

## 10<sup>th</sup> International Conference on Mediterranean Climate Ecosystems

April 25-May 1  
Rodos, Greece

“Ecology, Conservation, and Sustainable Management of Mediterranean type Ecosystems of the World.” <[www.biology.uoa.gr/MEDECOS2004.htm](http://www.biology.uoa.gr/MEDECOS2004.htm)>

## Florida/Southeast Exotic Pest Plant Council Joint Symposium

April 28-30  
Pensacola, FL

Two of the original EPPCs are joining forces

for their annual conference: “West of Eden—Where Research, Policy, and Practice Meet.” This two day event will include speakers on planning, control, impacts, and individual species, as well as a fishing tournament. <[www.fleppc.org](http://www.fleppc.org)>

## Upper Chiquita Conservation Area Restoration and Birdwatching Tours

May 1  
Mission Viejo, CA

This hike gives participants a peek at an area rich with coastal sage scrub, oak woodland, grasslands, and natural drainage habitats, and includes a 6 a.m. bird watching tour. <[www.thetollroads.com](http://www.thetollroads.com)>

## Bay-Friendly Garden Tour

May 2  
Alameda County, CA

A self-guided tour through Alameda County home gardens, including several talks throughout the day. <[www.stopwaste.org](http://www.stopwaste.org)>

## Workshop: Spring Flora and Ecology Across Kern County

May 6 -9  
Kern County, CA

A course on vascular plant floristics and ecology of dominant plant communities in the southern Sierra. <[www.ucjeps.berkeley.edu](http://www.ucjeps.berkeley.edu)>

## Workshop: Field Techniques and Vouchering of Specimens

May 15 & 16

Jepson Herbarium, Berkeley, CA

Workshop teaching the steps of collecting plant material for inclusion in a herbarium. <<http://ucjeps.berkeley.edu>>

## The Ecology and Impacts of Blue Gum Eucalyptus in Coastal California

June 3  
Elkhorn Slough, CA

Targeted at environmental planners, land managers, and regulator agencies. Regional ecologists and local researchers join together to discuss science-based information on *Eucalyptus globulus* impacts in California. <[GreyHayes, grey@elkhornslough.org](mailto:GreyHayes@elkhornslough.org)>

## Beijing International Symposium on Biological Invasions

June 8-11  
Xiangshan, Beijing, China

“Species Exchanges between Eastern Asia and North America: Threats to Environment and Economy.” <<http://bisobi.sino-eco.org>>

## California Conference on Biological Control (CCBC IV)

July 13-15  
Berkeley, CA

Speakers and panels focussing on biological control and organic agriculture, jointly sponsored by the ANR Organic Farming Research Workgroup. <[www.cnr.berkeley.edu/biocon](http://www.cnr.berkeley.edu/biocon)>

## Chuck Haugen Conservation Picnic

July 18, 10 am-3pm  
Fort Ord, CA

Picnic will honor conservation volunteers and staff and celebrate conservation successes throughout the world. RSVP to <[Bruce Delgado, 831.384.1376](mailto:BruceDelgado, 831.384.1376)>

## Third International Conference on Invasive *Spartina*

November 8-10  
San Francisco, CA

A forum for the best and latest *Spartina* research from around the world. Will include ground and helicopter tours to view the *Spartina* invasion in the San Francisco Estuary. To receive registration and other information email: <[conference@spartina.org](mailto:conference@spartina.org)>

## Quotable:

“When I came into the California legislature many years ago, I never anticipated leaving as “the weed legislator.” I’m proud of what’s been accomplished.”

*Assemblymember Tim Leslie, in a speech to attendees of California Weed Awareness Day at the Capitol, March 24th in Sacramento. Leslie has championed bills aimed at supporting wildland weed control efforts.*

“In fact, ecology does not privilege the native over the introduced. Every species is native somewhere.... Our moral obligation to prevent the extinction of native species does not license the persecution of introduced species.”

*Dr. Joan Roughgarden, a vocal critic of habitat restoration programs in San Francisco, from a memo to the Recreation & Parks Open Space Advisory Committee.*

