

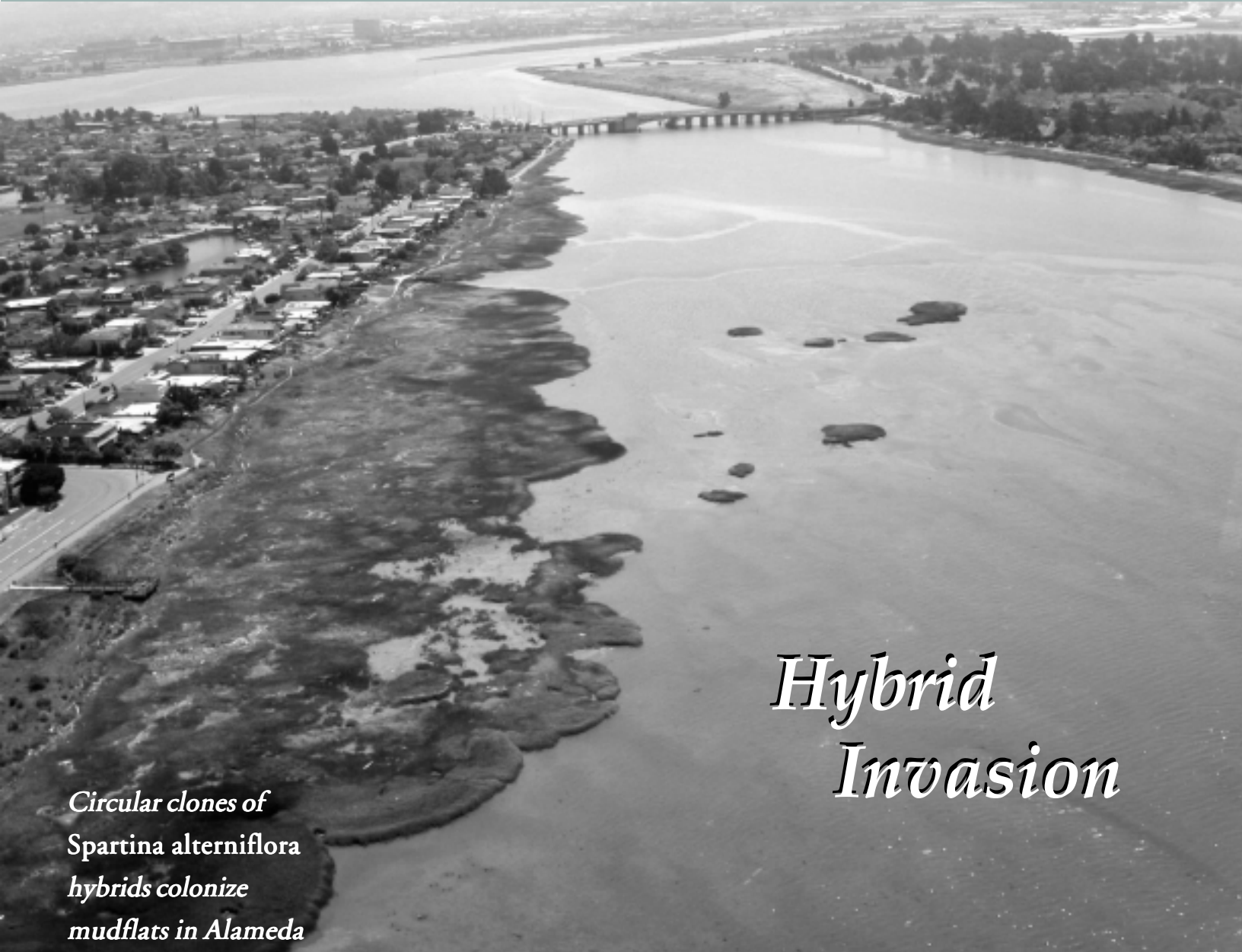


Cal-IPC News

*Protecting California's Natural Areas
from Wildland Weeds*

Vol. 11, No. 3, Fall 2003

Quarterly newsletter of the California Invasive Plant Council



Hybrid Invasion

*Circular clones of
Spartina alterniflora
hybrids colonize
mudflats in Alameda*

*County. Four non-
native cordgrass species
are drastically altering
shoreline habitats in
San Francisco Bay
and estuary.*

INSIDE:

Invasive *Spartina* in the San Francisco Estuary
Revising the Cal-IPC List—your help needed
2003 Symposium in photos
Reports from Oregon and Hawaii



California Invasive Plant Council

1442-A Walnut Street, #462
Berkeley, CA 94709
(510) 525-1502
www.cal-ipc.org

A nonprofit organization working since 1992
to protect California's natural areas
from wildland weeds through
research, restoration, and education.

Staff

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

Brianna Richardson, Project Manager
brichardson@cal-ipc.org

Board of Directors

(terms end December of year noted)

Joe DiTomaso (President-2003)
UC Davis Weed Science Program

Steve Schoenig (Vice President-2003)
California Dept. of Food & Agriculture

Mona Robison (Secretary-2003)
UC Davis Weed Science Program

Becky Waegell (Treasurer-2003)
The Nature Conservancy

Mike Kelly (Past President-2003)
Friends of Penasquitos

Carla Bossard (2003)
St. Mary's College

Matt Brooks (2003)
USGS Western Ecological Resource Center

Deanne DiPietro (2004)
Sudden Oak Death Research Project

Tom Dudley (2003)
UC Berkeley Dept. of Integrative Biology

Dawn Lawson (2003)
US Navy Facilities

Carri Pirosko (2004)
California Dept. of Food & Agriculture

Alison Stanton (2004)
BMP Ecosciences

Scott Steinmaus (2004)
Cal Poly San Luis Obispo

Peter Warner (2004)
California State Parks

Bill Winans (2004)
San Diego County Watershed Management

Cal-IPC News

Fall 2003 - Volume 11, Number 3

Editor: Doug Johnson, dwjohnson@cal-ipc.org

Published quarterly by the California Invasive Plant
Council. Articles may be reprinted with permission from
the editor. Submissions of reports, articles, and photos are
encouraged. We reserve the right to edit submissions.

From the Director's Desk

From "EPPC" to "IPC"

On our ballot this fall, members voted overwhelmingly to change our name to the California Invasive Plant Council. We'll miss the history we've built up as one of the original EPPCs (not to mention the humorous typos and long telephone explanations) but the improved name comprehension will be more than worth it!

The same election selected a new batch of board members and officers. President Joe DiTomaso will be succeeded by Steve Schoenig, whose VP spot will be filled by Alison Stanton. Carri Pirosko will fill the Secretary spot, while new board member Beth Leger will be Treasurer. Six new at-large members will be joining the board—Jon Fox, Daniel Gluesenkamp, Mark Newhouser, Wendy West, Bobbi Simpson, and Jason Giessow. All told, seven of 15 members will be new to the board! We look forward to their ideas and enthusiasm.

There was a lot of new energy at the Symposium in Tahoe as well (see photos page 8-9). Informative sessions and working groups mixed with sunny fall weather and a memorable awards ceremony to make for a great event.

At the Symposium we announced our 2004 Membership Drive, through which we hope to double our membership to 1,500 members (see page 4). We know there are at least that many weed warriors in the state, and as a member-driven organization we need them (and they need us). The drive is part of our overall fundraising strategy, which also includes grant-writing, a board donations campaign, and planning a "weed dinner." Fundraising is a big part of what we do here in the office, so that we can support all of the creative projects that need doing!

Cal-IPC continues to strengthen relationships with other organizations. Our Nursery Sustainability committee, which recently released a new "landscaping alternatives" brochure, is working with nurseries and Master Gardeners in the San Francisco Bay Area to stop the tide of invasive garden escapees. Meanwhile, the new joint membership offered in collaboration with SERCAL (California Society for Ecological Restoration) has been popular—over 60 members have taken advantage of the discounted rate already.

Last, but certainly not least, our office staff has expanded. Intern Brianna Richardson, a recent graduate in Environmental Studies from San Jose State University, has been hired as a part-time Project Manager. (She also works for the resources division of Midpeninsula Regional Open Space District). She has already contributed immensely, including doing a lion's share of the writing and layout for this issue of Cal-IPC News. Welcome, Bree!



It was my pleasure at the Symposium to present Jake Sigg with an engraved machete (conceived and procured by John Knapp of Catalina Island) for his decades of dedicated service in the cause of wildland weed work. Thanks Jake, for all that you've done and continue to do!

Wildland Weed NewsNewsNewsNewsNews

AB 66 (Leslie), the bill creating the **Adopt-A-Riverway program** for riparian weed control, was signed by Governor Davis. Funds for local projects will be solicited from corporate donors. <www.leginfo.ca.gov/bilinfo.html>

A review draft of the **California Noxious and Invasive Weed Action Plan** will be distributed for comment in November by the California Department of Food & Agriculture. The plan is the outcome of a year-long planning process that included a day-long workshop for 100 weed experts in April. Once revised, the California Invasive Weed Awareness Coalition will present the plan to agencies for formal endorsement.

Biologists with the California Department of Food and Agriculture's Biological Control Program have made initial releases of the fungus *Puccinia jaceae*, a **new biocontrol agent for yellow starthistle**, in an isolated valley in Napa County. Testing of the Mediterranean pathogen has shown no side effects on nearly 100 crop and native plants. <www.cdfa.ca.gov/pressreleases/PressRelease.asp?PRnum=03-047>

Cal-IPC's Nursery Sustainability Committee has published its long-awaited "**landscaping alternatives**" brochure. We teamed with experts from the nursery trade to identify safe alternatives to commonly sold invasives. For sample brochures, contact Doug Johnson at <dwjohnson@cal-ipc.org>.

The California Invasive Weed Awareness Coalition (CALIWAC)

sponsored an **Invasive Weed Tour** for legislative staff July 25th in Sacramento and El Dorado counties. This will be an annual event, and will mesh with another Sacramento event in the spring for weed warriors to visit legislators and agency managers.

George Pataki, Governor of New York, signed a bill August 11th creating a 17-member **invasive species task force** charged with studying the impact of invasive species on New York and devising a strategy to combat the problem. <www.state.ny.us/governor/press/year03/aug11_1_03.htm>

Help double our membership!

Sign up **one new member** by March 31, 2004 to do your part... Sign up more members and **get stuff**—**3 new members** gets you a **free T-shirt, logo water bottle, or CD**, **5 new members** gets you a **free book**, and **10 new members** gets you **free admission** to Symposium 2004 in Ventura! Watch for sign-up forms in this fall's renewal notices.

Why do this? As a member-driven organization, Cal-IPC depends on shared member expertise to provide current information on wildland weeds in California. We also depend on membership dollars to fund a significant portion of our work. We know there are lots of wildland weed workers out there whose active membership would make Cal-IPC an even stronger group, and who would benefit from our work. Our goal is to make sure that all of our natural constituents are involved!

John Randall, Director of The Nature Conservancy's Wildland Invasive Species Team (and former Cal-IPC Board President), spoke at the University of Pennsylvania's Invasive Plants Conference August 6th on "The St. Louis Declaration: **Voluntary Codes of Conduct**—Prospects and Promise." For more information about the codes of conduct go to <www.mobot.org/invasives/findings.html>

After a multi-year process, California's Office of Administrative Law has given final approval for amending the list of **Noxious Weed Species**. Eleven new wildland weeds will be added to the historically agriculturally-based list. These will likely be given "C" ratings since they are widespread.

On August 13th, Tulare County inspectors intercepted a shipment of aquatic plants from Florida. **Hydrilla verticillata**, a federal noxious weed and California A-rated aquatic weed, had been used as packing material. Subsequent surveys of the package's intended destination revealed no additional *Hydrilla* in the field.

The USDA has awarded \$1.5 million to **research economic effects** of prevention,

control and eradication of invasive pests. UC Davis and UC Santa Barbara are among the awardees. <www.usda.gov/new/releases/2003/10/0349.htm>

Conservation Geneticist Deborah Rogers, Director of the **Monterey Pine Forest Ecology Cooperative**, has

received funding to support four grad and post-doc research projects in 2004 on Monterey pine ecology.

Scientists at North Carolina State University are developing software that searches the internet for websites selling noxious weeds or invasive species. The **Agricultural Internet Monitoring System**

(AIMS) will be used to locate, then notify offending vendors.

In September, a **Global Biodiversity Forum** held in Cancun, Mexico, began preparations for World Trade Organization negotiations. Several sessions addressed invasive species. <www.gbif.ch>

Proceedings...

...for **Symposia 2000, 2001, 2002** combined are now available. If you attended any of these conferences (in Concord, San Diego, and Sacramento), email <dwjohnson@cal-ipc.org> and we will mail you a copy. Proceedings are available to others for \$5 suggested donation plus \$2 shipping.

NEW T-shirts, books, water bottles, etc.....page 14

Invasive *Spartina*: “Just another weed”

Biology, Spread, and Prospects for Control

By Brianna Richardson

In 2000, the California Coastal Conservancy formed the Invasive *Spartina* Project (ISP) to arrest and reverse the spread of four, invasive, non-native cordgrasses in the San Francisco Bay estuary: *Spartina alterniflora* (and the hybrids it produces with the native cordgrass, *S. foliosa*), *S. densiflora*, *S. patens*, and *S. anglica*. The impacts of these cordgrasses, particularly *S. alterniflora* hybrids, have the potential to be devastating to native estuarine systems. Acting as ecosystem engineers, invasive *Spartina* converts open tidal mudflats into cordgrass meadows; traps and accretes sediment, thus elevating the substrate and promoting further colonization; and clogs creeks and channels, increasing the risk of upland flooding. Furthermore, *Spartina* threatens the habitat of three endangered species: the California clapper rail (*Rallus longirostris obsoletus*), the salt marsh harvest mouse (*Reithrodontomys raviventris*), and the endangered plant, soft bird's beak (*Cordylanthus mollis mollis*). In addition, many scientists predict the local extinction of the native cordgrass, *S. foliosa*, if the invasion is not stopped.

S. alterniflora hybrids are by far the most widespread of the invasives, accounting for 470 of the approximately 500 net acres of invasive *Spartina* in the estuary. The infestation is centered in the South Bay, north of the Dumbarton Bridge, but *S. densiflora* has completely infested Corte Madera creek in the North Bay, and *S. patens* can be found at the Benicia State Recreation Area on the Carquinez Strait.

The ISP is designed to be a regionally coordinated effort, with a number of components, including outreach, research, permitting, mapping, monitoring, and allocating funds for control efforts. In April of this year, the draft programmatic EIR/EIS for the ISP's Control Program was completed, and the public comment period ended on June 4. The preferred alternative put forth in the DEIR is to use a modified IVM (integrated vegetation management) approach that utilizes all available control

techniques including the herbicide glyphosate. (Biocontrols are not currently feasible for invasive *Spartina* due to the close genetic relationship with the native *S. foliosa*). The effectiveness of the ISP may well rest on the use of herbicides.

The role of herbicides

At the current rate of spread, according to ISP Field Operations Manager, Erik Grijalva, more *Spartina* will grow than can be treated using manual methods alone. He also points out that the impacts of herbicide use are less than those of mechanical efforts, which include extensive driving, digging, covering, and smothering with heavy machinery like the Marsh Master. “If you take into account the ecological costs that are usually externalized when comparing herbicide-based versus non-herbicide-based control methods, it quickly becomes apparent that the most cost-effective and least impactful method of control is the judicious and professional use of herbicides. To attempt something on this scale without the use of herbicides would be folly.”

On-the-ground work for the ISP Control Program will not begin until the EIR is finalized. Once that happens, the first step in the Control Program will be to perform selected pilot projects, which have been identified using a matrix of criteria. Small sites and outlier populations will be some of the first areas tackled. Sites near existing restoration projects have also been given priority because of the threat *Spartina* poses to newly restored wetlands. Other pilot projects have been planned in the heart of the infestation to demonstrate different methods of control. The team will develop a site-specific control plan for each project site based on its particular characteristics, such as the presence or absence of endangered species, adjacent land uses, feasible treatment methods, land owner preferences, and cost. Corte Madera Creek, India Basin, Outer Bair Island, and Whale's Tail marsh are only a few of the expected six to fourteen pilot projects

Is eradication possible?

It is unclear how long it will take the ISP to eradicate *Spartina* from the estuary, but Peggy Olofson, Project Director for the Control Program, estimates that they could easily get the population down to a manageable level in just five years—if they begin immediately and are able to use herbicides in the integrative manner that they have proposed. After that the project would conduct rigorous monitoring around the bay to find any new plants and hybrids. Currently, there is no post-eradication plan for the ISP, though the presence of other wetland invasives, like perennial pepperweed (*Lepidium latifolium*), does pose the possibility



Extent of invasion in San Francisco Bay

Infestations of *Spartina* spp. are shown as black dots. Map courtesy Katy Zaremba.

of the ISP broadening its scope to control other invasives while continuing to monitor for *Spartina*.

The primary goal of the ISP is to eliminate the threat from *Spartina*, and it is a formidable one. The ISP faces a myriad of challenges as they begin the work of eradicating *Spartina* from the estuary. Chief among these are the problems posed by hybridization, the



Audubon volunteers covering invasive *Spartina* with black fabric. The technique is designed to kill the plants by preventing photosynthesis and increasing temperatures. Photo courtesy Erik Grijalva.

difficulties of working around endangered species, and the need to educate many stakeholders about weed management practices.

Hybrid invasion

The fact that *S. alterniflora* produces hybrids that can look very much like the native *S. foliosa* creates challenges both in terms of on-the-ground identification and for knowing when the invasive *Spartina* has been eliminated. *S. alterniflora* hybrids comprise the bulk of the invasion in the estuary, they are the worst of the ecosystem engineers, and they are reproductively prolific, producing huge quantities of seed and flowering coincidentally with the native *Spartina*. “This is a hybrid invasion,” says Katy Zaremba, ISP Field Biologist. “*S. alterniflora* is actually rare, but the hybrids can engineer the ecosystem more than *S. alterniflora* can.”

Genetic analysis must be used in many cases to definitively identify a plant as hybrid or native. This makes on-the-ground eradication decisions difficult, as those applying the treatment may not be able to tell if they are looking at a native or a hybrid. At this stage, most land managers are taking the conservative approach and eliminating anything suspected of being a hybrid. But that won't solve the problem of determining

when all the invasive *Spartina* is gone.

Members of the ISP are planning to seek advice from crop scientists who have worked extensively with corn (another species in the Poaceae family) to determine methods of controlling and selecting against the *Spartina* hybrids. And though the debate gets somewhat esoteric, there is still the question of how much *S. alterniflora* DNA constitutes genetic pollution of the native *S. foliosa* population. This question, and the means of determining when full eradication of the hybrids has occurred, remain. The good news is that the native population of *S. foliosa* is not currently threatened. Even eliminating a large part of the central Bay population will not imperil the existence of *S. foliosa*, which ranges from Bodega to Baja. Allowing continued hybridization, however, could cause its extinction.

Working around endangered species

Of greater concern to the ISP Control Program is the potential damage to the endangered California clapper rail, and the limitations the birds' presence imposes on the ability of the ISP to conduct its control work. Invasive *Spartina* threatens clapper rail habitat by choking channels the birds use for foraging. Logistically, *Spartina* control requires low tides, both for access and herbicide efficacy reasons. The best low tides in the estuary occur during the summer months of June, July, and August, but clapper rail habitat is closed then for protection during their breeding season. The ISP is therefore unable to access these control sites until September when the breeding season has ended.

Unfortunately, this is the end of the growing season, when *Spartina* has already begun to set seed, the low tides are not ideal, the days are shorter, and the weather is seasonably unpredictable. The result is less effective control work. As Grijalva says, “It's a matter of weighing short-term versus long-term impacts. To avoid causing some short term impacts to the clapper rail during their breeding season, we risk having long term impacts caused by the spread of *Spartina*.” The ISP is currently working with the U.S. Fish and Wildlife Service to develop best management practices for working in clapper rail habitat during the breeding season, which will allow the project the window they need to effectively treat the *Spartina* in these areas.

Wetlands and weeds

As members of the ISP Control Program plan effective and environmentally sound



Telltale circular clones spreading outward. Photo courtesy Erik Grijalva.

control techniques, a bigger philosophical discussion is occurring around the group's work. While many stakeholders around the Bay actively manage weeds on their land, others are primarily interested in marsh restoration, and don't have much experience in habitat and weed management. This has resulted in a number of debates about the necessity and timing of the project.

Some stakeholders see the *Spartina* issue as insurmountable. Others question the ISP's use of information from other *Spartina* invasion areas of the world, including Tasmania, Europe, and Washington State. They believe that information gathered from other places cannot be relied upon because there are too many variables unique to the San Francisco estuary. There has also been resistance to beginning work on *Spartina* until further studies have been conducted examining its behavior in the estuary. Some believe it may not become a huge problem in the estuary, the way it has in Willapa Bay, Washington, where it covers approximately 20,000 acres.

Much of this debate could be resolved, according to Olofson, if the *Spartina* issue were approached as a weed management issue. She believes that the ISP's practice of using information from other areas, and interpreting it in light of the conditions in the estuary, constitutes sound weed management and is an essential, standard practice. "This is just another weed. Yes, it's in an estuarine environment. Yes, it's got endangered species issues. It's got a lot of other things, but it's a weed. And it's not very extensive. It's only 500 acres, and that's nothing compared to weed problems that people are dealing with statewide. It seems overwhelming to stakeholders here in the Bay, but to people who are actually working with weed management, it's nothing."

The ISP does have plans to further discuss the issues being debated, and work toward a consensus among all the stakeholders involved. They're in the process of forming a Science Advisory Panel of 12-14 experts in wetlands, weeds, *Spartina*, and environmental processes, all of whom will be local to the San Francisco estuary. The panel will help the ISP review their program and interpret new data and information as it comes in. Then, in May, 2004, the ISP will host the Third International *Spartina* Conference, with help from Kim Patton, the coordinator of the first two conferences held in Washington, as well as experts from Tasmania and England.



***Spartina alterniflora* hybrid clones colonizing a *S. foliosa* meadow at Blackie's pasture in Marin County.** Photo courtesy Erik Grijalva.

Bringing partners together

Despite the challenges facing the ISP, they have had some great successes, too. According to Zaremba, they've learned a lot about coordination between the numerous partners and stakeholders involved in the project. Outreach to stakeholders around the Bay has included formal *Spartina* Control Strategy meetings and *Spartina* Field Identification Training days, as well as many informal conversations with land owners, managers, and public citizens. By working with both larger agencies, such as the East Bay Regional Parks District, and small groups like Friends of the Corte Madera Creek, on mapping, planning, and getting access, they have succeeded in getting the major landowners around the Bay on board with the ISP. These partnerships will prove invaluable, not only in the *Spartina* control work, but also in laying the groundwork for future cooperation on invasive species issues of common concern.

These partnerships will be critical if the problem is to be addressed soon. "At this stage, the *Spartina* infestation in the Estuary is not a gigantic problem, it is not insurmountable," says Grijalva. "At this stage, we have a chance to do something that really hasn't been done anywhere else, which is to get rid of a *Spartina* invasion before it becomes overwhelming. But if we listen to those who counsel for more evidence in this or that particular area, or wait to see that we're absolutely sure that here it's going to be a problem, it'll be over with. And then it will be a permanent project, and you will have constant work and taxpayer dollars just to maintain it."

"But we're going to be effective, and fast, and we're just going to get it all done," Olofson assures.

For more information, visit the Invasive *Spartina* Project's website at <www.spartina.org>, or email the ISP staff through peggy@spartina.org.

Pre-press update: The ISP Control Program's programmatic EIR/EIS was finalized by the California Coastal Conservancy on September 25. Pilot projects will get underway in earnest next spring.



***S. alterniflora* hybrids colonize higher and lower on the elevational gradient than does native cordgrass.** <www.spartina.org>

Meeting the Criteria

An update on the Cal-IPC List—and your role!

Peter Warner, Chair, Cal-IPC List Committee, corylus@earthlink.net

One of Cal-IPC's most vital contributions has been the compilation and publication of *The Cal-IPC List: Exotic Pest Plants of Greatest Ecological Concern in California*. The Cal-IPC List complements federal and state “noxious weed” lists that are chiefly agricultural in origin and application. The Cal-IPC List focuses on ecologically influential species that are invasive in wildlands.

The Cal-IPC List has been adopted by public and private land managers as a resource for planning and implementing weed treatment projects. Given the value of this resource, Cal-IPC decided to undertake a full revision of the List.

Unlike previous lists, our new list will be based on a systematic assessment and catalogued documentation. With grant funding from the Center for Invasive Plant Management, we joined with colleagues from Arizona and Nevada to develop a defensible science-based evaluation system, the *Criteria for Categorizing Invasive Non-Native Plants that Threaten Wildlands*. The thirteen-point Criteria allows reviewers to evaluate (and document) the ecological impact, invasive potential, and extent of invasion of a given plant

We are now faced with the sizable task of evaluating some 300 plants. Some of these are plants of well-documented concern, while

You are the experts...

As the people out working in the field around the state, your input is critical to the success of the listing project. We've developed a Criteria for evaluating invasive plants—now we need to run some 300 known and suspected invasives through the Criteria. Because little information has been published on many of these plants, it is crucial that you share your observations from the field. Is a particular plant establishing populations in undisturbed areas? Is it spreading, and how fast? What impacts does it have? Please review the criteria on our website at www.Cal-IPC.org, and send us your contributions of much-needed information.

others are new additions that have been reported from around the state. In many cases, there is no published data on species, and we need reliable observations. This means field reports from many individuals across the state—yes, you! The criteria has been designed for broad use, and we need to build a network of observers who have personal knowledge on the behavior of one or more potentially invasive plants.

Despite the overwhelming nature of the task, we are excited to have designed a system that relies upon continual contributions of information from its users in order to make it a practical and effective resource. Indeed, another of this project's goals is to identify knowledge gaps in order to encourage further research, data collection, and other means of documenting impacts, species' behavior and the types of habitats affected.

Throughout the current revision process and beyond, we would like Cal-IPC members and others to assist us in refining the Criteria and in compiling a categorized list of invasive species that truly reflects the latest in scientific knowledge. Don't be shy about telling us what you think!

Visit our website (www.cal-ipc.org) to see the Criteria, our list of species under consideration, as well as information on individual species that have already been evaluated. We welcome additional information on any plants, as well as proposals for additional plants to evaluate and suggestions for improving the Criteria. Please send any contributions or suggestions to Doug Johnson (dwjohanson@cal-ipc.org) at the Cal-IPC office.

Through this process, any and all land owners and managers, volunteers, agencies, scientists, and others can assist Cal-IPC in achieving its most important goals: educating people and promoting the pursuit of good science.

The Criteria

Thirteen criteria used to assess invasive plants

Ecological Impact

- 1.1 Impact on abiotic ecosystem processes
- 1.2 Impact on plant community
- 1.3 Impact on higher trophic levels
- 1.4 Impact on genetic integrity

Invasive Potential

- 2.1 Role of disturbance in establishment
- 2.2 Local rate of spread with no management
- 2.3 Recent trend in total area infested within state
- 2.4 Innate reproductive potential
- 2.5 Potential for human-caused dispersal
- 2.6 Potential for natural long-distance dispersal
- 2.7 Other regions invaded

Extent of Invasion

- 3.1 Ecological amplitude
- 3.2 Distribution

Cal-IPC Symposium

Hard work, high spirits, and hearty laughs...



How'd you think all this stuff got done? Board members and friends help put together packets the night before.



On the patio at break time with gorgeous October weather...



Lunch al fresco in the Tahoe autumn...



Working groups discussed progress and needs on subjects ranging from fire to advocacy. **Charlie Blair**, here minding the door, organized an impromptu meeting of CNPSers to discuss getting their members more tuned into invasives.



The exhibit hall and poster session provided an opportunity for browsing.



Pulaski **Pete Warner** and **Michael Hogan** hammerin' out some Jubata Blues.

Thanks again to our Symposium Sponsors

Pampasgrass Level

Monsanto Company
U.S. Geological Survey

Tree-of-Heaven Level

California Native Plant Society
California Society for
Ecological Restoration
EDAW, Inc.

English Ivy Level

BASF
Dudek & Associates, Inc.
DuPont
Goats-R-Us
Hedgerow Farms
Jones & Stokes
LifeScience!
Olofson Environmental
Rana Creek Restoration
Regional Council of Rural Counties
Restoration Resources
Sepro Corporation
Shelterbelt Builders, Inc.
Sycamore Associates LLC
Thales Navigation
Wilbur-Ellis Co./John Taylor Fertilizers

Thanks also to our scholarship recipients for their help at the Symposium, and to session organizers, speakers, poster presenters, working group leaders, and field trip organizers for all or their hard work! Thanks to Ryan Jones for his illustrations, and to Bobbi Simpson for taking most of these photos!

The Cal-IPC Board of Directors, from left: President **Joe DiTomaso**, **Deanne DiPietro**, **Carla Bossard***, **Matt Brooks***, **Tom Dudley***, Treasurer **Becky Waegell***, Secretary **Mona Robison***, List Chair **Peter Warner**, Secretary-elect **Carri Pirosko**, Past-President **Mike Kelly***, **Dawn Lawson***, President-Elect **Steve Schoenig**, Vice-President-elect and Nursery Committee Chair **Alison Stanton**, and **Bill Winans** (**Scott Steinmaus** not present). (*indicates term ending Dec., 2003.) New board members for 2004 are **Jon Fox**, **Bobbi Simpson**, **Wendy West**, **Dan Gluesenkamp**, **Mark Newhouser**, **Jason Giessow**, and **Beth Leger** (Treasurer-elect).

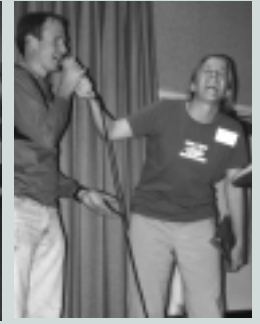


2003, Lake Tahoe

Awards



Andrea Pickart with the coveted Golden Weed Wrench for her restoration work at Lamphere Dunes (left). **Jake Sigg** weaves through a standing ovation to accept his award for dedication to weed management (right). **Carolyn Martus** accepts the Catalyst Award for convincing WalMart to stop selling pampasgrass (far right). **Kevin O'Neill** of Assembly Member Leslie's office was presented with a Government Support award for writing AB66, a bill creating the "Adopt-A-Riverway" program. **Wendy West** of El Dorado County Agriculture, **Bobbi Simpson** of the NPS Exotic Plant Management Team, and **Sue Donaldson** of the Lake Tahoe Basin Weed Coordinating Group were recognized with Director's Appreciation Awards for their exceptional efforts in the past year.



Above, contest hopefuls gather at the runway. What started as an "Ugly Shirt" contest turned into an "Entertaining Shirt" contest. Of course we anticipated that any decent shirt contest would include break dancing (below). **Carri Piroso**, in a lime chenille number (above far right) appeals to the crowd, "You really gotta feel it!" Observing in her studying togs is **Alison Stanton**. **Susan O'Neil**, above, and her winning shirt do Eureka, NV proud.



Athena Demetry renders "Ack! Pppfitttt!" (far right) while encouraging the use of Bill the Cat in future brochures, with **Farah (Jason Giessow)** waiting in the wings. At right, **Matt Horowitz** sports Apu's original Kwik-Mart work-shirt from *The Simpsons*.

Jon Fox throws down some fly SLO moves, with eventual dance-off winner **John Knapp**, the Man in the Brown Shirt, Mr. Diligence himself, observing



Mighta had to a-throwed Jefro (aka **Steve Schoenig**) off the stage but the ol' boy done it himself



Sue Donaldson's half-day field trip crew got their hands dirty reseeding and mulching a site reclaimed from perennial pepperweed

From Oregon...

“**De Vine Intervention**” is the motto of the **No Ivy League**, a partnership between Portland Parks & Recreation and Friends of Forest Park, headquartered in Portland, Oregon. Their mission is: To restore the native habitat of Forest Park, America’s largest urban forest, by removing invasive plants, especially English Ivy, through youth development programs, environmental education, and community participation while promoting research, providing technical assistance, and seeking relevant societal changes. Here are some of their preferred **Ivy Removal Techniques** as developed and written by **Ivy Removal Project Youth Crews** based on their considerable experience in the field. Other popular tactics include “Donut on a Slope,” “The Pizza Slice,” “Layer Cake,” and many more. For a complete list of tried-and-true removal methods, or to learn more about the work the No Ivy League is doing, visit www.noivyleague.com or contact Director Sandra Diedrich at (503) 823-3681.

Taquito Method

A refinement of the Log Roll technique, used to remove ground ivy off of a slope by starting at the top of the slope and pulling the ivy downwards towards the bottom of the slope. Once you have gathered a large enough amount of ivy, it begins to snowball, giving it a log like appearance. The problem is that this ‘log roll’ can get large and difficult to maneuver around any native shrubs. The Taquito method addresses this issues by simply breaking down a log roll into a series of smaller log rolls, or taquitos. One does this by starting a regular Log Roll but stopping before it gets any larger than a foot or so in diameter. You then sever this taquito from the live ivy patch and start a new taquito right where you left off. This process continues until you get to the bottom of the slope. Now, instead of having an erosion-prone bare slope with a huge pile of ivy at the bottom, you have little terraces of ivy that will be easier to mulch and quicker to decompose.

Cookie Cutter

This is one way to work an area between ‘freed’ trees which have ‘lifesavers’ cleared around them. Think of the ivy patch as a circle. Systematically pull around the edge to make the circle smaller and smaller until it disappears.

Lifesaver

Lifesavers are used often, especially after girdling a tree. You start pulling up as much ivy as possible and as deep as possible around the base of the tree. Keep extending the pulled area around the base of the tree until the pulled area is at least six feet from the tree’s base all the way around — this is the tree’s lifesaver.



Sloppy Joe

This inefficient and damaging tactic occurs when the ground is very wet on a slope. A goof-ball puller plows up and down a wet slope grabbing Ivy here and there. The small or heaven-forbid large area of slope looks like barnyard slop. This type of puller should go weed in a ball field.

Letters...

I’d like to comment on the fact that a number of “ornamental introductions” were brought to California for fire control. The California Department of Forestry and Fire Protection has crafted a number of lists of fire-safe plants—remarkably all of them contain invasives as preferred fire-stoppers. CDF is currently incorporating FireSafe Councils, hundreds of them, around California, which may someday encourage nurseries to stock and sell fire-resistant invasives. This could mean clashes down the road, when invasives are touted as fire-safe means for the homeowner. We should therefore work with these councils to suggest more suitable landscaping.

Bud Hoekstra, San Andreas

A tip of the hat to...

The **Fenton Marketplace** in Mission Valley (San Diego County) for removing pampasgrass (*Cortaderia selloana*) from their ornamental landscaping.

Color Spot Nurseries for stopping production of pampasgrass (*Cortaderia selloana*) at all of its California nurseries.

The **Union of Concerned Scientists** for their push to increase sponsorship of the National Aquatic Invasive Species Act (NAISA), raising the number of House co-sponsors from 67 to 89 and Senate co-sponsors to 19. (For more about NAISA go to: www.ucsusa.org/global_environment/invasive_species/)

Hawaii establishes state Invasive Species Council

The 2003 Hawaii State Legislature and Governor Linda Lingle passed SB 1505 established the Hawaii Invasive Species Council (HISC). The legislation calls for State agency chairs, department heads, federal agencies, and representatives of local and international initiatives to meet at least twice each year to address gaps in Hawaii's biosecurity system against invasive pests. The council will be administratively attached to the office of the governor and will advise the governor and legislature on invasive species issues.

The HISC will proactively address a critical recommendation from the 2002 study *Filling the gaps in the fight against invasive species* – the need for cabinet-level coordination among all state agencies that have responsibility for controlling invasive species on the ground, regulating the pathways in which invasive species can gain access into Hawaii, and agencies that use and promote the pathways or natural resources.

The Coordinating Group on Alien Pest Species (CGAPS) was formed to bring agencies and organizations together to work on these issues. Since 1995, members of

every major agency and organization involved in invasive species work have participated in the quarterly meetings in an effort to change policy, improve communications and collaborations, and to improve public awareness. CGAPS has had many successes, but there remained a lack of committed participation of individuals at the executive level to institute necessary policy changes.

HISC co-chairs began spearheading the move towards addressing the need for executive level participation even before the legislation. "We believe it is the right thing to do... the State of Hawaii needs a proactive invasive species prevention and control program that includes the active involvement of the private sector and communities as well as government agencies. The HISC will provide a needed forum to deal with the tough issues," said HISC co-chair Peter Young.

The HISC legislation requires the director, chairperson, or their designated representative of the Departments of Business, Economic Development, and Tourism, Health, Transportation, Agriculture, Land and Natural Resources, along with the President of the University of Hawaii, federal agency representatives and others to meet no less than twice each year. However, Young and fellow co-chair Sandra Kunimoto are going above and beyond the legislation by expanding the participation to include other department directors and the mayors of each county.

The HISC will look at each agency's organizational and resource shortfalls. The need for sustainable funding sources for adequate inspections on incoming goods as well the need for early detection and rapid response for priority invasive species is critical. HISC members also face the daunting task of looking at laws, policies and procedures that were set a generation or more ago, and setting systems that will protect Hawaii today and into the future, when global transportation of goods and pests will only increase.

Although there is a lot of work to be done, Hawaii is still far ahead of most of the nation.



***Clidemia hirta* (Koster's curse).** Photo by Gerald D. Carr. This noxious weedy shrub grows up to 2m tall in pastures and forest. It is an aggressive invader which shades out all vegetation below it. The seeds are principally dispersed by alien frugivorous birds, but any organism moving through the thickets will carry seeds away with it. It is probably not resistant to fire, an unlikely event in its habitat, but it rapidly colonizes burned areas. Several expeditions for potential biological control agents have been made in Trinidad, and a number of insects are being screened currently. This plant is a serious pest in mesic and wet environments on O'ahu and more recently in Wailau, Moloka'i, as well as Nahiku and Kailua areas, Maui. It has also become established on Kaua'i, West Maui, and Waiakea, Hawai'i. There is increasing evidence that many of the new infestations are inadvertently established by marijuana growers.

<www.botany.hawaii.edu/faculty/cw_smith/aliens.htm>

Hawaii is only the sixth state in the nation to institute such a council (the other states being Delaware, Idaho, Illinois, Minnesota and Oregon).

For more info, visit <www.hear.org> or contact Christy Martin is the Public Information Officer for the statewide Coordinating Group on Alien Pest Species (CGAPS) and the Invasive Species Committees of Hawaii, at <christym@rocketmail.com>.



***Heterocentron subtriplinervium* (pearl flower),** one of Hawaii's most invasive horticultural plants. Photo by Clifford W. Smith. <www.botany.hawaii.edu/faculty/cw_smith/aliens.htm>

Readings, Resources & Reviews

GAO accounts for invasives

Invasive Species: Federal Efforts and State Perspectives on Challenges and National Leadership

U.S. General Accounting Office <www.gao.gov>

The GAO has released a report summarizing results from a survey of state agencies involved in efforts to address invasive species and members of the federal Invasive Species Advisory Committee. The report focuses on state perspectives on (1) gaps in, or problems with, federal legislation addressing invasive species, (2) barriers to managing invasive species, (3) effective leadership structures for addressing invasive species, and (4) integrating federal aquatic and terrestrial invasive species legislation and the potential gains and drawbacks of such legislation.

Biodiversity in maps

Atlas of the Biodiversity of California

California Department of Fish and Game, \$20, <<http://atlas.dfg.ca.gov>>

A pictorial guide to the state's biological resources, with 87 nature photographs, 48 full-color maps, and 10 wildlife illustrations. Great for students, outdoor enthusiasts, environmental planners, biologists, policy makers and anyone with an interest in California's diverse biological resources

Tax intercontinental commerce?

Paying for Protection from Invasive Species

Peter T. Jenkins, *Issues in Science and Technology*, Fall 2002.

An attorney and policy analyst at the International Center for Technology Assessment proposes a system for creating a federal fund to prevent and respond to invasive species. The system is based on levying a "polluter pays" fee on intercontinental trade and travel industries and the consumers who create a demand for them. The fee would

apply to live goods, people, and cargo ships and airplanes. Funds raised would go into a "Invasive Species Prevention, Quarantine, and Control Trust Fund" designated for inspection, monitoring, prevention, and quick response efforts. The estimated goal of this fee collection is \$200 million annually, or 0.025 percent of the combined revenue from these industries.

Getting to the root of the problem

Boss Tee Excavator

Boss Reclamation, Rick Evans or Pete Thompson at (800) 657-8939

The Boss Tree (see photo) plucks salt cedar from the banks of the Pecos River in Texas.

By pulling the roots, this tool reduces resprouting. Attached to the 228 Kamatuso Excavator as seen here, the tool can access difficult-to-reach places in challenging terrain.

Resisting herbicide resistance

Avoiding Herbicide Resistance in Weeds

R. Proost, et al., Univ. of Wisconsin Nutrient and Pest Management, Pub. No. A3615, <http://ipcm.wisc.edu/pubs/pest/Weedresist_2002.htm>

Herbicide resistant weeds are a growing problem that is drawing increasing attention. This recent 4-page publication colorfully describes the issue, asks key questions, and provides succinct information about various herbicidal modes of action and steps to help forestal resistance development.

Healthy cattle and creeks

Watershed Resource Guide (CD)

California Cattlemen's Association, <www.calcattlemen.org>, (916) 444-0845

The guide contains fact sheets, case studies, a glossary, and a directory of watershed

resources.

Layers of information

California Digital Conservation Atlas

California Legacy Project, <legacy.ca.gov>

This online information tool allows access to extensive conservation data gathered through the Legacy Project's nine regional workshops throughout the state.



Know your weeds

1,000 Weeds of North America: An Identification Guide (CD)

Weed Science Society of America, \$54.95, <www.wssa.net>

A pdf version of a brochure advertising the CD has been posted by Barry Rice-Meyers at <<http://tncweeds.ucdavis.edu/temp/wssabrochure.pdf>> (<http://www.wssa.net>)

Foam treatment

Organic Hot Foam Weed Control System

Waipuna, <waipuna.com>

Contact Ian Webster at (630) 514-1501 or <iwebster@waipuna.com>

The Waipuna system uses a non toxic, biodegradable foam whose heat kills weed tissue on contact. The foam solution contains sugar extract from corn and coconut and water.

The WILDLAND WEED CALENDAR

If you have a regional, statewide, or national event that you would like to see mentioned here, please send info to <dwjohnson@cal-ipc.org>.

Joint conference:

2003 Invasive Plants in Natural and Managed Systems (IPINAMS) - "Linking Science and Management"

7th International Conference on the Ecology and Management of Alien Plant Invasions

November 3-8, 2003

Ft. Lauderdale, FL

<www.esa.org/ipinams-emap7/>

This historic event brings together for the first time the major international weed conference (EMAPi, which is biennial, and will be held in Poland in 2005), and IPINAMS, the major US weed conference, which is jointly organized by the Weed Science Society of America and the Ecological Society of America. The week-long event features workshops, presentations, and field trips covering broad range of science, policy, and management topics. Invited speakers include Secretary of Agriculture Ann Veneman and Secretary of Interior Gale Norton. A sizable California contingent will be attending, and Cal-IPC will have an exhibit.

War on Weeds Symposium

November 14, 2003

CSU Monterey Bay

"Big Tools, Little Tools: The Right Tool for the Right Weed"

Organizer Kate Martin

<kateinvina@hotmail.com>

Presentations will cover the "Big Picture" of weeds in California, aquatic weeds, and weed removal from a company perspective. Speakers include Doug Johnson, Joe DiTomaso, Darlene Chirman, Henry Gonzalez, Sue Hubbard, Patricia Watts, Craig Dremman, and Don Bartel. "Tool Tailgate" sessions will allow attendees to show off new, unique, effective, impressive and favorite tools—you are invited to bring your own. Registration is \$20, which includes lunch.

Eco-Landscaping: Profiting from a Green Future

January 10, 2004

Sacramento

This conference will introduce landscape professionals to new trends and techniques for meeting the challenges of water conservation, storm water pollution, resource conservation, and pesticide and fertilizer reduction. Along with speakers there will be a mini-trade show

of innovative products and services. One session focuses on invasive plants.

On-Farm Conservation Field Meetings

Farm Conservation Planning

February 7 and 22, 2004

Yolo County

Roaside Vegetation Management

March 18, 2004, Yolo County

Yolo County

Susan McCloud at (530) 662-2037 x119,
<mccloud@yolorcd.org>

Workshops for landowners, with topics including weeds and wildlands.

National Invasive Weeds Awareness Week (NIWAW 5)

February 23-26, 2004

Washington, DC

<<http://fcmnew.fws.gov/>>

This event keeps growing, with weed advocates attending from around the country to attend sessions with high-ranking agency officials and lawmakers. Property rights and the passage of HR 119, providing \$100 million to local WMAs, are sure to be important topics this spring.

Quotable:

"What troubles us is that biology's metaphorical abstractions all too easily become concrete objects and substitute for specific, describable processes... Biological "productivity" and "diversity" become not only measurable, but virtuous... [S]cientists must be aware of the potential problems inherent in invoking the familiar as a convenient way for describing their ideas. At the very least, we should be concerned about what the frequent use of "natural enemies" (and the notable absence of "natural allies," describing an equally familiar set of ecological interactions) reveals about the ways in which we interpret nature through metaphorical lenses, especially in the current historical situation."

Matthew K. Chew and Manfred D. Laubichler, from "Natural enemies—Metaphor or misconception?" in *Science* Vol. 301, 4 July 2003, 52-53.

"I believe the strongest ethical bases, and possibly the only ethical bases, for concern about introduced species are that they can threaten the existence of native species and communities and that they can cause staggering damage, reflected in economic terms, to human endeavors. That said, I must address what I believe is a red herring... the notion that current concern with introduced species is focussed on all introduced species and founded on are generically 'bad' and native species 'good'. Although some extreme adherents of an aesthetic stance favoring native species doubtless hold such a view, invasion biologists do not, and the many recent government and international activities on introduced species explicitly recognize the enormous benefits of some introduced species."

Daniel Simberloff, from "Confronting introduced species: A form of xenophobia?" in *Biological Invasions* 5: 179-192, 2003.

Cal-IPC stuff...

All proceeds from the sale of Cal-IPC merchandise go directly to the work we do to fight wildland weeds.

A. Aquatic and Riparian Weeds of the West. 2003.

Joseph M. DiTomaso and Evelyn A. Healy. Published by University of California Press. 442 pages, more than 550 color photos. Each species description provides detailed information on the distribution, habitat, propagation, phenology, management considerations, and characteristics that allow distinguishing between similar or related species.

\$48.30 includes tax and shipping



A

B. Invasive Plants of California's Wildlands. 2000. Edited by Carla Bossard, John M. Randall, and Marc C. Hoshovsky.. Published by University of California Press. 360 pages, 133 color photographs, includes distribution maps and control information.

\$31.88 includes tax and shipping



B

C. Landscaping Alternatives brochure

The product of an extensive collaborative process, this 14-panel brochure presents the connection between landscaping and wildland weed problems, and gives safe alternatives for a dozen invasive plants sold in the San Francisco Bay Area. Target species include iceplant, vinca, English ivy, brooms and pampasgrass. See pdf file at cal-ipc.org for more detail.

\$30.00/hundred brochures suggested donation



C

D. CDs by Tahoe musician Darin Talbot

great gift!

Want to take a bit of the mountain country home with you? Darin's lively guitar playing celebrates the Tahoe backcountry with songs about love, life and snowboarding., and share his affection for the elements. Hear clips at airtahoerecords.com.

\$18.00 includes tax and shipping



D

E. Logo water bottle

great gift!

These quart-size Nalgene's are perfect for a hike, a day at the desk or a day in the field. Comes in dark blue, violet, turquoise, sage green, and bright green.

\$18.00 includes tax and shipping



E

F. T-Shirts

great gift!

Help spread the word, not the weeds! Our new high-quality cotton tees have the Cal-IPC logo on the front, and "Save California's Landscape! Stop the Invasion of Wildland Weeds" on the back. Shirt colors: Navy, Grey, White. Shirt sizes: YM, YL, S, M, L, XL.

\$18.00 includes tax and shipping



F

New and Contributing Members

Thank you for your generous support! This list reflects new members and donors since the last newsletter. Let us know if we forgot you or got your information wrong!

Donations

Mike and Jerre White (Conservation Biology Institute, Encinitas)

Catherine and David Linden (Chico)

Joe DiTomaso (UC Davis, Davis)

Rio Piedras Club (Monterey) to *Cape Ivy Biocontrols Development*

Life Members

Joan and Kevin Bockman (Buena Vista Native Plant Club, Oceanside)

Contributing Members

Steve Hartman (CNPS, Sherman Oaks)

Bill Neill (Anaheim)

Mike Sherrod (RRM Design Group, San Luis Obispo)

Contributing Institutional Members

Alameda County Waste Management Authority (Teresa Eade and Jeanne Nadar, San Leandro)

Nature's Image, Inc. (Michelle and John Caruana, Lake Forest)

New Institutional Members

Sonoma Ecology Center (Mark Newhouser, Sonoma)

Zentner and Zentner (John Zentner, Oakland)

Environmental Science Associates (Diane Hussey, San Francisco)

New Family Membership

Catherine and David Linden (Chico)

New Individual Members

Angela Martin (California State Parks, Mendocino), **Katie Beltrano** (San Bruno),

Florence Anderson (Weed), **Tim Doherty** (National Park Service, San Francisco),

Michelle Murphy (National Park Service, San Francisco), **Rob Wilson**

(UC Cooperative Extension, Susanville), **Mike Savino** (Sacramento), **Rene Simon**

(Placer County Agriculture Dept., Auburn), **Catherine Billings** (Cal Poly San Luis Obispo, Los Osos),

Jessica Dowell (Landscape Architect, Oakland), **Erica Nevins** (Epsilon Systems Solutions, Ridgecrest),

Susan Williams (Epsilon Systems Solutions, Ridgecrest), **Tamara Sasaki** (Cal State Parks, Tahoe City),

Jim Bromberg (Pt. Reyes National Seashore), **Jane Rodgers** (Pt. Reyes National Seashore),

Ken Lair (US Bureau of Reclamation, Denver, CO), **Anne Halford** (BLM, Bishop),

Val Page (Mojave Desert RCD, Apple Valley), **Susan O'Neil** (John Muir National Historic Site, Martinez),

Elizabeth Leger (UC Davis), **Gretchen Ring** (NPS, Whiskeytown),

Gail Durham (USFS, Tahoe Basin), **Beth Breneman** (USFS, Tahoe Basin),

Martin Lane (NPS, San Diego), **Ingrid Hogle** (Information Center for the Environment, UC Davis),

Shelley Gladwin (Golden Gate National Recreation Area, Sausalito), **Jen Kirchener** (NPS - Devil's Postpile, Mammoth),

Bobbi Simpson (NPS, Pt. Reyes Station), **David Schooley** (San Bruno Mountain Watch, Brisbane),

Philip Batchelder (San Bruno Mountain Watch, Berkeley), **Lauren Quinn** (UC Riverside),

Robin Marushia (UC Riverside), **Michael Rauterkus** (UC Riverside),

Gretchen Coffman (UCLA, San Francisco), **Denis Kearns** (BLM, Bakersfield),

Tara Collins (ECORP, Roseville), **Roland Mathers** (Shelterbelt Builders, Inc, Berkeley),

Eric Wrubel (Shelterbelt Builders, Inc, Berkeley), **Ted Angle** (BLM, Reno, NV),

Josh Huntsinger (Placer County Ag Dept., Auburn), **Lessly Wikle** (Berkeley),

Nate Key (Wildlands, Inc., Citrus Heights), **Marcus Tessier** (Wildlands, Inc., Citrus Heights),

Janet Ilse, **Kay Panak**, and **Lech Naumovich** (BLM, Hollister),

Marcia Carlock (Cal Dept. of Boating & Waterways, Sacramento), **Joy Durighello** (Golden Gate National Recreation Area volunteer, San Francisco),

Mark Skinner (Land Conservancy of San Luis Obispo), **Scott Scheibner** (Cal State Parks, Truckee),

Chris Boza (City of Chico), **Andy Thomson** (Dudek & Associates, Encinitas),

Tasha LaDoux (Joshua Tree National Park, Twenty-nine Palms),

Lysa Carmody (Kings Beach), **Greg Fisher** (Circuit Rider Productions, Windsor),

Deborah Bieber (Camp Pendleton), **Larry Hughes** (Douglas County Weed

Control, Minden NV), **Stan Hooper** (Santa Clara Valley Water District, Los Altos), **Joel Buettner** (Cache Creek Conservancy, Woodland), **Sandra Baron** (EcoLogic Consulting, Watsonville), **David Stoffel** (Tehama County Ag Dept, Red Bluff), **Portia Halbert** and **Dustin DiMauro** (Santa Cruz RCD), **John Chapman** (Santa Clara Valley Water District, Felton), **Richard Thiel** (Sequoia/Kings Canyon National Parks), **Cynthia Harrington** (Wildland Restoration Team, Santa Cruz), **Peggy Olofson** (Olofson Environmental, Berkeley), **Erik Grijalva** (Invasive Spartina Project), **Steve Pennix** (US Navy, China Lake), **Dana Conly** (Goats-R-Us, Orinda), **Lynn Boyd** and **Marylee Guinon** (Sycamore Associates LLC, Walnut Creek), **Huy Xuan Pham**, **Bob Furtado**, **Leo Dumont**, and **William Beatie** (Santa Clara Valley Water District), **Jeff Phillips** (Monsanto Company, Elk Grove), **Shana Gross** and **Amanda Hardman** (US Forest Service, South Lake Tahoe), **Robert Burton** and **Kristy Uschyk** (Moss Landing Marine Lab), **Megan Lulow** (UC Davis, Winters), **Christy Brigham** (Santa Monica Mountains NRA, Thousand Oaks), **Thomas Egan** (AMEC Earth & Environmental, Helendale), **Ben Hildenbrand** and **Dale Schmidt** (Los Angeles Dept. of Water & Power, Bishop), **Terry Miller** (Plumas National Forest, Blairsden), **Chris Weske** (City of Gilroy), **Doug West** (El Dorado Ag Consulting, Shingle Springs), **Susan Mason** (Friends of Bidwell Park, Chico), **Kent Reeves** (East Bay Municipal Utility District, Lodi) **Dan Cordova** (SRS Technologies, Lompoc), **Kimberly Allcock** (University of Nevada, Reno, NV), **William Beatie** (Santa Clara Valley Water District, San Jose), **Lori Bellis** (Nevada Dept. Agriculture, Reno, NV), **Susanne Bernstein** (LFR Levine-Fricke, Santa Maria), **Katherine Blackman** (CDFA, Folsom), **Jere Boudell** (Arizona State University, Tempe, AZ), **Michael Bower** (St. Mary's College of CA, Lafayette), **Bob Brenton** (VMS, Folsom), **Hugh & Sarah Bunton** (Southern Oregon Goat Producers), **Jeanne Chambers** (USDA Forest Service), **John Chapman** (Santa Clara Valley Water District, Felton), **Jason Churchill** (California Regional Water Quality Control Board, Lahontan Region), **Daniel Clark** (Santa Clara County Parks, Los Gatos), **Sandra Cleisz** (Cleisz Planning & Design Sonoma), **Karen Cotter** (Acterra, Menlo Park), **Caroline Cox** (Northwest Coalition for Alternatives to Pesticides, Eugene), **Pamela Devries** (Chambers Group, Inc. La Habra), **Dustin DiMauro** (RCD - Santa Cruz), **James Dougherty** (GGNRA, San Francisco), **Teresa Eade** (Alameda County Waste Management Auth., San Leandro), **Julie Etra** (Western Botanical Services, Inc. Reno, NV), **Jesse Fujikawa** (GGNPC - Site Stewardship, San Francisco), **Lori Gandelman** (California Surveying & Drafting Supply, Sacramento), **John Gerlach** (Fair Oaks, CA), **Leia Giambastiani** (Circuit Rider Prod., Santa Rosa), **Lisa Hale** (Pestmaster Services, Taylorsville), **Gary Halsey** (The Watershed Collaborative, Royal Oaks), **Jeff Hart** (Hart Restoration, Inc., Walnut Grove), **Darby Hendrix** (GGNPC - Site Stewardship, San Francisco), **Matt Horowitz** (Santa Cruz, CA), **Shaun Hyde** (SePRO Corp., Cameron Park), **Kate Martin** (Student Conservation Corps, Hollister), **Zac Martin** (GGNPC - Site Stewardship, San Francisco), **Marcy McLaughlin** (Jones & Stokes, Sacramento), **Kevin Merk** (Rincon Consultants, San Luis Obispo), **Tanya Meyer** (Hedgerow Farms, Winters), **Jeanne Nadar** (Alameda County Waste Management Auth., San Leandro), **Kari Norgaard** (UC Davis - IGERT, Davis), **Kevin O'Neill** (Assemblymember Tim Leslie's office, Sacramento), **Dean Osborn** (Target Specialty Products, Fresno), **Randi Paris** (Trinity County RCD, Weaverville), **Santinia Pasquini** (Regional Council of Rural Counties, Sacramento), **Shannon Peters** (UC Berkeley), **Ben Peterson** (Point Reyes National Seashore, Pt. Reyes Station), **Chris Piroosko** (Intermountain Consulting, Burney), **Ken Poerner** (Solano Land Trust, Fairfield), **Scott Powell** (Redwood NP, Orick), **David Pyke** (USGS BRD, Corvallis, OR), **Jim Raisner** (Ag Dept - Sonoma, Santa Rosa), **Joe Rigney** (Central Coast Wilds, Santa Cruz), **Catey Ritchie** (GGNPC Site Stewardship, San Francisco), **Tarja Sagar** (Nat'l Park Service, Thousand Oaks), **Allison Sanger** (USDA Forest Service - Lassen NF, Susanville), **Jon Scott** (Minneapolis, MN), **Asha Setty** (GGNPC - Native Nursery, San Francisco), **Darcy Shunk** (Thales Navigation, Santa Clara), **Bridget Simon** (King County Noxious Weed Control Board, Seattle, WA), **Fred Steele** (CalTrans District 6, Fresno), **Albert Stockton** (Geyserville, CA), **Don Thomas** (CNPS, Ben Lomond), **Arnie Thompson** (San Francisco State University, San Francisco), **Lynne Turner** (Lassen County Ag Dept, Susanville), **Alan Uchida** (BLM Surprise Field Office, Cedarville), **Lily Verdone** (Sonoma State University, Monte Rio), **Stuart Weiss** (Creekside Center for Earth Observations, Menlo Park), **Susan Williams** (Epsilon Systems Solutions, Ridgecrest), **Billie Wilson** (Sacramento State University, Rancho Cordova), **Mimi Okada** (UC Davis), **John Hancock** (Upper Lake Pomo Reservation, Upper Lake), **Amanda Dalesi** (CHARIS/Ft. Irwin, Barstow), **Crystal Ritchie** (Cal State Parks, Imperial Beach), **David Board** (Forest Service, Reno), **Jeanne Chambers** (Forest Service, Reno), **Sheli Wingo-Tussing** (The Nature Conservancy, McCloud)

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, including scientists, land managers, policy makers, and concerned citizens. Please photocopy the form below, complete, and mail with your payment. Additional donations are always welcome to support our projects; we are a 501(c)3 nonprofit organization, and donations beyond regular membership rates are tax deductible.

Individual

- Student/low income \$15
 Regular \$30
 Family \$40
 Contributing \$50
 Sustaining \$100
 Life \$1,000

Institutional

- Regular \$100
 Contributing \$250
 Patron \$500
 Sustaining \$1,000

Name

Affiliation

Address

City, State & Zip

Work Phone

Home Phone

Fax

E-mail

Credit Card No.

Exp. Date

Additional donations for:

- Nursery outreach and education \$ _____
International Broom Initiative \$ _____
Cape ivy biocontrols research \$ _____
Cal-IPC News and operating costs \$ _____

Ways to sign up:

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

Fax: fax form with credit card info to 510/217-3500

Email: send contact and credit card info to dwyjohnson@cal-ipc.org

Phone: call us at 510/525-1502 and provide contact and credit card info



**California
Invasive Plant
Council**

1442-A Walnut Street, #462
Berkeley, CA 94709

ADDRESS SERVICE REQUESTED

Non-Profit Org.
U.S. Postage
PAID
Berkeley, CA
Permit No. 1435