



CalEPPC News

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Exotic Pest Plant Council

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Volunteer displays rooted *Arundo donax* washed onshore during El Niño storms.
See page 5 for article. Photo by Annette Shears

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Who We Are

CalEPPC NEWS is published quarterly by the California Exotic Pest Plant Council, a non-profit organization. The objects of the organization are to:

- Ψ provide a focus for issues and concerns regarding exotic pest plants in California;
- Ψ facilitate communication and the exchange of information regarding all aspects of exotic pest plant control and management;
- Ψ provide a forum where all interested parties may participate in meetings and share in the benefits from the information generated by this council;
- Ψ promote public understanding regarding exotic pest plants and their control;
- Ψ serve as an advisory council regarding funding, research, management and control of exotic pest plants;
- Ψ facilitate action campaigns to monitor and control exotic pest plants in California; and
- Ψ review incipient and potential pest plant management problems and activities and provide relevant information to interested parties.



Please Note:

The California Exotic Pest Plant Council is a California 501(c)3 non-profit, public benefit corporation organized to provide a focus for issues and concerns regarding exotic pest plants in California, and is recognized under federal and state tax laws as a qualified donee for tax deductible charitable contributions.

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Submission Dates for CalEPPC News

If you would like to submit a news item, an article, a meeting announcement, or job opportunity for publication in the CalEPPC News, they must be received by the deadlines listed below. Editor reserves the right to edit all submissions. Send your text/disk/email to editor's address above.

Submission Dates:

Spring	April 15	Fall	October 15
Summer	July 15	Winter	January 15

The articles contained herein were contributed to the CalEPPC newsletter. These articles represent the opinions of the authors and do not necessarily reflect the views of CalEPPC. Although herbicide recommendations may have been reviewed in contributed articles, CalEPPC does not guarantee their accuracy with regard to efficiency, safety, or legality.

President's Message

Mike Pitcairn

CalEPPC's Symposium '98 is over. It was held October 2-4 at the Ontario Airport Sheraton Hotel in Ontario in southern California and, I must say, it was another excellent symposium. The speakers were interesting, stimulating, and inspiring, and the field trips were educational and focused.

This year's meeting highlighted two important aspects of exotic weed removal: working safely, whether with hand equipment or applying herbicides, and working together through volunteer crews. All speakers are to be congratulated on their excellent presentations. This symposium could not have happened without the work of several individuals. Carl Bell, Brenda Ouwerkerk, Jo Kitz, Nelroy Jackson, and Pete Holloran made up the Program Committee. Thank you for arranging this year's outstanding speakers.

Nelroy Jackson and Sally Davis arranged for use of the hotel, Saturday's banquet luncheon, and made sure the necessary audio/visual equipment, refreshments, etc., were provided when needed. Thanks to both of you. Barbara Leitner organized the poster session again this year. Thank you for a job well done.

Christine Berry and Matt Brooks led the full-day field trip and Paul Frandsen, Nelroy Jackson, and Jennifer Nocera led the half-day field trip. Thanks to all of you for your efforts.

I attended the full-day field trip which was excellent, and I heard only positive comments regarding the half-day trip. The full-day trip focused on the impact of alien grasses invading the Mojave Desert. Their primary impact is the introduction of ground fires into areas where fire historically had not been

present. Usually, there are large areas of bare ground among the native vegetation in the desert, but following the invasion of alien grasses these bare areas are covered with a carpet of short grasses. When dry in mid-summer, the grasses carry low ground fires throughout an area. Few of the native desert flora, such as Joshua trees, yucca, and creosote

“Few of the native desert flora, such as Joshua trees, yucca, and creosote bushes, can survive these low ground fires ...”

bushes, can survive these fires. The grasses readily re-invade the burned areas and after a second fire, little native vegetation remains.

Matt and Christine showed us areas of the desert that have had no fires, one fire within the last ten years, and two fires within the last ten years. The change in flora from mixed native vegetation to almost all grasses was astounding and scary.

Not surprisingly, this change in vegetation impacts the native fauna as well, in particular the desert tortoise. Christine gave an interesting presentation on desert tortoise biology and the current research that is being performed. I encourage anyone who has not been on one of CalEPPC's field trips to attend one next year.

Next year's symposium is planned for the Sacramento area and efforts to organize it are already underway. I hope you are planning to attend. †

Letter to the Editor

Two years ago, I was asked to fill a position on the CalEPPC Board of Directors for a mid-term vacancy. I knew I “didn't have time” to take on this additional time commitment and...heaven forbid... additional work. Nevertheless, I enthusiastically said **YES!** Two years later, as I leave the board, due to new career priorities, I wish I could once again say **YES**, and more! The experience of working with the CalEPPC Board and members is one I would gladly commit time to.

I'd like to thank each of the CalEPPC board members and officers for the fantastic, interesting, worthwhile two-year experience. I felt my limited time was never wasted, and I learned so much about exotic pest plants and people! I also made some friends that I will never forget.

I'd like to encourage each CalEPPC member to consider participating in CalEPPC beyond just the annual Symposium or working groups. The strength of CalEPPC is the leadership of the board, and the diversity and passionate commitment of our members toward the prevention, discovery, and control of exotic pest plants. Through individuals willing to say **YES**, CalEPPC has gained a highly respected leadership reputation throughout California, the United States, and the world.

I am very proud to be a part of this organization, and am glad I said **YES!**

Brenda W. Ouwerkerk

Results of the CalEPPC Questionnaire at Symposium '98 in Ontario

by Joe DiTomaso

Many thanks to those who took the time to complete the questionnaire at the CalEPPC Symposium held in Ontario. There were 46 completed surveys. The following is a summary of the tabulated results:

What are your major invasive weed problems?

Of the 66 species listed by those responding to the survey, only the top 27 species are listed below. These represent species (or plant groups) reported to be invasive by at least 5% of those responding.

Yellow starthistle (50%); Eucalyptus spp. (22%); purple starthistle (11%); annual grasses (48%); brome grasses (21%); gorse (9%); other thistles (44%); ice plant (20%); Vinca spp. (9%); Arundo donax (39%); Brassica spp. (17%); red brome (9%); Cortaderia spp. (39%); tocalote (13%); tree tobacco (9%); saltcedar (37%); Ailanthus altissima (13%); poison hemlock (7%); brooms (33%); perennial pepperweed (13%); Acacia spp. (7%); Cape ivy (30%); castor bean (11%); Himalaya blackberry (7%); fennel (22%); Ammophila sp. (11%); Spartina sp. (7%).

What are your major job responsibilities?

Most people indicated more than one area of responsibility. Of those responding, 80% were involved in fieldwork, 48% in administration, 37% in public education, 11% in research, and 7% in academic education. Other categories were also listed but represented less than 5%.

Are you employed by a:

60% by public agencies, 13% by private companies, 11% by non-profit organizations, 9% were concerned citizens not employed to manage invasive weeds, 6% were associated with academic institutions, and 2% employed by homeowner associations.

In what areas do you primarily work?

Riparian ecosystems (65%); roadsides (33%); coastal dunes (4%); coastal wildlands (48%); forests (30%); industrial sites (2%); wetlands (48%); prairie (grasslands) (28%); recreational areas (2%); rangeland (37%); marine aquatic (9%); turf/landscapes (2%); foothill wildlands (33%); utility areas (9%); development sites (2%); freshwater aquatic (33%); desert (7%); alluvial fan scrub (2%).

What control methods do you use for managing invasive weeds?

After thousands of years, hand-pulling still remains the most commonly used method of weed control. Hand-pulling (76%); reseeding (30%); insect biocontrol (11%); cut stump herbicide (63%); intensive grazing (24%); rope wick herbicides (7%); broadcast herbicide (50%); picks, shovel, loppers, chainsaw, machete (20%); basal spray herbicides (7%); mowing (46%); weed whipping (15%); irrigation (4%); prescribed burning (43%); tillage (15%); spot spray herbicides (4%); weed wrench (39%); rotational grazing (13%); herbicide injection (2%); hack and squirt (30%); heavy equipment, e.g. dozers, brush rake, backhoe, ripping (11%).

Do you supervise volunteers in your weed management efforts?

Yes (56%); no (44%)

If yes, what type of volunteers do you supervise?

General public (79%); school children (44%); members of environmental or conservation organizations (76%); prisoners (40%); youth groups (56%).

Do you directly use herbicides or supervise those who do?

80% of the total responses either directly supervised, used or both supervised and used herbicides. Directly use (11%); supervise use (16%); both (52%); neither (20%).

Survey (cont'd)

How frequently do you use herbicide (growing season)?

Of those indicating that they use herbicides 24% use them once to a couple of times a year, 29% use them about once a month, and 47% use them once a week or more.

Which herbicides do you use for invasive weed control?

A number of products were mentioned. To simplify this, the list is organized by the active ingredient. For example, both Rodeo and Roundup contain glyphosate, the active ingredient. Garlon, Remedy, Brush-B-Gon, and Path finder contain triclopyr. Glyphosate was used by everyone who indicated that they used herbicides.

Glyphosate (100%); Sethoxydim (6%); MSMA (3%); Triclopyr (69%); Fluazifop (6%); Oryzalin (3%); Clopyralid (20%); Chlorsulfuron (3%); Oxadiazon (3%); 2,4-D (11%); Imazapyr (3%); Dicamba (9%); Diuron (3%).

Do you use integrated weed management strategies?

Yes (73%); No (27%)

Are you a licensed or certified applicator?

Yes (39%); No (61%)

In your weed control efforts, do you include site restoration?

Yes (62%); No (38%)

If yes, briefly indicate what type of restoration effort you implement.

Of the 23 responding that they included site restoration, most replanted with native species. The techniques used included hydroseeding, planting container plants, drill seeding perennial grass seed, plug planting, broadcast seeding, pole planting. Others encouraged recovery of existing native seed banks.

What area of the state does your job responsibilities cover?

Of those attending the symposium in Ontario, approximately 44% had job responsibilities within Southern California, 28% in Central California, 21% in the Bay Area or Northern California, and 7% in the Sierra Nevada. Following is a more specific breakdown: Southern California (20%); San Diego (7%); North Coast (5%); Central Coast (20%); Central Valley (7%); Northern Valley (2%); So. Calif. Desert (11%); Sierra Nevada (7%); Northern California (2%); Bay Area (11%); Los Angeles (5%); Entire state (2%). †

The Weed from Hell Arrives in Paradise

by Frank Starkey, Catalina Island Conservancy

Living on Santa Catalina Island, we are accustomed to welcoming non-natives which show up on our shores. They usually arrive via a ferry and stay for a brief time in one of the hotels in Avalon. This past spring we had a vast number of unwelcome non-natives rafting to the island's beaches and coves, staying and taking root. The spring storms had washed *Arundo donax* from mainland river channels and then out to sea. Thousands, literally

tons, of the "Weed from Hell" floated across the twenty-six mile channel and washed ashore onto our paradise.

Once here, even after soaking in salt water for several weeks, a number of the rhizomes still had the tenacity to take root and send out vigorous new sprouts. Knowing the well-earned reputation of *Arundo* wreaking havoc on native plants and habitat, the Catalina Island Conservancy mobilized staff and volunteers

to hit the beaches, searching for and removing this new threat. Six months after the initial episode we still encounter new sprouts in areas in which we had previously removed plants.

We are hopeful that the early removal efforts and follow-up monitoring will prevent this unwelcome non-native from getting a foothold in our island paradise. †

Access Weed Control Information Through the CalWeed Database

by Steve Schoenig, California Department of Food and Agriculture

The CalWeed database, offering information on weed control projects throughout California, is up and running. CalWeed is an Internet-based searchable database containing information about noxious weed control projects within the state. The project began as a subcommittee effort of the California Interagency Noxious Weed Coordinating Committee (CINWCC). Led by staff of the California Department of Food and Agriculture, the inventory of projects has received additional funding from the Bureau of Land Management's California office. The Committee hopes that the database will serve as a useful tool to agency staff, researchers, biologists, and the public by facilitating the exchange of weed control information. Above all, it should serve as a networking tool for staff with weed control and land management responsibilities.

An agreement with the University of California's Information Center for the Environment (ICE) has allowed CalWeed to reside under the larger umbrella of the Natural Resource Projects Inventory (NRPI), another Internet-based database. The NRPI structure allows the weed control project information to be available through either its own Web site, specific just to weeds, or under a more general Web site which will access project descriptions for all resource management work being reported in California.

CalWeed provides viewers with short reports on various weed control efforts. Information available for a specific project includes:

- project title, purpose, and abstract
- weed targeted for control
- project contact
- cooperators, funders, and landowners
- general location and habitat information
- control methods used

A visitor to the site can view a complete list of CalWeed's projects, or can refine a search by county, targeted weed, or control method. More search categories will be available in the future. Also in the future, CalWeed will contain an online encyclopedia of noxious weeds.

CDFA has contracted with Dr. Joe DiTomaso and his staff at the University of California, Davis to provide viewers with specific information about both weed biology and control methods.

CalWeed currently contains reports on over 350 projects and is continually updated with new arrivals. If you have a project that you would like to report, simply fill out our three-page dataform and send it in. Forms may be accessed from the CalWeed home page, or by contacting Steve Schoenig at 1220 N Street, Room A-357, Sacramento, CA 95814, 916.654.0768, sschoenig@cdfa.ca.gov.

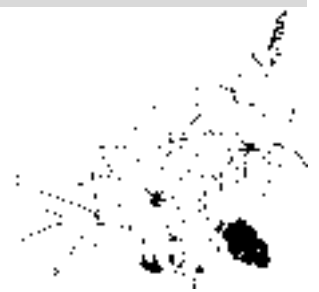
What Constitutes a CalWeed Project?

Projects which qualify for this database attempt to eradicate or reduce the number of noxious weeds in California. The emphasis of CalWeed is on weeds deemed noxious by the California department of Food and Agriculture, or considered a threat to wildlands by the California Exotic Pest Plant Council.

The focus of the database is on projects that target specific weeds for control. These can be weeds that threaten natural areas, rangelands, open spaces, or agriculture. There is less interest in non-specific vegetation management or biomass abatement. Weed control for urban landscapes and intensive production agriculture is also not emphasized in CalWeed.

Projects should be in an active or maintenance phase; historical projects are currently outside the scope of our efforts. †

Visit CalWeed at:
<http://endeavor.des.ucdavis.edu/weeds/>



More on *Salsola soda*

by Peter Baye, U.S. Fish & Wildlife Service, Mare Island Suboffice

Thanks to Judi Tamasi for her attention to *Salsola soda*, an estuarine marsh invader which needs more attention than it has been getting. I have a few comments and observations to update the information available.

Salsola soda is well established in northern San Pablo Bay, where it has some of the most extensive populations anywhere in the estuary. The Mare Island dredge disposal ponds, saline basins of dredged muds which are annually drained and disced, support several hundred acres of weedy halophyte habitat in which *S. soda* is common to dominant. It also is co-dominant on many tens of acres of adjacent salt marsh where alluvial fans had previously formed from spilled or discharged dredge slurry. *S. soda* also is abundant on the levees surrounding the dredge ponds, particularly in tire ruts and disturbed soil. It also has invaded drift-lines (tidal litter deposits) in high salt marsh in adjacent tidal wetlands, and is locally abundant in brackish marshes with artificially reduced tidal action. *S. soda* also appears in conspicuous local abundance on side-cast excavated bay muds where ditches are excavated in the tidal salt marsh along Highway 37 to improve tidal circulation, particularly east of Sonoma Creek. It has made initial invasions in recently restored tidal marshes, such as the Sonoma Land Trust Petaluma Marsh Restoration Project ("Carl's Marsh" immediately north of the Petaluma River bridge at its mouth).

The abundance of *S. soda* near the mouth of the Napa River and Carquinez straits is of particular concern, because this places it well within dispersal range of the endan-

gered soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*). Both species are most abundant in the high marsh zone where soils are relatively better drained and less frequently inundated. In the tidal brackish marshes of the north bay, this zone is also the preferred habitat for perennial pepperweed (*Lepidium latifolium*) ... a double threat to bird's-beak habitat.

Salsola soda is also becoming widespread in undisturbed salt marsh vegetation in parts of the south Bay. In Dumbarton Marsh and Newark Slough (one of the largest salt marsh areas in the south bay) *Salsola soda* is now invading not only the typical high tide drift-lines and disturbed levees, but also common to locally abundant on tidal creek bank edges (often with *Atriplex triangularis* and *Grindelia stricta*) and on extensive areas of outer Dumbarton Marsh in undisturbed, dense mixed stands of *Distichlis spicata* and *Salicornia viarginica*.

S. soda is abundant also on the oyster shell berms that form on eroding marsh edges around Ravenswood, Bair Island, Bird Island, and Greco Island. These unstable narrow beach ridges were the probably former habitat of the endangered California sea-blite (*Suaeda californica*), now extirpated in San Francisco Bay, but planned for reintroduction. Heavy invasion by *S. soda* in this rare sub-habitat could interfere with re-establishment of *Suaeda*. Similarly, if *Salsola* becomes abundant on natural creek bank levees, it could interfere with reintroduction and reestablishment of two other historic salt marsh species which are extir-

pated in the south bay, an owl's clover (salt tolerant populations of *Castilleja ambigua* ssp. *ambigua*) and Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *palustris*). These species have an affinity for areas of sparse, low, or disturbed salt marsh vegetation which *Salsola* really colonizes and monopolizes.

Regarding the "unfilled niche" concept, *S. soda* seems to behave this way on novel, artificial habitats which are periodically disturbed, such as levees and dredge disposal ponds. *Atriplex triangularis*, a native annual Chenopod, seems to at least partially overlap with *S. soda*'s actual ecological niche in San Francisco baylands. However, I have little doubt the seed rain of *S. soda* generated by these artificial habitats poses an unacceptably high potential invasion rate in important habitats such as salt pans at marsh edges, and in high marsh vegetation supporting rare or endangered species. †



Invasive New Zealand Weeds: Our Native Plant Invaders

by **Graham Harris, Natural Resources Centre, Open Polytechnic, New Zealand**

Most New Zealanders are well aware of the damage that introduced invasive plants such as gorse, broom, old man's beard, blackberry and many others have done to New Zealand's landscape - leaving a legacy that costs the country millions of dollars annually. Few New Zealanders are likely to be aware that some of our native plants have created similar problems overseas. Graham Harris, a lecturer in the Natural Resources Centre at the Open Polytechnic, looks at some of our plants that have invaded the landscapes of other countries.

While numerous species and cultivated varieties of our native plants have been exported overseas where their beauty and many unique features are appreciated, a few, finding an environment where their natural competitors are missing and the climate and the habitat are to their liking, have become invasive. They have dominated local plants and damaged ecosystems by growing faster and reproducing more quickly than in their natural environment. Some of these plants have been labeled with classifications such as alien invasive weeds, noxious weeds, and exotic pest plants of concern.

To put this into perspective however, while about 2000 exotic plants have become established in the wild in New Zealand and more than 200 of these are classified as weeds which are placing many of our native species under threat, only a few of our native plants have become invasive overseas and in only a handful of countries. California, in the United States, is one of

the places where some of our plants have created problems. However as one Californian authority noted, "In general, New Zealand plants behave themselves in California - not like those from South Africa and Eurasia," and a scientist from the University of California commented, "The majority of invasive weeds in California are from Eurasia and North Africa (about 65%) while

“California, in the United States, is one of the places where some of our plants have created problems.”

relatively few (about 5%) are from Australia and New Zealand.” Other places where New Zealand plants have become invasive include the islands of Hawaii, the south Atlantic islands of St. Helena and Tristan da Cunha, and the southwestern tip of South Africa.

Some New Zealand plants that have created problems overseas include karaka (*Corynocarpus laevigatus*) which is a serious weed pest in Hawaii where it is described as an aggressive colonizer that forms a dense shade which excludes other species, including some endangered native plants. Karaka was planted in the Hawaiian islands over 100 years ago. In 1929 it was further spread for reforestation purposes by broadcasting seeds from aircraft over the interior of the island of Kaua'i. It is

now present on four islands with major infestations on the islands of Koke'e and Kaua'i. Seeds are being further spread by birds and there are serious concerns that infestations will spread to other islands. Of particular concern is the threat that the karaka poses to the heau (*Exocarpus luteolus*), a member of the sandalwood family and one of Hawaii's most endangered plants. A programme to monitor and control the karaka has been initiated by Hawaiian authorities.

Harakeke or New Zealand flax (*Phormium tenax*) was an important source of fibre for Maori which later formed the basis of a large fibre industry providing local and export markets with rope, fabric and other fibre products. At the turn of the century, New Zealand flax was planted in several countries to establish similar fibre industries. In the south Atlantic island of St. Helena, well known as the place where Napoleon died in exile in 1821, flax was widely planted. The economy of the island was totally dependant on flax fibre when the industry collapsed in the 1960s. New Zealand flax has had a serious impact on the island's ecosystem which includes a unique flora of 49 plants found nowhere else in the world. A paper published by the University of Hawaii noted, "Although the prehistoric flora of St. Helena is poorly known, one-third of the known endemic flora is extinct and no vestiges of former ecosystems remain. New Zealand flax is the most serious pest." A programme to eradicate flax from the island has

New Zealand (Cont'd)

been implemented. New Zealand flax is also an invasive weed on the south Atlantic islands of Tristan da Cunha where the British authorities have set up a programme to monitor its spread. In Hawaii, New Zealand flax was cultivated prior to 1871 and is now classed as an alien invasive pest plant. On two of the islands it has formed dense thickets which exclude other plants.

Ngaio (*Myoporum laetum*) is regarded as a serious invasive weed in southern California's coastal areas and it has also spread south into the Baja California peninsular in Mexico. In California it is described as a most invasive wildland pest plant and it is listed on the California noxious weeds list. It forms dense single species thickets that expand each year and outcompete other plants. Birds spread the seeds, greatly enlarging the affected areas. Programmes to control the plant in California are underway.

Pohutukawa (*Metrosideros excelsa*) has been planted as an ornamental in the Western Cape province of South Africa for many years and large mature trees can be seen in the gardens of Cape Town and other towns of the province. In recent years the pohutukawa, along with many other introduced invasive plants, has begun to invade sections of the nearby fynbos - a delicate ecosystem of 71,000 square kilometers, renowned for its huge range of native plant species. The fine seed of the pohutukawa which is produced in vast quantities, is spread by wind. Some areas in the fynbos provide ideal conditions for germination and growth of the plant. The dense masses of seedlings that are developing and becoming established indicate the likelihood that impenetrable stands of trees which suppress native

flora will develop. While no official programme to control the pohutukawa has been initiated as yet, concerned locals have already begun to remove the plants.

Manuka (*Leptospermum scoparium*) and kanuka (*Kunzea ericoides*) were first planted in Hawaii about 70 years ago and they have now infested several islands where they form thickets which crowd out and suppress other plants. While they are classed as an alien invasive pest plant they have provided some benefits by stabilizing ridge tops that have eroded following overgrazing by goats.

Ti kouka or New Zealand cabbage tree (*Cordyline australis*) has infested Salt Point State Park in northern California where its growth is encouraged by the cool foggy coastal conditions. It is listed by the California Exotic Pest Plant Council as a wildland weed which needs more information. The council is keeping the plants under close observation because of the potential for the seeds to be distributed more widely by birds.

Kokihi or New Zealand spinach (*Tetragonia tetragonioides*) is a listed noxious weed in several states in the U.S. As the plant is also endemic to Asia, Australia and parts of the South Pacific, New Zealand is not necessarily the source of the initial introduction.

Piripiri or bidibidi (*Acaena tetragonioides*) is an invasive weed in California and several other states in the US and is listed as a U.S. noxious weed. Taupata (*Coprosma repens*) is listed as an exotic weed in California although at present it is not thought to be a threat to wildland habitats. Taupata is also considered to be a problem in some coastal areas in Australia although it is not officially classified there as

“In recent years the pohutukawa has begun to invade sections of the nearby fynbos...”

being an invasive weed.

Houhere or lacebark (*Hoheria populnea*) which is considered to be a potentially invasive weed in California, became troublesome in the Strybing Arboretum in San Francisco. Most of the mature trees were removed and the seedlings are being kept under control. Californian authorities noted that fortunately the plant is not available in the landscape trade and has not been widely planted.

Poroporo (*Solanum laciniatum*) and karo (*Pittosporum crassifolium*) are considered to be weeds in cultivation in California. They are being kept under observation to ensure they don't escape into the wild.

All of the above plants, with the exception of *Acaena* and *Tetragonia*, were introduced intentionally, either as ornamentals or for commercial purposes, to the places where they have become invasive. Those that have escaped into the wild have reproduced rapidly, spread their seeds widely and formed thickets which have excluded nearly all other plants. In the process they have damaged natural areas, altered ecosystems and displaced local native species. However, our native plants have only played a small part in the global problem of invasive species - an issue that has been identified by the World Conservation Union as a key global environmental issue for the 21st century. †

Symposium on Invasive Weeds

by Jodie Holt, UC Riverside

A special symposium on invasive weeds, *Ecology and Control of Invasive Exotic Weeds: A National and Regional Perspective*, will be held during the annual meeting of the Weed Science Society of America in San Diego, California, Feb. 7-10, 1999 at the Town and Country Hotel in Hotel Circle. The Invasive Weeds Symposium will take place Feb. 8 from 1:00 p.m. to 5:00 p.m. in the San Diego Ballroom followed by a reception in the same room. CalEPPC is co-sponsoring the symposium and has made special arrangements for CalEPPC members to be admitted to the Invasive Weeds Symposium *only* for \$10 (preregistration for the entire annual meeting is \$125). Use the coupon below to be admitted to the half day weed symposium or visit the WSSA Homepage at <http://ext.agn.uiuc.edu/wssa/> to preregister for the entire meeting. The program will be available on the Homepage in November.

Abbreviated symposium program: Keynote Speaker, Senior Official from the Dept. of the Interior: *National Strategies for Invasive Exotic Weeds*; Barry A. Meyers-Rice, The Nature Conservancy: *Impacts of Invasive Weeds on Natural Areas and What We Need to Know to Address Them*; Sarah H. Reichard, Univ. of Washington: *Traits of Invasive Species and Their Predictive Ability*; Michael G. Barbour, Univ. of Calif., Davis: *California Landscapes Before the Invaders*; Joseph M. DiTomaso, Univ. of Calif., Davis: *Invasive Weeds in Rangelands, Species, Impacts, and Management*; Nelroy E. Jackson, Monsanto Co.: *Invasive Weeds in Riparian, Estuarine and Wetland Habitats, Species and Impacts*; Greg Jubinsky, FL Dept. of Environmental Protection and FL Exotic Pest Plant Council, Tallahassee: *Invasive Weeds in Florida and the Southern United States, Species, Impacts, and Management Strategies*.

Invasive Weeds Tour

Join the Symposium organizers and Mike Kelly, President of the Friends of Los Peñasquitos Canyon Preserve, for a tour of the Los Peñasquitos Lagoon at the Torrey Pines State Reserve. The Reserve offers some of the most spectacular views of any park in California, including sandstone cliffs overlooking the Pacific Ocean. Weeds present in the Reserve include giant reed (*Arundo donax*), iceplant (*Carpobrotus edulis*), veldtgrass (*Ehrharta calycina*), curly dock (*Rumex* spp.), pampasgrass (*Cortaderia jubata*), saltcedar (*Tamarix ramosissima*), fennel (*Foeniculum vulgare*), and catalpa (*Catalpa* spp.). The Reserve also faces invasion by native fresh-water species such as willow (*Salix* spp.) and cattail (*Typha* spp.) into salt-water marshes. The tour will depart the Town and Country Hotel by bus Tuesday, February 9 at 8:30 a.m. and return by noon. To pre-register for the tour, send \$15 by January 8, 1999 to cover the cost of transportation to: Jodie S. Holt, Botany and Plant Sciences Dept., Univ. of Calif., Riverside, CA 92521, phone: 909.787.3801, fax: 909.787.4437, email: jodie.holt@ucr.edu.

INVASIVE WEEDS SYMPOSIUM CALEPPC MEMBER DISCOUNT COUPON

Sponsored by the WEED SCIENCE SOCIETY OF AMERICA and CalEPPC

February 8, 1999, 1:00 - 5:00 p.m. followed by a reception at the San Diego Ballroom of the Town and Country Hotel, Hotel Circle, San Diego, California.

Present this coupon at the registration desk and be admitted to the Symposium for \$10

Name _____

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CalEPPC New Members

CalEPPC would like to welcome the following individual and institutional members who have joined CalEPPC in the months from August through November 1998:

Patrick Akers
Ileene Anderson
Jon Avery
Kristin Berry
Jan Beyers
Mark Biloki
Jack Bramkamp
David Bramlet
Angelika Brinkmann-Busi
Laura Bube
Erick Burres
Dewayne Butler
Bobbie Calli
Anthony Cario
Ray Carruthers
Susan Carter
Tony Chappelle
Joe Decruyenaere
Bruce Delgado
Mark Depoy
Curt Deuser
Edward Dibella
Deborah Dorsett
Jennifer Erskine
John Gaskin
Daniel Gibbs
Suzanne Goode
Miriam Graham

Julie Greene
Darcy Guttilla
Ahmad Hashemi
Virginia Havel
Evelyn Healy
Scott Hennessy
Bonnie Hoffman
Kathleen Holt
Doris Hoover
Melissa Howe
Sandy Ivey
Mike Jaquith
Sarah Kimball
Jamie King
Janet Klein
Eddy Konno
Joe Lara
Sandy Leatherman
Zach Likins
Laurie Litman
Robert MacAller
Beth Merrill
Dez Mikkelsen
Jud Monroe
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Rocky Moss
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Katherine Patey
Bruce Pavlik
Robert Pierce
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Dina Robertson
Ray Sanchez
Allison Sanger
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Gerry Scheid
Robert Schlipf
Richard Shefferson
John Shippen
Frances Shropshire
Ron Slimm
Holly Smit
Dale Steele
Scott Stenquist
Kristiaan Stuart
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1999 CalEPPC Membership Form

If you would like to join CalEPPC, please remit your calendar dues using the form provided below. All members will receive the CalEPPC newsletter, be eligible to join CalEPPC working groups, be invited to the annual symposium and participate in selecting future board members. Your personal involvement and financial support are the key to success. Additional contributions by present members are welcomed!

Status	Individual	Institutional
<input type="checkbox"/> Retired/Student*	\$20.00	N/A
<input type="checkbox"/> Regular	\$30.00	\$100.00
<input type="checkbox"/> Contributing	\$50.00	\$250.00
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<input type="checkbox"/> Lifetime	\$1000.00	N/A

Please make your check payable to **CalEPPC** and mail with this application form to:

CalEPPC Membership
c/o Sally Davis
32912 Calle del Tesoro
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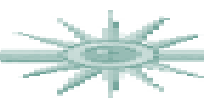
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* Students, please include current registration and/or class schedule



Calendar of Events

- January 11 - 13 **51st Annual California Weed Science Society Meetings**, Anaheim. Contact: Wanda Graves, 510.790.1252
- January 11 - 15 **Natural Resources Communication Workshop**, Chico, sponsored by the Western Section of the Wildlife Society. Contact: Dr. Jon K. Hooper, 530.898.5811 or 6408, jhooper@facultypo.csuchico.edu
- January 20 - 23 **The Wildlife Society Western Section Annual Conference**, Monterey, sponsored by the Wildlife Society Western Section. Contact; William Hull, 510.465.4962, whull@cgbd.org
- February 8 - 10 **Weed Science Society of America Annual Meeting**, San Diego. Contact: J. Breithaupt, 913.843.1235, jbeith@allenpress.com



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