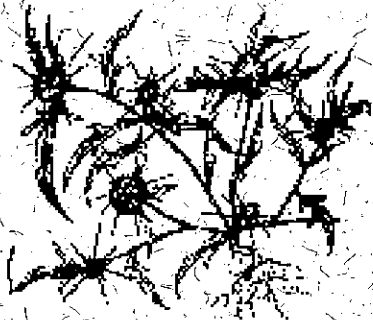


Who We Are

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

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

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CalEPPC News Editor: Mike Kelly (see above for address)

Submission Dates for CalEPPC News

If you'd like to submit a news item, article, meeting announcement, or job opportunity for publication in the CalEPPC News, it 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:

Fall ... October 15 Winter ... January 15 Spring ... April 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

Transitions: What Next for CalEPPC?

Mike Kelly

February 8, 2000 the CalEPPC Board of Directors met for a one-day retreat — fittingly at the Marin Headlands — to take stock of where we were and where we thought CalEPPC should go next. The Marin Headlands, besides being a beautiful place to hold a meeting, is part of the Golden Gate National Recreation Area. It's where Greg Archbald and other activists first explored forming a California Exotic Pest Plant Council. It's also home to one of the worst infestations of *Delonix odorata* (Cape ivy), a reminder of our challenges whenever we strolled the grounds.

We want to share with our members the conclusions we came to and the new goals we set for the organization. We want your feedback on these goals and, of course, your active involvement in translating them into solid accomplishments. Let's look at our accomplishments to date, acknowledge a short-coming, and lay out our priorities for the next period in our evolution.

Accomplishments and shortcomings

First, there was broad agreement that CalEPPC has gone about as far as it can with just a volunteer-based organization. We've accomplished a lot:

- excellent annual Symposiums;
- Symposium Proceedings;
- quarterly newsletter;
- the CalEPPC List — Exotic Pest Plants of Greatest Ecological Concern in California;
- *Invasive Plants of California's Wildlands*, a field handbook for wildland weed identification and control methods;
- a much improved and content-rich Web site;
- funding of major research such as the Pampas grass projects and Cape ivy biocontrols;
- establishing CalEPPC as the leading authority on wildland weed impacts and control methods;
- Strategic partnerships with the California Native Plant Society, the California Dept. of Food and Agriculture, USDA-APHIS, State Parks and others;
- First steps to forming a national coalition of EPPCs.

Our most important shortcoming? Our newsletter. This is something I take personal responsibility for. As the incoming president, I pledged to bring the CalEPPC News out on the regular, quarterly basis it should be on.

I took on the editorship to make it happen and failed to accomplish this important goal. It's embarrassing to me personally, because I consider it a very important way of communicating with you, our members, and of educating a broader public about our goals and campaigns. We'll do better from now on.

You have an important role to play by sending us your articles. They can be research you've done, successes and failures with certain weeds or approaches or tips on control methods such as Jo Kitz's in this issue on *Atlanthus altissima*. You can also send us weed abstracts from other Journals to share with our readers. I find this an invaluable part of Ecological Restoration, formerly *Restoration and Management Notes* (SER), for example.

Our newsletter needs to be improved in other ways. We have not used the newsletter to inform you of the organizational side of CalEPPC as much as we should have. We have also made the mistake of not reporting important things that occur at our Symposiums in the newsletter, forgetting that perhaps only a third of our current members are able to attend any given Symposium.

Two major conclusions were reached

The Board agreed we've probably hit the "wall" for what volunteers can do. Future Cape ivy funding, \$125,000 a year for perhaps 8 more years as compared to our initial funding level of \$60,000 a year, is a good example of the challenges ahead. We felt such challenges are beyond us at our current level of functioning. We spent much of the day defining future priority projects and the funding it would take to make them happen and what organizational changes would be needed. Two big conclusions were reached.

1. We need to plan for hiring an Executive Director in the not too distant future. The cost would probably be about \$35,000 per year for a part-time person; \$65,000 for a full-time Executive Director, plus the expense of setting up or sharing an office. A lot of money, but necessary to take us to a new level of professional functioning.
2. We need to hire the services of a fundraiser/grant writer who can take our projects to private foundations and win funding. We estimate needing \$10,000 – 20,000 per year for this person.

Continued on Page 15

New Wildland Weed Field Manual Is Out

The much anticipated *Invasive Plants of California's Wildlands* is finally in print! Until now, wildlands managers and weed activists have had to rely on an agriculturally oriented manual, albeit a classic, *Weeds of the West**, to identify weeds. This volume is excellent for identifying weeds, many of which are problems in wildland areas. Where *Weeds of the West* stops at helping the reader identify weeds, *Invasive Plants of California's Wildlands* goes beyond this to describe the ecological impacts of the weed and details methods of controlling it. It's this latter information that will make this manual an invaluable guide to the person wanting to know how to get rid of a particular weed in order to protect California's wonderful diversity of plants and animals. Former CalEPPC presidents, John Randall and Carla Bossard are two of the editors of the new publication. Read on for more information about this new book from UC Press and see our Special Offer. — Mike Kelly

"Invasive non-native plants threaten native species with habitat loss, displacement and severe population declines, thus seriously reducing biodiversity. *Invasive Plants of California's Wildlands* is a tremendous source for land managers and others who are interested in protecting the rich natural heritage of California and surrounding states." — John C. Sawhill, President and CEO, The Nature Conservancy

The editors of *Invasive Plants of California's Wildlands* are: Dr. Carla C. Bossard, Associate Professor of Biology, St. Mary's College of California; Dr. John M. Randall, Director of Wildland Invasive Species Program at The Nature Conservancy and co-editor of *Invasive Plants: Weeds of the Global Garden* (1996); and Marc C. Hoshovsky, a senior conservation biologist for the California Department of Fish and Game. Production of the book was partially underwritten by a grant from the U.S. Fish and Wildlife Service and another from the California Exotic Pest Plant Council (CalEPPC).

Invasive plants are now widely recognized as posing threats to biological diversity second only to direct habitat loss and fragmentation. California's

invasive plant problems are varied, widespread and severe. The focus of this book is on the non-native plants that invade parks, preserves, and other wildlands in California, but the real concern is the survival of the native plants, animals and biological communities these invasive plants threaten. Some invasive plant species inflict such serious damage that unless they are controlled it will be impossible to preserve viable populations of many native species or many of the states natural communities and ecosystems.

However, many plant invasions can be halted or slowed and in certain situations, even badly infested areas can be restored. Hence, weed control and restoration are now regarded as necessary in many wildlands in California and worldwide. This book is intended to help land managers, volunteer stewards and others concerned with California's wildlands to recognize some of California's most damaging wildland invasive plants, better understand their impacts, and minimize the damage they do.

Chapter summaries:

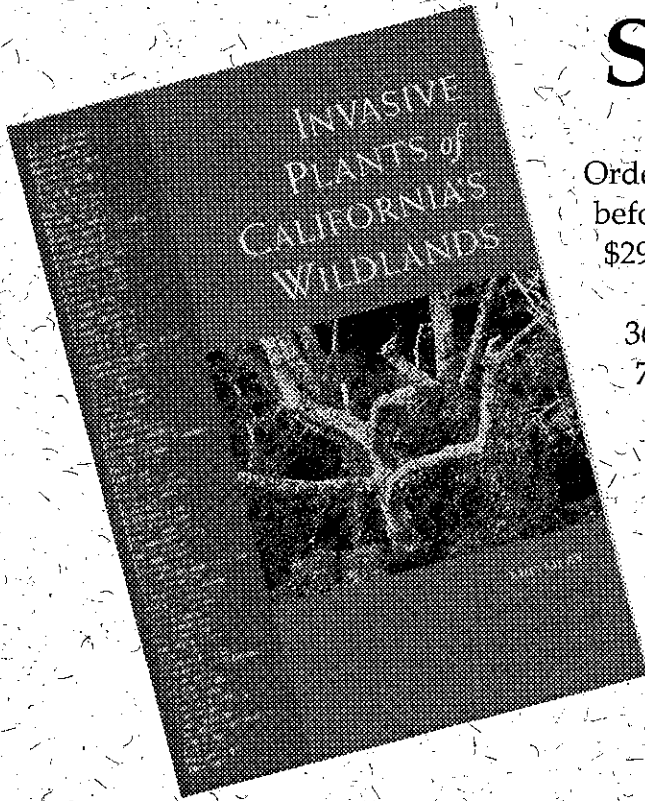
Chapter one provides a brief overview of the impacts of invasive plants and what we know about the characteristics of plant species most likely to invade and the habitats and communities most likely to be invaded.

The second chapter features an overview of the strategies and methods appropriate for the control of invasive plants in parks, preserves and other wildlands.

The heart of the book is the remaining chapters which consists of species accounts for seventy-eight invasive non-native species that threaten California's wildlands. These species are listed by CalEPPC as being of greatest ecological concern in California. Each account helps the readers to identify the species, understand important aspects of its biology and lists specific control methods that are regarded as effective.

Other unique features: Each species is illustrated with closeup and habitat pictures and line drawings showing details to aid in identification. The text relates important features of each species ecological traits, methods of spread, reproduction, phenology and control.

*5th Edition, 1996, The Western Society of Weed Science, POB 963, Newark, CA 94560.



Special Offer \$5 Off

Order your paperback *Invasive Plants of California's Wildlands* before December 1, 2000 and receive \$5.00 off the retail price of \$29.95.

360 pages, 7 x 10 inches, 133 color photographs,
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Invasive Plants of California's Wildlands – Addendum

Species Name Index (Common, Scientific, and Synonymous Names)

[The following index was inadvertently omitted from the *Invasive Plants of California's Wildlands* book. Copy this index and keep it with your copy of the book. It can also be downloaded from www.caleppc.org. We apologize for the inconvenience.]

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Instructions for Collecting and Submitting Exotic Plants for Identification

Ellen A. Dean, UC Davis Herbarium and G. Frederic Hrusa,
California Dept. of Food and Agriculture

Imagine that you are out walking in what you believe to be pristine forest, and you see what you think may be a newly introduced weed – what should you do? A new partnership between The California Exotic Pest Plant Council (CalEPPC), the California Department of Food and Agriculture (CDFA), The University of California at Davis (UCD) and The University of California at Riverside (UCR) provides help and information for those who need it. The following article is a summary of how to submit specimens for identification.

The identification program

Andrew Sanders (UCR), Fred Hrusa (CDFA), and Ellen Dean (UCD) have volunteered to identify samples of unknown weeds submitted by CalEPPC members. We already perform plant identifications as part of our job – Fred mainly identifies plants sent in by CDFA agents, while Andy and Ellen do so for UC Cooperative Extension and university affiliates, as well as the general public. We see the CalEPPC plant identification program as more than us providing a plant identification for you. We would like you to participate in an activity that will provide lasting benefit to Cal-EPPC, the state of California, and the scientific community. We are asking you to provide us with herbarium-quality specimens that will be permanent vouchers of any collection information that you send us. These specimens will be deposited in the UC Davis Herbarium, the UC Riverside Herbarium, or the CDFA Herbarium, depending on where you send the specimen for identification.

Now, you may be asking, what is an herbarium specimen, and what is its value? Herbarium specimens (Fig. 1) are dried and flattened plants mounted with archival glue onto 11 x 17 inch archival paper; also attached to the paper is a label (Fig. 2) that contains data on the plant such as where and when it was collected. Herbarium specimens prepared with archival materials can last for centuries. They are the basis for all work done on plant classification and identification around the world. If you open a flora – for example the most recent flora of California, the Jepson Manual (Hickman 1993), – all the plant measurements and distribution information given for each species in that book were taken from herbarium spec-

imens. Each specimen can be thought of as a slice of history that can be viewed and used by the general public and scientific community at any time.

The goal of our program is to create herbarium specimens from the plants and collection information that you send us. Once your specimens are deposited in an herbarium, they will serve as a lasting record of your work. You will preserve not only the plants that you collected, in case questions about their identity crop up at a later date, but you will preserve your collection data in the form of specimen labels. Your specimens may document the first collections of newly introduced exotic plants, and the data you collect will help us track their distribution and hopefully their eradication.

How to collect plant specimens:

I. What parts of the plant and how much should you collect?

In terms of what plant parts you should collect, you need to send us a representative sample of the plant. Usually, this means just one plant, but if it is a very small plant, we may need five or six, to have sufficient material to dissect. In addition, keep the following points in mind:

1. In general, flowers and fruits are important for identifying most plants, because identification keys emphasize those parts. Therefore, please try to collect flowers and/or fruits (even flower buds can be helpful, if flowers are unavailable). Note: If you have reason to suspect that you are collecting an invasive exotic plant species, be careful not to spread the seeds or other propagules, during the collection process.
2. For some plants, underground parts are important for identification – this is especially true of grasses, sedges, ferns, and lilies.
3. If the plant is small, you will be able to collect the entire plant, including roots. If the plant is large, you will only be able to take selected parts, and you will have to choose those carefully. With trees and shrubs, you will need to clip off a representative branch. A piece of the bark is sometimes helpful as well. If you are sampling a large herb, make

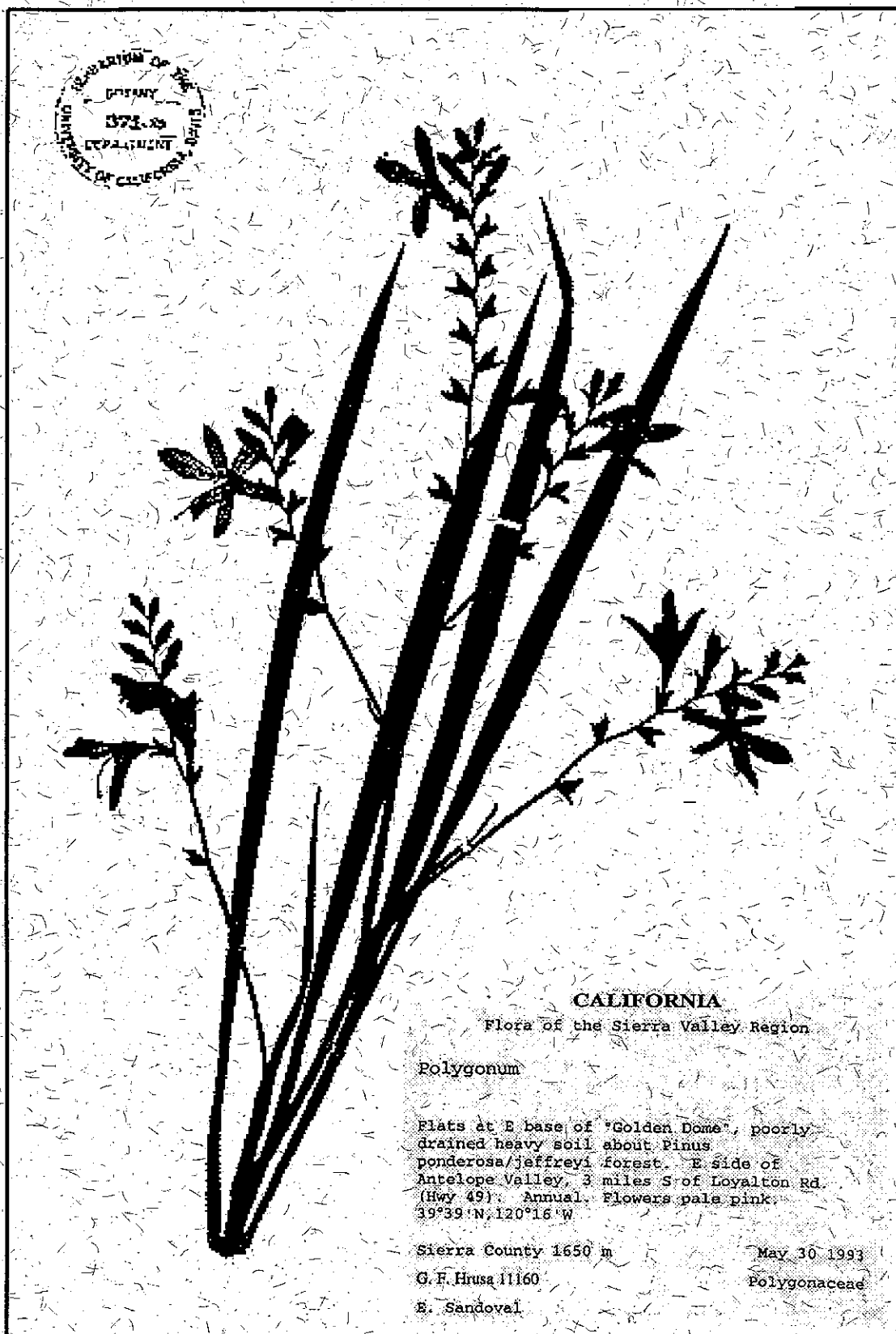


Fig. 1. Xerox of a photograph of an herbarium specimen.

sure that you have pieces of the plant that are representative of the total variation in leaves and stems on the plant. Sometimes lower leaves are very different than upper leaves, and both may be important in identification. You may want to sample the plant from the base, middle, and tips.

II. Collecting equipment and data collection

At a minimum, the general collecting tools that you will need are clippers, a digging tool, plastic bags, data collection sheets, a writing tool, and a plant press. If you want very exact location data, a GPS unit is needed.

Your plant press (Fig. 3) will consist of two pieces of wood, 2 straps, and layers of cardboard, blotting paper, and newspaper. The plant specimen to be pressed is placed in a single-thickness of folded newspaper that is no larger than 11 x 13 inches (when folded). Any plant that you collect needs to fit in

CALIFORNIA

Flora of the Sierra Valley Region

Polygonum

Flats at E base of "Golden Dome", poorly drained heavy soil about *Pinus ponderosa/jeffreyi* forest. E side of Antelope Valley, 3 miles S of Loyalton Rd. (Hwy 49). Annual. Flowers pale pink. 39°39'N, 120°16'W

Sierra County 1650 m

May 30 1993

G. F. Hrusa 11160

Polygonaceae

E. Sandoval

CALIFORNIA

Flora of Snake Lake Vicinity

Sanicula

Occasional individuals on lightly shaded slopes and somewhat open sites in coniferous forest surrounding Snake Lake. Perennial. flowers yellow. 39°58'N, 120°59'W

Plumas County 1250 m

May 30 1993

G. F. Hrusa 11138

Apiaceae

E. Sandoval

that space within the folded newspaper. On either side of the newspaper is placed a single sheet of blotting paper, and to the exterior of these sheets of blotting paper are placed cardboard. Thus, within the wooden press, the parts alternate as follows: cardboard, blotter, newspaper with specimen, blotter, cardboard, blotter, newspaper with specimen, blotter, cardboard, etc., until one reaches the bottom of the press. The straps hold the press together and are pulled tightly and secured, so that the plants within the newspapers are pressed flat. Some herbaria rent presses, if you need to borrow one.

We have provided a sample data sheet that has blanks to fill out (Table 1). Each plant species that you collect should be assigned a unique number that we can use when we communicate about the specimen; you should write the unique number on both your data sheet (in the blank provided) and on the newspaper that contains the plant in the plant press. Next, record the date of the collection in the proper space. Finally, there are instructions on the data sheet as to what type of locality, habitat, and plant description data are important. At a minimum, we need good locality data. Plant data such as height (for large plants) and flower color (a characteristic that can change as the plant dries) are also important.

III. How to press a plant

As mentioned above, if the plant that you are collecting is relatively small, you can collect and press the entire plant (folding the plant if necessary to fit in the 11 x 13 inch space). Make sure that some leaves face up, while others face down. Spread out the parts, so that leaves lie flat and flowers are pressed open. If you need to collect a large herb, for example a 5 ft tall herb, this is how you might go about it. First, clip a stem of the plant at ground level. Then use your clippers to cut the stem into sections - selecting the better stems that have flowers and or fruits and good leaves. Select sections of the stem that show how the leaf varies from the base of the plant to the top. If you end up with more material than will fit into one folded newspaper, then put the pieces of the plant into several folded newspapers, marking each newspaper with the same unique number. If you don't want to take your press to the field, you can place your plant specimens in plastic bags (writing the unique numbers on the bags) and put the plants in your press later in the day.

Once your plants are in your press, you need

Fig. 2. Examples of two herbarium specimen labels made by G.F. Hrusa.

to tighten the press and leave it in a warm, well-ventilated area. This can be as simple as leaving it in a warm car, or you can leave it on its side in front of a fan. Check your plants every few days to make sure that they aren't molding. Plants with thick leaves and stems can take a long time to dry, and you may have to change the blotters in the press. Normally, plants take from 3-5 days to dry. Re-tightening the press after a day or two can improve specimen quality.

Sending your plant samples for identification

Your dried plant samples can be sent through the mail for identification. Place your data sheets inside

the folded newspapers of the appropriate plant specimens, then bundle your specimens together tightly between cardboard. Place the cardboard bundle inside of a box with padding around it. Make sure that you filled out your contact information on the data sheets, so that we know how to get hold of you. Usually, we can identify the specimens within a week of receipt, however, there may be times when we are out of town or teaching. If you don't hear anything from us for several weeks, then you should contact us to find out if we received the specimens.

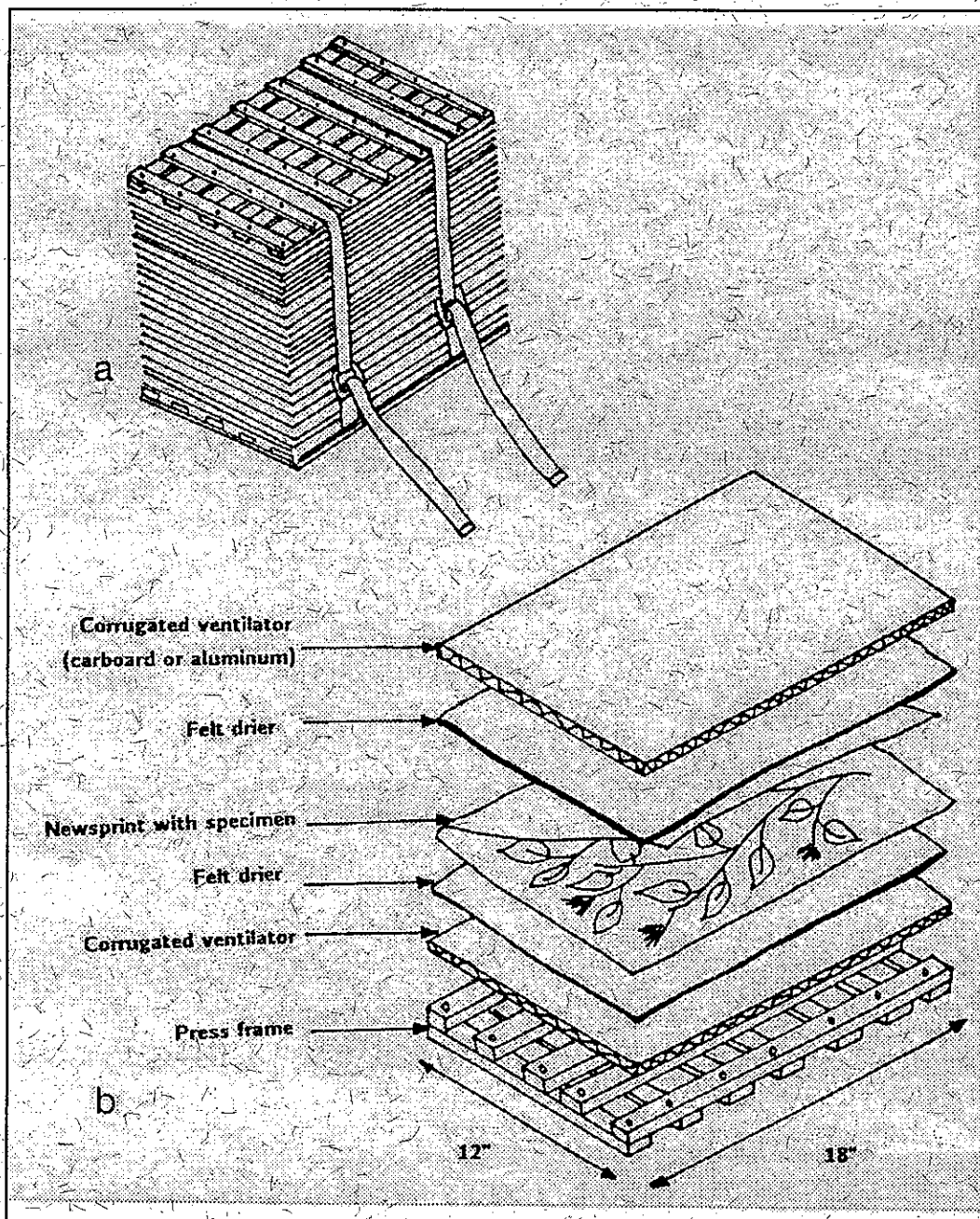


Fig. 3: Illustration of a plant press and its component parts. Illustration taken from Miguel N. Alexiades, 1996: "Standard techniques for collecting and preparing herbarium specimens," in *Selected Guidelines for Ethnobotanical Research, A Field Manual* (M.N. Alexiades, editor), The New York Botanical Garden Press. Used with permission.

Contact information

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Literature Cited

Hickman, J.C., ed. 1993. The Jepson
Manual: Higher Plants of California.
Univ. of Calif. Press, Berkeley.

Drilling Ailanthus

Jo Kitz

[Many people have found *Ailanthus altissima* (Tree of Heaven) difficult to control. Cutting it down and applying an herbicide to the cut surface often proves ineffective. Resprouting is common. Jo Kitz here shares a technique she uses in the Santa Monica Mountains that seems to be effective, with minimal resprouting — editor.]

Drilling a single hole into an *Ailanthus* and filling it with Roundup Pro® (Monsanto) has proven effective as a control method. Using a 1/2" drill bit, a hole about 3" deep was drilled and filled with the Roundup® concentrate without dilution. This creates a well of herbicide. The hole was drilled at a 45-60° angle downwards.: the biggest one was probably 6 inches across.

Drilling took place in August and included individual plants as much as 6" in diameter. Drilling as low as possible on the trunk brings the herbicide that much closer to the roots for quicker translocation. Suzanne Goode was perhaps the first person we know of to have used this technique — on White Oak Farm.

Visiting one grove a week later, the *Ailanthus* was already dying. In fact, one untreated tree had turned yellow. Since it's a clonal plant, apparently there was enough herbicide delivered in the "well" to translocate into clonal sections of the root system. On several stumps 1/2 dozen gnarled resprouts were easily scraped off the truck. This stands in contrast to other situations where the cutstump method was used, where numerous shoots would come up from every rootlet.

Data Sheet for Plant Collections

INFORMATION ON COLLECTOR:

Collector's name: _____ Collector's email or preferred
method of contact: _____

INFORMATION ON PLANT COLLECTION:

Unique Number: _____ Date of plant collection: _____

LOCATION (IN U.S.A.) WHERE PLANT COLLECTED:

State _____ County _____

Township/Range: T _____ R _____ Sect. _____ ¼ _____

Quadrangle Map: _____

or
Latitude/Longitude: _____° _____' _____" N;
_____° _____' _____" W or E Elevation _____ feet or meters (circle one)

Exact Location in words, giving "road distance" (using your odometer) or "as the crow flies distance" (using a map) from a major landmark or road intersection. Be as specific as possible. Rather than using a term such as "near", use the terms "west of, south of", etc.

HABITAT: Give information such as slope, aspect, soil type, plant community type, dominant plant species, associated species, moisture level, light level.

PLANT DESCRIPTION: Give information such as abundance, flower color, pollinator type, plant height, habit, life form (annual or perennial herb, shrub, etc)

CONTACT INFORMATION: Send this sample to: Ellen Dean, Plant Biology, UC Davis, CA 95616; or Fred Hrusa, Botany Laboratory, Plant Pest Diagnostics Center, 3294 Meadowview Rd., Sacramento CA 95832-1148; or Andrew Sanders, Botany and Plant Science Dept., UC Riverside, Riverside, CA 92521-0124.

IDENTIFICATION (for Herbarium Use Only):

Family _____ Scientific name: _____

Common name: _____

Is this an introduced species of concern? _____

Table 1. Sample data sheet for label data (to be filled out at the time a plant is collected).

BLM Uses Heavy Equipment To Give Weeds the Heave-ho!

Jennifer Wheeler, Botanist, Arcata F.O.

The Bureau of Land Management has completed a harrowing assault on invasive weeds located in the southeastern portion of the 40-acre Endangered Plant Protection Area located within the Samoa Dunes Recreation Area across from the welcome kiosk and caretaker station.

This past August, approximately 6 acres of infested and altered dune mat underwent major restorative therapy. The first wave of attack involved bringing out the big guns for the initial step of restoration: removal of about 2.5 acres of annual grasses (predominately *Bromus mollis*) mixed with yellow bush lupine (*Lupinus arboreus*), periwinkle (*Vinca major*), iceplant (*Carpobrotus edulis*), blackberry (*Rubus ursinus*), and English Ivy (*Hedera helix*), as well as 6 inches of duff or more in cases where historical spoils had been dumped in the area by heavy equipment.

The refuse was buried 10-feet under with the aid of an expert excavator operator, hired and supervised by Redwood Community Action Agency (RCAA) via cooperative agreement with the BLM. The bulk of the work was completed with the use of a midsize excavator which allowed for fast and efficient removal and burial of degraded sand and weeds, and also the resculpting and spreading of sterile sand with little or no disturbance to native plant species. No native, intact dune mat was traversed with the heavy equipment, and no native plants were harmed.

To complement the heavy equipment achievements, the BLM commissioned hand crews supplied

by the California Conservation Corps (CCC) for two weeks to treat the transition zones between moderately infested areas and more pristine dune mat, as well as to ensure that the fine, detailed weed removal that the heavy equipment couldn't address was treated. The CCC's performed the more delicate surface sculpting, weeding and duff removal, and reseeded of bare sand areas with native coast buckwheat (*Eriogonum latifolia*), as it was the only native with mature seed at the time.

The project was made possible by an internal competitive grant process made available by the Director of the BLM known as the Director's Field Incentive Award. Arcata Field Office was awarded \$25,000, the maximum amount possible. The funding was split between RCAA who supplied the heavy equipment and related field supervision over a continuous period of 6 days, and the CCC who supplied the hand labor and related supervision for a total of 2 weeks.

The project will be closely monitored for native plant reestablishment success, and if necessary, transplantation of native species from adjacent dune mat communities, and springtime follow-up including hand weeding will be carried out.

This rare habitat is home to two endangered plants including Humboldt Bay wallflower (*Erysimum menziesii* ssp. *eurekaense*) and beach layia (*Layia carnososa*).

For more information about this project, call the Arcata BLM at (707) 825-2316.

\$5 Million for WMAs!

There was good news on the weed war front from Sacramento this summer. Governor Davis signed into law, Senate Bill 1740, providing \$5 million in funds for the State's Weed Management Areas (WMAs). This is a one time funding that is expected to be available as grants over several years. WMAs are coalitions of weed stakeholders and the local County Dept. of Agriculture. Stakeholders include a diverse range of groups from the Cattlemen's Association to the California Native Plant Society to the Rocky Mountain Elk Foundation.

This funding follows on the heels of the modest funding, some \$200,000 that accompanied the earlier Assembly Bill 1168, destined to be given out over a 3-year period, 1999-2002. Fifteen percent of the \$200,000 was earmarked for research, with the remainder to fund a number of small pilot projects in selected counties "to demonstrate the effectiveness of cooperative weed control projects."

While Yellow Starthistle infestations in rangelands provided the initial impetus for various legislators to author the legislation, it's not the only weed a Weed Management Area can focus on. Other A-rated weeds, in fact, must be included as statewide priorities for any county with these weeds. In practice, a number of weeds are being focused on. Educational brochures brought out by some WMAs typically include a broad range of weeds: agricultural, rangeland and wildlands.

Grants have to be matched by cash or in-kind contributions. Several WMAs have been successful in acquiring other grants and funding. AB1168 and the new SB1740 funds are not meant to simply substitute for a local County's "business as

Continued on p. 15.

Transition cont'd from page 3.

Research and educational priorities

We want to step up our funding for research to be able to support 5 projects at any given time, including:

3. Cape ivy biocontrol research, about to enter its fourth year where the first insects will probably be brought back to U.S. labs from the current overseas labs in South Africa. We know we'll need about \$125,000 per year for 5-8 years more research. The Agricultural Research Service has decided to recognize CalEPPC's commitment by funding the lead scientist at the Albany APHIS Lab. This will help reduce the overall program costs a bit.
4. International Broom Control Initiative, \$100,000 per year for 10 years. Our President emeritus, Mike Pitcairn has taken this on as his project for the Board. Working with an ongoing partnership in Australia and the Pacific Northwest, the goal is to research biocontrols for all the brooms and gorse.
5. Research/training contracts for students/scientists, \$100,000 - 300,000 per year. We'd like to be able to fund a number of graduate student/post-grad positions for research into wildland weeds.
6. Weed mapping and regional weed lists. We need \$6,000 per year for 2 years for interns and \$20,000 per year for 2 years to digitize and map existing weed information and databases. \$7,000 more for printing regional weed maps and lists. That's about \$60,000 over a 2-3 year period.
7. Education. Carla Bossard and Carrie Benefield are now finishing up a K-12 educational poster set on invasive weeds for statewide distribution. We'd like to fund 3 interns at \$15,000 per year to develop educational programs; \$10,000 for a K-12 video.
8. Regionalized weed guides, similar to a couple already brought out by Weed Management Areas, are a high educational priority. These would cost \$10,000 - 12,000 each for development and printing.
9. Alternatives list: what to plant instead of invasives. We have a committee working on this since it's a common question, what do I plant when I get rid of x, y, z weeds? These would cost about \$30,000. to research, develop and print.
10. Increase the authoritativeness of our weed list by including a "transparent" list of our selection criteria, so people who want to use it know it's not arbitrarily concocted from somebody's "pet peeve" weed. We also want to more aggressively

reach out to wildland managers and decision makers with our lists.

11. Increase our cooperation with the nursery industry. To this end, Board member Carl Bell has already initiated useful contacts and exchanges of information. In Florida, this led to a joint agreement on a list of wildland weeds the industry would no longer market.
12. Increase our educational outreach to other environmental groups such as the Sierra Club to improve awareness of the importance of controlling invasive weeds.
13. Strengthen our ties with a National EPPC.
14. Increase CalEPPC's involvement with Weed Management Areas, perhaps by encouraging our members to participate in their local ones as CalEPPC members.

Other goals included hiring a part-time lobbyist in the future, much as CNPS now has; explore developing a peer-reviewed journal, believing the existing ones to be too devoted to agricultural weeds; develop programs for Public Access TV such as additional Leif Joslyn videos; increase our membership and its involvement in the organization; . . . Whew! Quite a list. What do you think? Send your thoughts to mkellysd@aol.com. Let me know if one of these projects excites you enough to want to be involved on. Let me know of your fundraising ideas or of good grant-writers/fundraisers you can recommend.

WMAs cont'd

usual" weed work. The broad nature of most WMAs helps militate against this. The California Dept. of Food and Agriculture (CDFA) has also refused to fund WMAs that don't bring innovative proposals to the table. It was also decided that to divide such a modest amount, \$200,000, among all the WMAs would dilute any potential results too much. The emphasis was to fund a smaller number of projects that could produce demonstrable results for legislators, to help promote additional funding — which is now a reality.

AB1168 stipulated that an "Oversight Committee" should be set up to advise the CDFA in administering the program. That committee has one representative each from the following interests: livestock production, agricultural crop protection, forest products industry, CalEPPC, research institutions, wildlife sports groups, environmental groups (CNPS was chosen), resources conservation districts, general public. SB1740 added one person from the Calif. Dept. of Fish and Game and one person from local politics to the Oversight Committee.

2000 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 keys to success. Additional contributions by present members are welcomed!

Individual

- Low Income* \$15
 Regular 30
 Family 40
 Contributing 50
 Sustaining 100
 Lifetime 1000

Institutional

- N/A
 Regular \$100
 Contributing 250
 Patron 500
 Sustaining 1000

* Includes students

Please make an additional contribution in my name to:

Student/Low Income membership \$ _____
Cape Ivy Biocontrol Fund \$ _____

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

CalEPPC Membership
c/o Sally Davis
32912 Calle del Tesoro
San Juan Capistrano, CA 92675-4227

Name _____

Affiliation _____

Address _____

City/ State/ Zip _____

Office Phone _____

Home Phone _____

Fax _____

email _____

*Students, please include current registration and/or class schedule.



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