

# *CalEPPC NEWS*

NEWSLETTER OF THE CALIFORNIA EXOTIC PEST PLANT COUNCIL

VOLUME 1 • NUMBER 1

WINTER 1993



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

Letters to the Editor, notices, articles of all types, volunteer workday schedules, photographs and line drawings are welcome and may be submitted directly to the Editor at the address below. We invite you to utilize the CalEPPC newsletter as a forum for describing your project, asking for help, or bringing new issues or developments to the forefront. Copy for the Spring 1993 issue is due with the editor by March 31st.

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## **Interim Board Members appointed at the November 11, 1992 meeting of the Steering Committee:**

### **Officers**

|                |               |  |
|----------------|---------------|--|
| President      | John Randall  | TNC, Cosumnes River Preserve, 6500 Desmond Rd., Galt, CA 95632, 916.684.6821 |
| Vice president | Carla Bossard | 401 Del Oro Ave, Davis, CA 95616-0418, 510.631.4032                          |
| Secretary      | Mike Kelly    | 11532 Alkaid Dr., San Diego, CA 92126, 619.566.6489                          |
| Treasurer      | George Molnar | 801 Spring Dr., Mill Valley, CA 94941, 415.383.7827                          |

### **Board Members**

|        |                   |   |
|--------|-------------------|---|
|        | Greg Archbald     | GGNPA, Fort Mason, Bldg. 201, 3rd Floor, San Francisco, CA 94123, 415.776.1607        |
|        | Quentin Griffiths | Box 766, Inverness, CA 94937, 415.669.7295  |
|        | Mike Pitcairn     | CDFA Bio Control, 3288 Meadowview Rd., Sacramento, CA 95832, 916.262.2049             |
|        | Steve Harris      | Redwood National Park, P.O. Box 7, Orick, CA 95555-0007, 707.488.2911                 |
|        | Ann Howald        | CA Dept of Fish & Game, P.O.Box 47, Yountville, CA 94599, 707.944.5529                |
|        | Nelroy Jackson    | 400 S. Ramona Ave., #212, Corona, CA 91719, 909.279.7787                              |
|        | Jeff Lovich       | BLM, So. Coast Resource Area, P.O. Box 2000, No. Palm Springs, CA 92258, 619.251.0812 |
| Editor | Sally Davis       | 448 Bello Street, Pismo Beach, CA 93449, 805.773.2828                                 |

### **Working Group Chairpersons**

|  |  |
|--|--|
| Biocontrol of tamarisk                       | Bill Neill, 714.577.2423                     |
| CalEPPC newsletter                           | Sally Davis, 805.773.2828                    |
| Congressional O.T.A. study                   | Sue Fritzke, 707.488.2911                    |
| Database                                     | Steve Harris, 707.488.2911                   |
| Education through schools                    | Greg Gaar, 415.752.5983                      |
| Licensing of field practioners               | Scott Johnson, 209.982.4337                  |
| Nursery growers/landscape architects liaison | Daniel Songster, 714.895.8161                |
| Press relations                              | Jake Sigg, 415.731.3028                      |
| Publications                                 | Jake Sigg, 415.731.3028                      |
| Public officials seminars                    | Scott Johnson, 209.982.4337                  |
| Public service announcements                 | James Nee, 408.454.2620                      |
| Student research support                     | Greg Archbald, 415.776.1607, Ext. 230        |
| Volunteerism                                 | Jack Beigle, 805.773.2147                    |
| Weed control methods & applications          | Carla Bossard, 510.631.4032                  |
| Arundo experimental control                  | Nelroy Jackson, 909.279.7787                 |
| French broom experimental control            | Daniel Gluesenkamp, 510.464.4669             |
| German ivy and hoary cress control           | David Chipping, 805.528.0362                 |
| Pampas grass experimental control            | Quentin Griffiths, 415.669.7295              |
| Yellow star thistle experimental control     | Mike Pitcairn, 916.262.2049                  |
| Membership                                   | Sally Davis, 805.773.2828                    |
| Symposium site committee                     | Sally Davis, 805.773.2828                    |
| Symposium program committee                  | Daniel Gluesenkamp, 510.474.4669 (until May) |
| Symposium administration & publicity         | Sally Davis, 805.773.2828                    |
| Symposium field trips                        | Jake Sigg, 415.731.3028                      |

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## *Background of the California Exotic Pest Plant Council*

Invasive, exotic plants are causing widespread damage to native plant communities and ecosystems. The threat of future deterioration is profoundly serious. Yet to date, there has been little communication and coordination in California among those of us most concerned with exotic pest plant issues. Worse still, these issues are barely perceptible to the public - a fact reflected by the paucity of programs and funding at every government level.

Recently, several encouraging developments have raised the possibility that this may be a good time to launch an effort to deal more seriously with exotic pest plant issues in California. The impressive success in Florida of a group called the Exotic Pest Plant Council (EPPC) is most inspiring. Formed in 1985, this association of interested parties has succeeded in making exotic pest plants a priority on Florida's agenda. This has been done in a professional, cooperative manner based on the resources and talents of a wide variety of people, agencies, organizations, and corporations working together.

Since its founding, EPPC has attained significant achievements and successes in the State of Florida. Among other things EPPC has:

- Developed a model county ordinance as a guide for local governments in writing exotic species control legislation. As a result, twelve county and city governments in Florida have enacted legislation restricting the sale, transportation or cultivation of several exotic pest plants.
- Actively promoted statewide legislation to prohibit the transportation, sale or use of *Melaleuca quinquenervia*, *Schinus terebinthifolius*, and Australian pine, which are major threats in the Everglades ecosystem, as well as *Mimosa pigra*, which has become an increasingly severe threat in endangered pine scrub habitats. This legislation was passed by the state legislature and signed by the governor in 1990.
- Completed a successful campaign to have *Melaleuca quinquenervia* declared a federal "noxious weed species" by the USDA, thereby freeing up money for research and control efforts.
- Succeeded in procuring funding from ten separate federal, state, regional and local agencies for a USDA research program in Australia to find a biological control for *Melaleuca*. Over \$600,000 has been raised through this effort and research is now well under way.
- Developed a plan to establish a "buffer zone" for Everglades National Park against the invasion of *Melaleuca* and other exotic pest plants. This plan is currently being implemented through cooperative interagency efforts and funding. Nearly **one million dollars** have been spent or earmarked for this effort.
- Actively assisted various federal, state, and local land management agencies in obtaining funding for exotic species control programs in natural areas. **Several million dollars** have now been devoted to such programs in Florida.
- Published a control methods handbook that summarizes treatment techniques used by land managers for certain widespread exotic woody plants in Florida. This handbook discusses manual removal, mechanical removal, physical control, biological and chemical control techniques.
- Has written and will soon publish a comprehensive exotic plant identification manual and species list for Florida.

The secret to EPPC's success has been quite simple. EPPC pulls together the resources and talents of a wide variety of people, agencies, organizations and corporations to accomplish their goals. We are fortunate to have this outstanding model in Florida, and EPPC's hearty encouragement in founding a successful affiliate in California.

*Greg Archbald*



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## President's Message

As I was listening to Greg Archbald's presentation at the Exotic Pest Plant Symposium in Morro Bay, October, 1992, a strong feeling that I can best describe as pride welled up in me. I was proud of Greg and the other speakers, and proud to be associated with the Symposium, to have helped organize it and to have worked with such fine people while doing so.

More than a year ago Greg had called to introduce himself and suggest that a group like Florida's Exotic Pest Plant Council be organized in California. George Molnar, one of the founders of the group in Florida, had recently moved to California and wanted to help. I had just started working as the weed specialist for The Nature Conservancy and Greg had been helping to battle weeds at the Golden Gate National Recreation Area. The time seemed right so we began and were soon joined by Carla Bossard, a faculty member at St. Mary's College.

An exploratory meeting in February, 1992, attracted 30 people from around the state, many of whom joined in efforts to organize a larger meeting or help the group in other ways. Jack Beigle, David Chipping, Steve Harris and others devoted time and energy to make the Symposium and the group a success, and now this work was bearing fruit.

My feelings of pride grew stronger the second day of the Symposium when so many participants stepped forward to take on tasks ranging from creating a press package, to writing bylaws and legally incorporating the group, to putting this newsletter together. I was struck by the depth of knowledge and creativity of the group, but more so by the desire to do something tangible, to take on practical tasks that would make a difference.

And these feelings of pride and the thought that this group will make a difference stay with me. I believe that we can increase public awareness about problems posed by invasive non-native weeds in the state's wildlands, and that we can help emplace programs to deal with many of these problems.

We will create a database that helps land managers get information on how to control pest plants. We will promote research on control techniques including biocontrol, and we will help individual agencies and organizations organize and take action against infestations on their properties. And overall, we can help promote native species and make California's natural and semi-natural lands healthier.

*John Randall, president*

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## Upcoming Events

### Exotic Pest Plant Symposium Set for San Diego

**Saturday, March 6, 1993**, a one-day symposium to introduce CalEPPC and the issue of invasive exotics will be held at Sumner Auditorium at the Scripps Institute of Oceanography in La Jolla. La Jolla is a suburb of San Diego and is readily accessible. The meeting will be co-hosted by the University of California Natural Reserve System, the San Diego Chapter of the California Native Plant Society, the Friends of Los Peñasquitos Canyon Preserve, and CalEPPC.

The day-long gathering will cover a range of exotic plant issues, ranging from the scientific to field applications on particular species. Participants from all over San Diego County and beyond are expected to attend. They will be from city planning

departments, city, county, state and federal park agencies, environmental groups and consultants, plant nurseries, landscape architects, agricultural and road agencies, and environmental companies.

For a more detailed program and registration information call *Mike Kelly of the Friends of Los Peñasquitos Canyon Preserve* at 619.566.6489 or write him at 11532 Alkaid Drive, San Diego, CA 92126.

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Deadline for CalEPPC Newsletter submissions is the 31st of March, 1993. Mail submissions to:

CalEPPC Newsletter, c/o Sally Davis  
448 Bello Street  
Pismo Beach, CA 93449

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## Weed Alert

New species of non-native weeds are becoming established in California, and many of us may not yet recognize them as problems. Some of them may become as troublesome as tamarisk, pampas grass or yellow star thistle in the coming decades if allowed to spread. Now, while they are just establishing a toehold, we have the best chance to control these "new" weeds. To this end, a regular feature of this newsletter will be the *Weed Alert* column. This may help us recognize and devise programs to control or eradicate species that have only been recently detected propagating and spreading in the wild.

Articles about newly escaped or spreading non-native weeds often appear in regional or state botanical journals. Those of you who regularly read certain journals are encouraged to keep an eye out for reports of new weeds and to forward copies to the newsletter for the *Weed Alert* column. Similarly, those of you who notice or hear about the establishment of a "new" weed are encouraged to write a short note for the column describing the species and where it is becoming established. Two examples of brief notices of "new" weeds follow.

### *Oleander Invading Riparian Areas in Sacto Valley*

*Madroño* 39(2):157 [1992] reports *Nerium oleander*, commonly known as oleander, to be well established and "naturalized" in riparian forests along the Sacramento River in the northern portion of the Central Valley. The species is used extensively as an ornamental plant in California and is heavily relied upon for roadside and center divider plantings by CALTRANS. An excellent illustration of the species may be found of page 224 of *Flowering Plants of the World*, V. H. Heywood (consultant editor), Prentice-Hall Inc., Englewood Cliffs, NJ. Photos and illustrations of oleander may be found in a number of other books of western landscape plants and books of poisonous plants.

### *Edible Fig Invading Central Valley Riparian*

*Ficus carica*, the edible fig, is present in several riparian woodlands in the Central Valley, including those within The Nature Conservancy's Cosumnes River and Dye Creek Preserves, and in Caswell Memorial State Park. This species merits special attention because it appears capable of invading and potentially dominating areas of intact riparian forest. One fig in the old Valley oak forest at Cosumnes apparently established itself within the last 10 years and has since spread vegetatively to cover an area of roughly 15 m. X 15 m. A number of figs are present and thriving in the forest at Caswell. The figs at Dye Creek are in a relatively narrow canyon

bottom and do not appear to be spreading. The species may arrive as seed in bird droppings, or it may be washed in as branch fragments during flood events.

Edible fig is widely cultivated in the area for its fruit and attractive appearance, and "volunteers" are also common along levees in the Sacramento - San Joaquin River Delta. *Ficus carica* is also known to escape in south Florida. A good illustration of the species may be found on page 256 of *The Complete Trees of North America* by S. Elias (1980), Van Nostrand Reinhold Company, New York.

## Legislative Update

California Native Plant Society's AB 1108 has become law without the Governor's signature. Prior to January 1, 1993, only those plants which threatened agriculture and silviculture were deemed to be noxious. The new law will regulate, after inclusion on the list, those exotic pest plants which threaten native ecosystems. No weed on the list may be brought into or sold in areas that are considered to be free of that plant or where there are significant efforts to eradicate it.

To request a regulation to add an exotic pest plant to the state's *List of Noxious Weeds* be adopted, please write to the director below, state why the plant is a problem, and what efforts are being made to eradicate it.

Henry Voss, Director  
California Dept. Food & Agriculture  
1200 N Street  
Sacramento, CA 95814

It is not desirable at this point to petition all problem plants for listing. This is a new direction for CDFA to take, and a slow start to get the machinery moving may be desirable. One exotic plant from each geographic area may be sufficient, with all major areas of the state covered: tamarisk in the south, gorse in the north, pampas grass along the coast, etc.

Perhaps we should avoid, for the present, those plants that may be too controversial with the nursery industry. We can add these plants once everyone becomes familiar with the new law and the wheels are turning properly.

I would appreciate receiving a copy of your letter to the director as I would like to know what is happening and to coordinate efforts with CNPS chapters. *Jake Sigg*, 338 Ortega Street, San Francisco, CA 94122, 415.731.3028



## The Tamarisk Invasion of Desert Riparian Areas

by William M. Neill, M.S. Geology

*Educational Bulletin #83-4, a publication of the Educational Foundation of the Desert Protective Council, Inc.,  
4900 Glenview, Anaheim, CA 92807.*

Water is the most precious of life-sustaining resources in the desert. Consequently, the perennial springs and streams of the desert - where fresh water can be obtained during the hot summer months - are the most productive of wildlife habitats. A rich variety of animal species - bighorn sheep, birds, rare fish and amphibians - depend for their survival on the constant flow of water at these scattered oases and on the plant and insect life that flourishes there.

Human occupancy of the desert has centered around the perennial water sources since prehistoric times, but in recent decades this impact has intensified greatly, as some have been expropriated by mining or cattle-grazing operations, others have been diverted to support agriculture, residential settlement, or transportation, and still others have been trampled by feral burros descended from those abandoned by prospectors. To this list of assaults must be added another threat to desert ecology, less obvious but equally damaging; it is the uncontrolled invasion of a foreign plant, *Tamarix* sp., called deciduous tamarisk or saltcedar, which was imported from the Mediterranean region a century ago. Tamarisk is a virulent pest in desert riparian areas because it aggressively displaces native trees and shrubs, it withdraws and transpires water from the ground at a high rate, and it is a poor source of food and shelter for desert wildlife.

### Early History

Tamarisk seeds were first brought to North America in the 1800s from southern Europe or the eastern Mediterranean region. Originally it was planted by immigrants to the southwest desert as an ornamental shrub or shade tree, or to create windbreaks, or to stabilize eroding streambanks. Soon, however, tamarisk escaped cultivation and dispersed widely along river courses owing to wind transport of its pollen-size seeds. Along the upper Gila River in Arizona, wild tamarisk growth was first noticeable after a flood in 1916; then, with rapid proliferation, the plant became common in the 1920s, abundant in the 1930s, and the dominant riparian tree species, replacing willow and cottonwood, in the 1940s. The same rapidity of infestation was observed in central Utah and the Rio Grande and Pecos River valleys of New Mexico and Texas. By 1961, according to the only comprehensive inventory yet published, tamarisk occupied an estimated 1400 square miles of floodplain land in the western United States.

As early as 1950, the tamarisk invasion had come to the attention of water-supply and flood-control authorities, primarily in Arizona and New Mexico, who were concerned about the wasteful loss of groundwater through transpiration and the constriction of flood channels by dense tamarisk growth in the river valleys. The economic impact of the problem led to detailed investigations by government scientists.

### Attributes

Compared with the native trees and shrubs of desert riparian areas, tamarisk is impressively robust and competitive, yet has markedly inferior value as wildlife habitat. Consider these aspects of its botanical personality: a single large tamarisk tree produces a half million seeds a year, which disperse widely by wind and germinate wherever the soil remains moist for several weeks. Seedlings mature rapidly and produce small pink flowers, often by the end of the first year. Under optimum conditions, a desert riparian area containing only a few tamarisk trees can be converted to an impenetrable thicket in less than a decade.

Tamarisk grows so densely and so rapidly, up to one foot per month, that native trees are crowded and shaded from direct sunlight and cannot thrive. Tamarisk is reputed to have the highest transpiration rate of all deep-rooted trees that tap the water table. Moreover, tamarisk is more resistant to drought, once seedlings are

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established, than most native riparian trees, so that at time of water stress the native trees die but tamarisk survives and thereafter consumes a greater fraction of the available groundwater supply.

Tamarisk can tolerate excessive salinity in water and in soil by its ability to exude salt crystals from openings in its scale-like leaves. The salt falls or is washed to the ground, where it kills emerging grasses and seedlings of other tree species. As a result, where it is well established in dense thickets, tamarisk is likely to be the only form of plant life. As noted by Van Hylckama (1980), "One rarely finds an intruder in a saltcedar thicket."

Tamarisk is not killed by fire, cutting at ground level, or application of herbicide to the foliage, for unless the root system is killed, the root crown will resprout vigorously. Effective tamarisk removal requires (1) mechanical uprooting or (2) cutting at ground level and applying to the stump a systemic herbicide that is carried to the roots by vascular transport.

The seed of tamarisk is too small to be eaten by rodents or birds, and its thin, scaly leaf is unpalatable to native browsing animals and to leaf-eating insects. By contrast, the native mesquite tree produces large, nutritious seeds, rich in protein, that are a mainstay of rodents; mesquite and willow provide high-quality forage for desert bighorn sheep; and willow and cottonwood harbor a greater abundance of insect life than does tamarisk, so are more beneficial to many bird species.

### **Control Efforts in California**

On the California desert, tamarisk is well established along parts of the Colorado and Mojave Rivers and at places around and near the Salton Sea. At these localities, the growth is so dense and widespread and has so completely replaced native vegetation that efforts at control or eradication would be impossibly difficult, and would follow, rather than prevent, the loss of natural habitat. Elsewhere, the problem is not so formidable. At many smaller, isolated water sources that are scattered about the desert, the infestation either is fairly recent or is restricted in size by limited water supply or inhospitable growing conditions. In these cases, control measures to preserve the indigenous riparian vegetation are both feasible and potentially effective. The list of desert water sources that warrant such attention includes Amargosa Canyon, Big Morongo Canyon, Corn Spring, Darwin Falls, Piute Creek, Saline Valley, and possibly San Sebastian Marsh.

One tamarisk removal project has already been completed, with dramatic success, at Eagle Borax Spring in Death Valley National Monument. Deciduous tamarisk probably was present at this large marsh, on the west side of the valley floor, in the 1940s or before, but due to grazing by horses it did not proliferate until the mid 1950s. It then spread and grew rapidly during the next decade, so that by the late 1960s the surface water in the marsh had disappeared, the native grasses and reeds were being replaced by tamarisk, and mesquite trees adjacent to the marsh were slowly losing vigor owing to the competition for ground water. After burning the tamarisk cover in 1972 to restore the water level in the marsh, the Park Service began permanent removal by cutting with chain saws and applying systemic herbicide to the stumps. The program was continued intermittently by Park Service employees over the next 10 years and then completed in 1982 with volunteer assistance. With the tamarisk gone, the recovery of the marsh has been rapid and impressive; the surface water has returned, to be used by migratory birds; the grasses and reeds are flourishing; and the grove of mesquite trees is again healthy.

With the Death Valley achievement as a guide, Anza-Borrego Desert State park and the U.S. Bureau of Land Management (BLM) are separately initiating programs of tamarisk control at other important riparian areas of the California desert. To a large extent, at least on BLM land, these efforts will require weekend volunteer labor to be successful. Friends of the desert who can participate will be rewarded with immediate, tangible results to show for their labor and the satisfaction of helping to avert the eventual loss of these fragile, most important natural resources.

*Bill Neill*

*For further information, or to volunteer, write: Riparian, P.O. Box 193, Lucerne Valley, CA 92356.*



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## CalEPPC Working Groups

CalEPPC working groups were established October 10, 1992, during the California Exotic Pest Plant Symposium held in Morro Bay. The working groups, which will eventually become standing committees of CalEPPC, will be the primary means by which CalEPPC will accomplish its goals and programs. Some of the working groups have met and developed preliminary plans for their chosen tasks. If you are not already on a working group, or if you would like to join another group, I encourage you to contact the group chair and become personally involved.

*John Randall, president*

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**Working Group: Student Research Support**

**Group Mission:** To promote scientific research on invasive exotics by qualified graduate students.

**Major Task:** Set up a system that will match graduate students who are interested in doing exotic pest plant research with agencies and nonprofit organizations that may need small-scale research performed, and are willing to provide some funding.

**Group Chair:** Greg Archbald, Golden Gate National Park Association, Fort Mason, Building 201, 3rd Floor, San Francisco, CA 94123  
(W) 415.776.1607 ext. 230 (H) 415.388.3106 (FAX) 415.776.2205

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**Working Group: Volunteerism**

**Group Mission:** To increase the use of volunteers in exotic plant control work.

**Major Tasks:**

1. Contact volunteer/community organizations throughout the state in a coordinated effort to make them aware of the option of doing exotic control work.
2. Act as a coordinator to link projects that need volunteer help with volunteer groups. The CalEPPC database may be of assistance in this area.
3. Prepare material on how to increase volunteers for exotic control projects. Disseminate to CalEPPC members.

**Group Chair:** Jack Beigle, 561 Bay Street, Pismo Beach, CA 93449  
(H) 805.773.2147

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**Working Group: Licensing of Field Practitioners**

**Group Mission:** To work closely with SERCAL in its efforts to deal with the State Board of Forestry restorationist licensing requirements.

**Major Task:** Determine how CalEPPC can best assist SERCAL in its efforts to resolve this situation.

**Group Chair:** Scott Johnson, Wilbur-Ellis Company, 212 Industrial Drive, Stockton, CA 95206  
(W) 209.982.4337 (H) 209.473.4724 (FAX) 209.982.4115

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*[Editor's note: The State Board of Forestry (BOF) and its examining committee are empowered to license as Certified Specialists individuals who practice "sub-disciplines" of forestry (botany, ecology, wildlife biology, fisheries biology, and ecological restoration). In order to consult, investigate, evaluate, plan, advise, etc. on the wildlands of California (all grasslands, shrublands, and forestlands), individuals will need to become certified by the BOF by December 31, 1993.]*

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**Working Group: Public Officials Seminars**

**Group Mission:** To educate key elected and appointed public officials on the extent and nature of the exotic pest plant problem and the things that they can do to deal with the problem.

**Major Task:** Organize a series of well-planned educational seminar/field trips in various regions of the state for key officials in decision-making roles. These events would focus on the effects of the five target species (arundo, the brooms, pampas grass, tamarisk, and yellow star thistle) on publicly-owned natural lands. Emphasis will also be placed on public health/safety concerns, such as the potential fire hazards and water consumption effects of some invasive species.

**Group Chair:** Scott Johnson, Wilbur-Ellis Company, 212 Industrial Drive, Stockton, CA 95206  
(W) 209.982.4337 (H) 209.473.4724 (FAX) 209.982.4115

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## Working Groups Cont'd.

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**Working Group:** **Biocontrol of Tamarisk (*Tamarix* sp.)**  
**Group Mission:** To enhance funding for the ongoing USDA-ARS research on tamarisk biocontrol.  
**Major Tasks:**

1. Consult with Florida EPPC and the USDA-ARS Fort Lauderdale office to investigate their methods of funding biocontrol research for *Melaleuca quinquenervia*.
2. Obtain a detailed summary from USDA-ARS to determine funding levels required to adequately staff a five-year or more study that would culminate in quarantine and release experiments.
3. Develop a strategy for "sharing the burden" based on funding needs and priorities. Possible sources could include: Congressional add-ons for USDA funding; private grants; public environmental and planning agencies; local governments; water agencies; state and federal land management agencies; and private corporations.
4. Develop a public information campaign to provide support. Environmental interest groups, civic organizations, and CalEPPC's member agencies will be encouraged to engage in a letter-writing campaign to secure funding.
5. Initiate a large-scale multi-source campaign for the promotion of funding biocontrol research.
6. Organize a series of well-planned educational seminar-field trips for key public officials in decision-making roles. These should be timed to precede budget decision time, and coordinated with the Public Officials Seminars working group.

**Group Chair:** Bill Neill, 4900 Glenview Avenue, Anaheim, CA 92807-1141  
(W) 714.577.2423

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**Working Group:** **Weed Control Methods and Applications**  
**Group Mission:** To develop cooperative experimental programs for the eradication of the five target species (arundo, the brooms, pampas grass, tamarisk, and yellow star thistle) which were adopted by the participants at the October, 1992 Symposium in Morro Bay. Participation shall be sought from the private sector, the scientific community, and public/nonprofit land management agencies.

**Major Tasks:**

1. Conduct experimental projects to examine which combination of management and control techniques (pulling, cutting, burning, mulching, pre- and post-emergence herbiciding) are most effective. Large-sized plots, greater than 100 square meters, will be used.
2. Investigate alternate techniques where fire and herbicides cannot be used.
3. Develop experiments that focus on the efficacy of various herbicides, at various dilutions, on the five target species.
4. Promulgate results from the experimental control projects through the Database Working Group and the CalEPPC newsletter. Results will also be discussed at the annual CalEPPC meetings.

**Group Chair:** Carla Bossard, 401 Del Oro Ave., Davis, CA 95616-0418  
(W) 510.631.4032 (H) 916.758.1602

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**Sub Group:** **Pampas Grass Experimental Control**  
**Mission:** To develop cooperative experimental programs for the eradication of pampas grass (*Cortaderia selloana*) and jubata grass (*C. jubata*).

**Sub Tasks:**

1. Determine if *Cortaderia selloana* is as equally invasive as *C. jubata*, as suspected from recent evidence.
2. Educate the public, and particularly nurseries, who may not be able to differentiate between the two species.
3. Implement AB 1108 to prevent the import and/or sale of *C. jubata*.
4. Apply for a grant in order to fund a study on issues involving the weedy potential of the two species of pampas grass.
5. Initiate a joint program with Marin County Departments of Agriculture and Public Works, environmental groups, federal and state parks, CNPS, GGNRA, and Monsanto in the Bolinas, Stinson Beach, Tamalpais Park area for a coordinated assault on the remaining pampas grass infestations in west Marin County.

**Sub Group Chair:** Quentin Griffiths, P.O. Box 766, Inverness, CA 94937  
(H) 415.669.7295 or 776.1162

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## Working Groups Cont'd.

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**Sub Group: Arundo Experimental Control**

**Mission:** To develop cooperative experimental programs for the eradication of arundo (*Arundo donax*).

**Sub Group Chair:** Nelroy Jackson, 400 S. Ramona Ave., #212, Corona, CA 91719  
(W) 909.279.7787 (H) 909.371.4325 (FAX) 909.279.7803

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**Sub Group: French Broom Experimental Control**

**Mission:** To develop cooperative experimental programs for the eradication of French broom [*Genista monspessulana* (L.) L. Johnson (formerly *Cytisus monspessulanus* L.)].

**Sub Group Chair:** Daniel Gluesenkamp, 2560 Bancroft Way, #14, Berkeley, CA 94704  
(H) 510.464.4669

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**Sub Group : German Ivy and Hoary Cress Experimental Control**

**Mission:** To develop cooperative experimental programs for the eradication of German ivy (*Senecio mikanioides*) and hoary cress (*Cardaria draba*).

**Sub Group Chair:** David Chipping, 999 Pismo Avenue, Los Osos, CA 93402  
(H) 805.528.0362

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**Sub Group: Yellow Star Thistle Experimental Control**

**Mission:** To develop cooperative experimental programs for the eradication of yellow star thistle (*Centaurea solstitialis*).

**Sub Group Chair:** Mike Pitcairn, CDFA Biological Control Program, 3288 Meadowview Rd., Sacramento, CA 95832  
(W) 916.262.2049

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**Working Group: CalEPPC Newsletter**

**Group Mission:** To foster communications and information exchange amongst CalEPPC members.

**Major Task:** Publish a quarterly newsletter and distribute to all members.

**Group Chair:** Sally Davis, 448 Bello Street, Pismo Beach, CA 93449  
(H) 805.773.2828

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**Working Group: Public Service Announcements**

**Group Mission:** To reach the general public through the electronic media.

**Major Task:** Prepare 30 - 60 second public service announcements for radio and television.

**Group Chair:** James Nee, 115 Felix Street, Apt. 15, Santa Cruz, CA 95060-4819  
(W) 408.454.2620 (H) 408.763.8080

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**Working Group: Publications**

**Group Mission:** To promote public awareness of invasive exotic plant problems through CalEPPC publications.

**Major Tasks:**

1. Solicit a grant for the preparation and publication of a handbook dealing with the five target species: arundo, the brooms, pampas grass, tamarisk, and yellow star thistle.
2. Prepare a series of simple and non-technical brochures dealing with the problems associated with the five target species and recommend treatment techniques. These brochures shall be prepared for distribution at state park entrances, information kiosks, etc.
3. Prepare brochures and posters for distribution to nurseries and landscape architects on the five target species, coordinated with the Nursery/Landscape Architect Liaison working group.

**Group Chair:** Jake Sigg, 338 Ortega Street, San Francisco, CA 94122  
(H) 415.731.3028

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## **Working Groups Cont'd.**

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**Working Group: Database**

**Group Mission:** To improve the existing database so that it becomes a useful and functioning resource for CalEPPC members.

- Major Tasks:**
1. Load all Nature Conservancy element stewardship abstracts.
  2. Designate an editor to check and edit all new entered data, and to ensure quality control.
  3. Establish an early warning system on newly arrived, potentially invasive plants.
  4. Add a capability for user information requests.
  5. Fine tune subcategories for species review articles.
  6. Add symposium files.
  7. Design a brochure to promote the database. A funding source and a distributional network also need to be determined.
  8. Search the literature for information on the five target species: arundo, the brooms, pampas grass, tamarisk, and yellow star thistle.
  9. Recruit volunteers who will be responsible for data input and update for each of the five target species.
  10. Explore the establishment of a link between "Weednet" and the California Fish and Game Natural Diversity Data Base.
  11. Bring Florida EPPC into the database.
  12. Pursue links with the newly-formed International Working Group on Weeds in Protected Areas.

**Group Chair:** Steve Harris, Redwood National Park, P.O. Box 7, Orick, CA 95555  
(W) 707.488.2911 (H) 707.826.2709 (FAX) 707.488.6485

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**Working Group: Education through Schools**

**Group Mission:** To educate students and teachers about invasive exotic plant problems.

- Major Tasks:**
1. Perform K-12 curriculum surveys to determine where deficiencies and needs exist, and where biological pollution elements could be added.
  2. Prepare a packet for K-12 teachers on biological pollution in California with emphasis on invasive plant impacts upon native ecosystems. Include a teacher's manual with suggestions on class exercises, resource materials available, testing materials, and field trips.
  3. Organize a series of workshops for teachers on exotic plant problems in California.

**Group Chair:** Greg Gaar, 21 Beulah Street, San Francisco, CA 94117  
(H) 415.752.5983

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**Working Group: Nursery Growers/Landscape Architects Liaison**

**Group Mission:** To promote contacts and cooperation with the nursery industry and landscape architects.

- Major Tasks:**
1. Meet with the California Association of Nurserymen, the American Society of Landscape Architects, and the American Association of Botanical Gardens and Arboreta to organize a cooperative working group. The working group shall consider ways to avoid the use of the five target species (arundo, the brooms, pampas grass, tamarisk, and yellow star thistle) in landscape plans, and to gradually eliminate these species from nursery inventories. The group will encourage substitute propagation and use of alternative native and non-invasive exotic species.
  2. Engage in an active campaign to solicit membership by nurseries, particularly native plant nurseries. Develop an information brochure and accompanying membership application form for this campaign.
  3. Prepare brochures and posters for distribution to nurseries and landscape architects on the five target species. This work shall be coordinated with the Publications working group.
  4. Work with seed and bulb catalog companies to: a.) include a caution with all relevant seed or bulb orders and on seed packages. The caution should warn people to not distribute the seeds or bulbs in natural areas or on public lands; b.) end the sale of particularly invasive seed mixes.

**Group Chair:** Daniel Songster, 23522 Cavanaugh Road, Lake Forest, CA 92630  
(W) 714.895.8161 (H) 714.768.0431

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## Working Groups Cont'd.

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**Working Group: Congressional O.T.A. Study**

**Group Mission:** To track the ongoing Office of Technological Assessment Study.

- Major Tasks:**
1. Get on the distribution list for the completed study, to be released Spring 1993.
  2. Review the study for items of relevance to CalEPPC.
  3. Advise Press Relations working group of study items CalEPPC may want to publicize.

**Group Chair:** Sue Fritzke, Redwood National Park, P. O. Box 7, Orick, CA 95555  
(W) 707.488.2911

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**Working Group: Press Relations**

**Group Mission:** To disseminate information to the press, as needed.

- Major Tasks:**
1. Prepare packets of information for on-demand distribution to the press. These packets should contain copies of articles, pamphlets, and literature references relating to the California invasive problem; information on CalEPPC; lists of contact persons and their phone numbers; and CalEPPC position statements on relevant public issues;
  2. Prepare specialized informational packets relating to specific topics for press distribution when newspaper stories break.
  3. Prepare lists of articles and papers on specific subjects for distribution to journalists.

**Group Chair:** Jake Sigg, 338 Ortega Street, San Francisco, CA 94122  
(H) 415.731.3028

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## Working Group Reports

### Weed Control Methods & Applications

The French broom sub-group of the Weed Control Methods and Applications Group met in November and December. At our East Bay meetings we have made rapid progress toward designing a statistically analyzable experiment that will study the effects of a number of treatments on established stands of French broom (*Genista monspessulana*). Treatments will focus on three stages of eradication: removing mature plants; suppressing the seed bank; and destroying seedlings and resprouts.

We discussed and ultimately designed an experiment which combines various management techniques to maximize efforts when attempting to remove french broom from infested areas and prevent it from re-establishing. The experiment will assess the relative effectiveness and cost of treatment combinations, and provide a menu of options that managers can apply to their individual situation. Members of the working group are currently searching for locations in the Bay Area, and plan to meet soon to compare prospective sites. We hope to choose a site and have our protocol approved by the appropriate agencies in time to begin the experiment in August 1993.

A library search was done on German ivy (*Senecio mikanioides*) to assist the efforts of the sub-group working in the central coast region to develop control methods for this species.

*Carla Bossard and Daniel Gluesenkamp*

### Nursery Growers/Landscape Architects

Our goal is to work with nurseries and seed companies, educating them regarding the danger exotic pest plants pose to our native landscapes. We eventually wish to encourage voluntary restriction of the sale of problem plants such as broom, pampas grass, tamarisk, and others.

To achieve such statewide results effectively, we must have statewide support from CalEPPC members in spreading our message. Consequently, our most pressing need is to hear from members who are willing to help. A casual conversation and/or dropping off a brochure with a nursery manager/owner will go a long way towards implementing what can be a cooperative effort between CalEPPC and the nursery industry. Linked to this will be our involvement with the California Association of Nurserymen and the American Society of Landscape Architects. By emphasizing our mutual concerns regarding the California



landscape, we should be able to work with both nurseries and landscape architects.

Michael Lindsey is coordinating our needs with other working groups of CalEPPC, such as the Publications Group. Michael is currently working on the format for a brochure that can be used as both a handout and a mailer to nurseries and seed companies. He will also assist in directing our efforts for this first year.

Mike Evans, of the Tree of Life Nursery in San Juan Capistrano, has enthusiastically volunteered to help us work with other nurseries. John Rodman will be concentrating his efforts on arboretums and botanic gardens, attempting to alert them to as to what could be their role in educating the public about escaped exotics.

If you wish to help, or have any questions, please call or write: **Daniel Songster**, 23522 Cavanaugh Road, Lake Forest, CA 92630, 714.895.8161.

*Daniel Songster*

### **Volunteers**

Our working group had a productive discussion at the California Exotic Pest Plant Symposium in Morro Bay. We agreed to compile information on sources for volunteers and ideas on productive methods to work with volunteers. This information could be put into the CalEPPC database and made available to our members through our newsletters or by direct inquiry to the database.

If you would like to join the group, and/or submit ideas concerning volunteers, please write: **Jack Beigle**, 561 Bay St., Pismo Beach, CA 93449-2301. All suggestions are welcome!!! All of our "meetings" will be conducted by mail.

*Jack Beigle*

### **Student Research Support**

Fountain grass is spreading across the lower mountain slopes and canyons on the west side of Coachella Valley and into Anza-Borrego Desert State Park. Bighorn sheep relish the grass, but nobody knows whether the invasion is botanically benign or harmful.

The problem seems suitable for investigation by a botany student for a senior thesis or a master's degree. It provides an opportunity to study an invasion-in-progress by comparing the native flora of adjacent desert canyons with differing amounts of the invasive species.

The Natural History Association of Anza-Borrego Desert State Park annually awards research grants of \$1,000 to \$5,000 and would welcome proposals for study of the fountain grass invasion. For more information, contact **Bill Neill** at 714.577.2423.

The Student Research Support working group will collect and publicize information like the fountain grass research opportunity listed above. If you know of a research funding source, or a student seeking support for research related to exotic pest plants please call or write working group chair: **Greg Archbald**, Golden Gate National Park Association, Fort Mason, Bldg. 201, 3rd Floor, San Francisco, Ca 93123. 415.776.1607, ext. 230.

*Greg Archbald*

### **Education**

When people congregate to talk about the dangers posed by invasive plants, not much time elapses before the subject turns to education. An informed public is the hub on which the wheel of restoration must turn. Removal of aggressive plants, especially trees which may be perceived by the public as valuable, requires their understanding. Most importantly, there is the need for funding of restoration, without which nothing is going to happen. Understanding is the *sine qua non* for funding. In the rough and tumble world of today's ongoing budget crises....Well, you get the picture.

In a society in which planting trees on "barren" hills (read grasslands) is perceived as civic beautification or where replacement of rich biological areas by monocultures of wildlife-void ivy or ice plant is seen as an improvement, it is evident that we are living in the midst of an environmentally uneducated society. The rudiments of understanding how the world works is absent, or nearly so. Schools seldom teach ecology, and if the media writes about it, it is only to sell papers.

From where does understanding come? Although the problem may at times seem insurmountable, we can be encouraged that there is an evolving awareness that can provide a foundation for our efforts. The education working group has brainstormed numerous short-term and long-term goals and strategies.

The possibilities are endless. Readers are encouraged to submit their ideas to the group. The time is ripe.

*Jake Sigg*

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## Database



The latest information on exotic pest plants is available on the computer network **EcoNet**. The Database committee has established a discussion area (conference) called "plants.exotic" where information and discussions about exotic pest plants can be assessed and shared with researchers throughout the world.

Currently this conference contains the compilation of knowledge of 30 exotic plants, written by The Nature Conservancy in their element Stewardship Abstracts. If you have access to a computer, a modem, and an account with EcoNet (most environmental organizations have an EcoNet account), then all this information is available to you. For more information contact: **Steve Harris** at *Redwood National Park, P. O. Box 7, Orick, CA 95555-007, 707.488.2911.*

**Steve Harris**

### **Pampas grass**

Pampas grass was identified as one of the five target exotic species at the October symposium. The weedy species, *Cortaderia jubata*, is spreading rapidly in coastal areas, with NO countrywide (let alone statewide) program to control it.

Recent evidence regarding *Cortaderia selloana*, reported in Australia by J. Rawlings [*Ecology & Distribution of Pampas Grass (selloana) in the Sydney Bushland*, M.S. thesis, 1988] and by Jepson Manual contributor Professor Kelly Allred of New Mexico State University, indicates that the species considered sterile and non-invasive when it was introduced to the nursery trade here, may in fact produce seed from its hermaphrodite flowers, for which reason it is an official weed of great concern in Australia and New Zealand.

In personal correspondence, Dr. Kelly states that the flowers of *C. selloana* are either hermaphroditic or female, and it may produce some seed by sexual

means, though apparently the seeds are viable for only a short period of time. It is not necessarily sterile.

*C. selloana* is the "original" cultivated pampas grass in California (and elsewhere in the U.S.). *C. jubata* is the recently introduced pampas grass. Apparently, all plants are female, and it produces seed readily through asexual reproduction (apomixis) and plants are easily produced through seed.

It is possible that the two species hybridize, thus explaining the appearance in California of plants with mixed characteristics.

The sub-group welcomes all information readers have acquired on this vexing problem. Please call or write: **Quentin Griffiths** at *P.O. Box 766, Inverness, CA 94937, 415.669.7295 or 776.1162.*

**Quentin Griffiths**

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## **Weed Whacking Tips**

*Send us your tip on whacking a particular weed or class of weeds for inclusion in this column.*

### **Pampas grass (*Cortaderia jubata*)**

Mike Kelly of the Friends of Los Peñasquitos Canyon Preserve in San Diego, California submits this tip on removing pampas grass seed stalks:

To avoid being cut to pieces by the razor sharp edges of the leaves, we designed a grabbing hook pictured in the accompanying illustration. We took an old 5-foot broom handle and drilled a starter hole in one end. We then screwed in a simple 5-inch J-shaped hook from the hardware store. Any similarly shaped hook will do. Since the end of the pole will tend to split where the hook is screwed in, we taped it for stability. With this hook volunteers or staff can reach the tall seed stalks without getting their hands or arms into the leaves. The stalks bend and break with just a light pull, bringing them into easy reach for beheading and bagging. A longer pole can be used for denser thickets.

Another tip for pampas grass: immature stalks just about to bloom can often be pulled whole from their "sleeves," a surer method than cutting for not leaving seeds behind.





## German Ivy Infestation in San Luis Obispo

by David Chipping

I have been trying to determine if it is possible to remove German ivy (*Senecio mikanoides*) by hand from an infestation adjacent to Sweet Springs Marsh in Morro Bay. The answer is a resounding NO. The infestation has developed in a stand of wax myrtle, californian sage, blackberry, coyote brush, salt grass, hedge nettle, and other plants in a narrow freshwater wetland adjacent to saltmarsh.

The German ivy is seen to climb over the top of all low shrubs, finds its way up the trees via branches that touch the shrubs, and becomes so dense that it kills everything below by blocking out the light. It seems an easy job to grab the ends of the tendrils and yank them down from the trees, and it is gratifying to see the apparent progress being made. However, when I yanked on runners that are weaved into the understory, the runner usually breaks-off a short distance from my hands.

My first test was to see how discouraged German ivy became if I pruned it back over a large area, so two places at the edge of the infestation were stripped of viable ivy, each area being about 15 ft. X 15 ft. The German ivy has the same response as nose hair; the more you cut, the faster it grows.

A week after the cut there was a 5% area recovery; after two weeks 8% - 10%; after four weeks 50% recover; and after two months there was no trace of the treatment. Meanwhile, the areas not treated were expanding at about the same rate. After a month, runner regrowth of up to 10 feet was seen.

So all of you are thinking "What a dumb klutz you are," as we all knew it would do this....right? Dr. Science, however, is way ahead of you.

I did try some other controls. I could not understand how the resprouting shoots kept showing up in areas that did not seem to have a good location for a plant, so I started digging along the line where the sprouts should have been. Yikes! Down under the grass was a mass of purple, leafless vines, not particularly woody, and numerous enough to look like the control panel wiring for a B-1 Bomber. Everywhere I dug I found more and more. I grabbed a couple and kept pulling, and pulling, and pulling. No signs of roots, no leaves until the end of the plant, which was visible way up on top of the bushes.

So this plant sends out runners into the understory, with a mission that is, of course, to find light, but in

*Continued, next page*

## Join CalEPPC Today!

If you attended the 1992 Exotic Pest Plant Symposium in Morro Bay, your symposium fees made you a charter member of CalEPPC for one year. If you did not attend the symposium, but would like to join CalEPPC please remit your dues using the form provided. All members will receive the CalEPPC Newsletter, be eligible to join CalEPPC working groups, be invited to the annual meeting, and participate in selecting future board members. Your personal involvement and financial support are the key to success. Additional contributions by present charter members are warmly welcomed!

Name \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Office Phone \_\_\_\_\_

Home Phone \_\_\_\_\_

FAX \_\_\_\_\_

## 1993 Calendar Year Dues

### Membership Categories

|                                       | INDIVIDUAL | INSTITUTIONAL |
|---------------------------------------|------------|---------------|
| <input type="checkbox"/> Student      | \$15       |               |
| <input type="checkbox"/> Regular      | \$25       | \$100         |
| <input type="checkbox"/> Contributing | \$50       | \$250         |
| <input type="checkbox"/> Sustaining   | \$250      | \$1,000       |
| <input type="checkbox"/> Lifetime     | \$1,000    |               |

Other Gift \$ \_\_\_\_\_

Please make check payable to: California Exotic Pest Plant Council or CalEPPC. Mail your form and check to:

CalEPPC Membership

c/o Sally Davis

448 Bello Street

Pismo Beach, CA 93449

*Pending official incorporation of the California Exotic Pest Plant Council, newsletter mailings will be handled by Friends of Los Peñasquitos Canyon Preserve, Inc. a California not-for-profit corporation.*

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## ***Eradication Experiments Cont'd.***

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*Continued from page 15.*

the main to go a long, long way before thinking about the light part. Would you believe 15 feet?

However, the response of a runner is different when a shrub overstory is absent and ground lighting conditions are high. In well lighted areas, the game is to root and root and root. I pulled up leafed runners with roots at each leaf node, which had the potential to become an independent plant every two inches or so. Grab it, and you can get a couple of nodes worth of vine.

I am not even sure a systemic herbicide can deal with this unless it is applied adjacent to each node, which means digging up the entire system to expose the runners, and then the herbicide will clobber everything else too. The depressing thing is that we may be able to keep raking (good tool) it out of the trees, but will have to sacrifice the understory.

I have an idea that, maybe with intense effort, an infected area can be divided into a grid, cutting deeply into the soil, through all vegetation layers, to cut through the runners. By isolating blocks in a light infestation, it may be possible to progressively quarter the spaces to locate the rooting masses, to which one could be fairly rude.

Another depressing note. I dumped the runners and other debris in an ugly heap, three feet high. The whole thing rooted! Bits two inches in size rooted! As far as I can see, pieces as small as an electron rooted. I think, as they say, we got trouble. Pray for a hard frost.

### ***other stuff.***

Jack Beigle, John Nowack and I decided to have a go at castor bean. We removed 300 plants from the floodplain at the head of Chorro Delta in Morro Bay State Park. Give 'em a yank and out they come....satisfying. We left content that we had removed one more competition from the hoary cress. That denizen of the floodplain will be attacked once we can get all parties lined up for the attack. Ricardo Silberman of Monsanto is eager to get going, we have the stated cooperation of the County Agriculture Commissioner's Office, and are still awaiting something from State Parks.

Jack Beigle and Nancy Warner from The Nature Conservancy headed a near-Christmas hunt-and-destroy for the offspring of pampas grass removed last year from the Nipomo Dunes. Prolific beasties.

**David Chipping**

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## ***CalEPPC Newsletter***

Friends of Los Peñasquitos Canyon Preserve, Inc.  
P.O. Box 26523  
San Diego, CA 92196

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