

# NEWSLETTER

california state park rangers association

Volume VI Number 28

April 1991

## Planting Oaks: Don't Forget The Genes

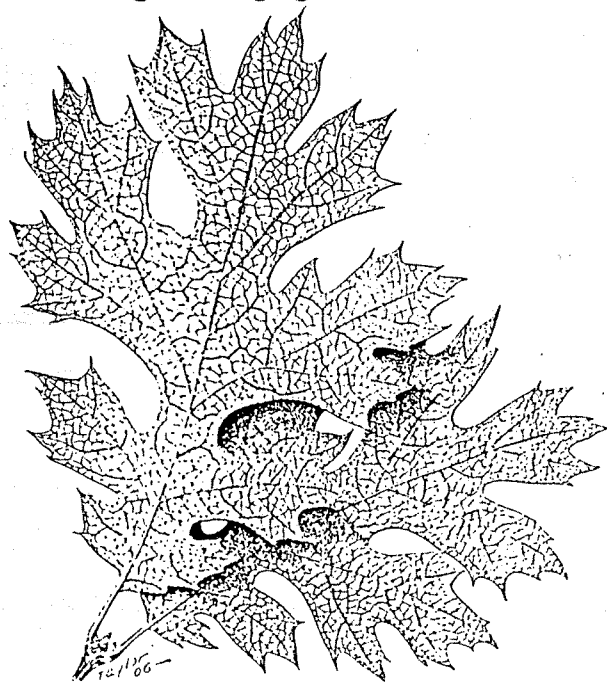
by Connie Millar

Institute of Forest Genetics  
USDA Forest Service, Berkeley  
and Marilyn Guinon  
Sycamore Associates, Lafayette

(Reprinted, with permission, from *California Oaks* Volume 2, Issue 2.)

*Editor's note: The implications of the following article may seriously affect tree planting programs throughout California. However, as Foundation Board members discussed this issue with scientists around the state, concern was universal. The Foundation thus believes it is our responsibility to share these ideas with you. Moreover, simple procedures and improved record keeping can avoid these problems altogether.*

(Article begins on page 3.)



California black oak, *Quercus kelloggi*

## Upcoming Workshops by PRAC

PRAC will present two workshops in the near future.

Public Relations will be the theme of a workshop in Anaheim on April 29. It will provide guidelines to effective public relations — a seminar for the enhancement of interpersonal skills in public contact and conflict resolution. The session will include: Public Contact Training, Visitor Relations, Conflict Resolution, Foot Patrol Techniques, and Officer Safety. Presentations will be by educators, Disneyland staff, and other professionals in the field of public relations. Cost is \$50 which includes lunch.



Fire Training — What To Do First will be provided at West Valley College on May 7 & 8. Sessions will include: Fire Prevention; Command Structure — ICS; Terminology — Parts of a Fire; Fire Behavior; Communications; Tactics/Strategy; Safety; and six hours of field exercise. One unit of college credit will be given. Lunch will be provided on May 8.

Registration for either class is \$50. Contact PRAC (Doug Bryce) at (916) 383-2530 for further information.

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STATE PARK RANGERS  
ASSOCIATION**

A professional association.

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**SAVE BODIE!** and all other  
committees use CSPRA address.  
\*\*\*\*

## **PRESIDENT'S MESSAGE**

People have often accused me of being "the eternal optimist," and I am. But I haven't acted like one for quite a while. Most of my recent messages have been somewhat cynical and negative. But there is cause to be hopeful again.

A number of CSPRA members heard the new Secretary of the Resources Agency, Douglas Wheeler speak at a recent Planning and Conservation League Conference.

Donna Pozzi, Doug Bryce, and I also met with Mr. Wheeler and Undersecretary Michael Mantell.

And while we have been reminded many times on CNN recently not to be euphoric, both of the initial contacts with these officials of Governor Pete Wilson's administration have left all of us a great deal more hopeful than we've been in the last eight years.

I believe that we have two people at the head of the Resources Agency who really do care about parks, wildlife, and the environment in general.

What did we talk about with the Agency Secretary? Everything! For over an hour we talked about the need to refocus on our mission of preserving California's cultural heritage, and saving important tracts of the natural environment of the state.

And Bodie!

And the need for a reliable source of funding to operate the system. A need for money to rehabilitate our worn out infrastructure and the need for a resource maintenance program were discussed. The need for a cultural "threats" study was emphasized.

And the need to bring the funding level for interpretation and resource management (Continued on page 7)

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The NEWSLETTER'S Editor is Doug Bryce; contributing editors and authors are as noted. Articles are welcome, 1000 words or less. All submissions become the property of CSPRA and may be edited without notice. **The deadline for articles is the 15th of the month prior to publication.**

## Don't Forget The Genes

(Continued from page 1)

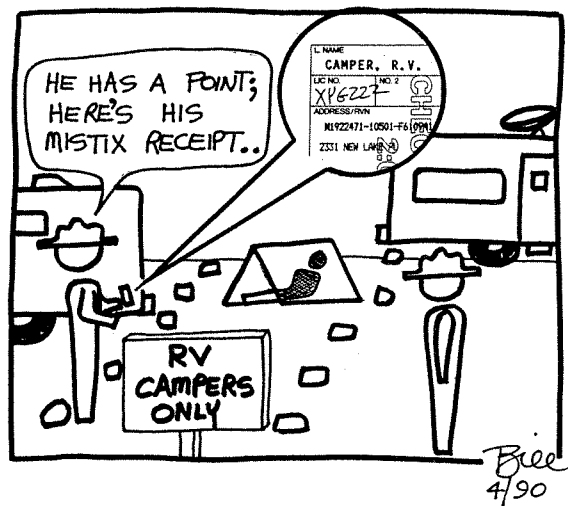
Many tree-planting programs urge participants to plant native species. This piece of sound advice marks a major leap toward understanding both the importance of natural ecosystems and the potential for humans to create ecological chaos by introducing exotic species. But planting native species is only one step toward responsible stewardship. In some cases, planting natives but ignoring the genetic stock can have consequences far worse than those of using exotic species. The genetic nature of planted trees can profoundly influence both the survival success of individual trees and that of entire communities.

To appreciate why this is so, and how to plant responsibly, requires an understanding of two points. First, species in native situations are genetically structured. This means that, except for clonal propagules like sprouts, no two individual trees are genetically alike. Furthermore, groups of trees separated even by short distances may differ genetically, stands of trees in different counties may differ more, and forests separated by great distances may differ genetically in many ways. Second, these genetic differences are a consequence of long-term evolution and adaptation to the unique habitats in which the forests occur. This means that genes and environments are matched, and that the genes of a plant and its eventual offspring affect their ability to survive in a given environment. Unlike humans, trees cannot move from or modify their environment as they contend with environmental hardships over the centuries.

A failure to understand these two points when planting native species can have several undesirable consequences for the ecosystem. If inappropriate genetic stock is planted, one consequence — not the worst to the native community — is that introduced stock may die soon after planting. This commonly occurs if the planted trees

come from an environment quite different from the planting site. If planted trees survive the early years, another common consequence is delayed death. This is especially true in long-lived organisms such as oaks, whose genetic profile must include adaptation to cyclic or episodic events like droughts or pest epidemics. Stands of trees that evolved near the planting sites generally are adapted to the local long-term environmental fluctuations, whereas distant stands are adapted to different fluctuations. Finally, if a planted tree of inappropriate genetic origin is able to survive, it may live its life as an unhealthy individual, growing poorly for many years.

# RANGER LOGO



A far worse consequence than poor health of an individual planted tree is the potential for genetic contamination of native communities. Pollen from planted trees of inappropriate genetic stock can pollinate flowers of local native trees and become incorporated in the seeds of that tree. Trees that result from those seeds carry the genes of the ill-adapted planted trees and may in turn pollinate large areas of wild plants through a leap-frog effect. In this way, contamination from pollen can insidiously erode the health of generations of once-adapted native forests.

All these issues pertain to planting oaks, whether they are in a wildland setting or a backyard. (Continued on page 4)

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## Don't Forget The Genes

(Continued from page 3)

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The question is how to minimize the genetic risks when planting. We offer the following guidelines specific to oaks.

**1. Which species to plant?** We recommend using native oak species, where native means not just native to California, but native to the planting site or the nearby area. The California Oak Foundation and the California Native Plant Society can help determine the appropriate native species. Since each species has general environmental requirements, it is important to match these with the characteristics of the planting site.

**2. Natural reproduction or planted stock?** Despite the problem of poor natural regeneration in California oaks, it may be worth giving nature a chance first. In cases where mature native oaks exist in the site to be regenerated, it may be possible to encourage natural reproduction. Young seedlings and small saplings can be protected from rodents and browsers and watered if necessary.

**3. Nursery-grown or collected stock?** if natural reproduction is not possible, the question becomes what planting stock to use. Trees of unknown origin should not be planted. Since most nurseries do not maintain records on the origins of their stock, this usually implies that you will need to collect your own acorns. Many nurseries will grow your seed for a fee, and some will even conduct local collections. Encourage your local nurseries to keep track of origins and to provide information about the place of origin so customers can take advantage of nursery stock. If you insist on using nursery stock of unknown origin, buy stock from several nurseries in the hope that you might include some genetic variants that will grow in the planting site. Document the geographic origin of the stock as completely as possible so that future planters

can distinguish contaminated from local trees.

**4. Where to collect acorns?** The most conservative advice is to collect acorns from known native stands in the near vicinity of the planting site. Since significant variation can occur over short distances, guidelines about actual geographic distance are not reliable. Equally important as ensuring geographic proximity is to choose native oak stands that match the planting site in such factors as elevation, slope, aspect, soil, rainfall, annual temperature patterns, frost dates, and associated vegetation. It is better to collect from trees that are in forests or stands rather than isolated trees or groups of a few trees. Avoid acorns near planted trees of unknown origin, such as landscaped developments or gardens and arboreta.

**5. How many trees to collect from?** It is almost always better to expend energy collecting from many trees than from one or a few trees. Collect acorns from trees at least 100 feet apart. Safeguard the integrity of local collections through conscientious labeling, storage, and handling. Maintain equal representation from all collection trees in the final planting, so that you collect an equal number and plant an equal proportion of acorns per tree.

By following these guidelines, we are doing the best we can to restore the native oaks of California.





## 125th Anniversary Celebration



Kick-off Day Planning Team meets at Henry Cowell State Park to discuss the May 21 activities.

Left to right: Bud Getty; Paula Jones; Tony Trigiero; Dave Vincent; Jim Smallwood; Quinton Kay; Mike Lynch; Verl Clausen; and Bill Monaghan.

Petey Weaver, Honorary CSPRA member, talks with Susan Ross and filmmaker Cris Chater at a retired employee's luncheon at the Carlotta Hotel.

CSPRA invites all retired members to attend the "Kick-off Day" celebration at Big Basin on May 21.



Petey Weaver, Carl Anderson, Dick Johnston, Herman Schlerf, and other retired DPR employees visit the ranger history display at the Carlotta Hotel.



## 125th RANGER ANNIVERSARY ENGRAVED COMMEMORATIVE GUN

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## President's Message

(Continued from page 2)

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up to the level of commitment for enforcement.

There is always a "honeymoon period" when a new administration comes in, but somehow there is a feeling now that people care, and the State Park System can make some steady progress and gain back some of the recent losses.

### Humor in Unicorn

by Jeff Price

Timorous agitation! The thirteenth column of **Mixed Metaphors and Malaprops** is unluckily upon you.

Regarding the impediment: "The pier has been an anchor around our necks since the 1950's." Unexpected bad news for masons: "... and then they hit you in the back with a brick wall out of left field."

Darwinian creation of a bottleneck: "My main concern evolves around the traffic."

Here's one person's suggestion on dealing with Saddam Hussein: "... and slowly squeeze the noose until he's at square one." Feeling challenged by a beer keg, I assume, he says: "I'm coming out with all my barrels."

High priced conversation: "In the interest of communications, let me appraise you now." Even higher when discreet: "Discretion is the better part of value."

Escapism: "Just what are you trying to elude?"

Nature appreciation: "He came out looking at a rose." When faced with an enigma: "I'm not just going to bite this one easy." Security to aisle four, please, security to

aisle four: "They are ripping us off blind! "How do you describe a lost cause: "He was a dead stick in the water."

Non atmospheric selection: "Not a lick of research, she just picked it out of the wall." Asinine indecision: "She can't make up her mind, always heeing and hawing."

Very busy haberdasher: "Remember, I'm doing the work of two hats now that John has retired."

Genuine imitation synthetic: "Just look at the real realities." Late night interrogative: "Just what goes on behind the hours in his office anyway?" Collecting deja vu: "... and that is memorabilia from the future."

Titanic. There was more floe to the meeting than the speaker planned on, I guess: "... but we're only tipping the iceberg."

Square opposition: "You are up against a corner on this one." Fulton's folly revisited: "That really took the steam out of his sails."

Cranial croquet anyone: "You've been running around the ball long enough, make up your mind." When the two supervisors have tried just about everything else, how about a little pool therapy: "sometimes, I think we're swimming uphill with this guy."

Then what? No! Really: "...so the most important part of a pregnancy is the nine months preceding birth."

**Classic** goofed line: "... and that was the hump that broke the camel's back!"

As difficult as it may be, we must bring this column to a close ... but first, something completely different ... It's a meal, no it's a basketball tactic, no ... it's two, two, two nouns in one: **"We got the full course press."**





# KICK OFF DAY

## 125th Ranger Anniversary

**Tuesday, May 21, 1991**  
**Big Basin State Park**  
**Santa Cruz Mountains, CA**  
**9:00 a.m. - 4:00 p.m.**

The Day includes: "Rangers in Action" photo awards & display; Exhibits from all eras of ranger history; Pancake breakfast honoring state park retirees; Special commemorative sales booths; A formal program & presentations which include guest speaker former Governor Edmund G. Brown, Sr., Resources Agency Secretary Douglas Wheeler, first ranger Galen Clark, Honorary State Park Peace Officer status presented to Roger Chatterton, and dedication of a Ranger Grove at Big Basin; A picnic lunch and many more booths and fun filled activities.

**For more information contact:**

**Dave Vincent, Central Coast Region, 408-649-2840**  
**Quinton Kay, Santa Cruz Mts. District, 408-335-9145**  
**Paula Jones, Monterey District, 408-649-2836**

A Joint Project of the California Department of Parks and Recreation,  
the State Park Peace Officers Association of California and the California State Park Rangers Association



## New Members

We are happy to introduce these new members to our organization. CSPRA offers a forum for sharing ideas and concerns and a means for making an impact in the field of the park professional. There is a place for each of you here, and your commitment to CSPRA requires a commitment to you from this organization. Each of us by getting involved can help the other. Again, welcome to CSPRA.

Jeffrey B. Lewis — Supporting

April

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