



CALIFORNIA FOREST STEWARDSHIP PROGRAM

Forestland Steward

WINTER 2013

Forest Regeneration Starts with the Seeds

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Dan Ziebron, Forestry Aide, hand cleans Douglas-fir seeds at the CAL FIRE Seed Bank.



Forestland Steward

Forestland Steward is a joint project of the CA Dept of Forestry and Fire Protection (CAL FIRE), Placer County Resource Conservation District, UC Cooperative Extension, and USDA Forest Service to provide information on the stewardship of private forestlands in California.

CA Forest Stewardship Program

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The ideas contained in this newsletter are meant as general information and opinion, not management prescription. Consult a Registered Professional Forester or a qualified technical advisor (see page 10) for management advice specific to your needs.



The state of the State's tree nurseries

At one time the state of California supported three tree nurseries—at Magalia, Davis, and Ben Lomond—which produced about 6 million trees per year for landowners all over the state. Now these nurseries are gone, one of the casualties of California's budget crisis. Ben Lomond was the first to go, then the LA Moran Reforestation Center in 2003, and Magalia in 2011. Without the State nurseries, forest landowners are often at a loss to find appropriate seedlings.

The CAL FIRE State Nursery Program had a special niche. It grew seedlings on spec from seed zones throughout the state and sold them in small to large quantities to landowners for reforestation, erosion control, and other approved activities (not landscaping). California is a large and diverse state with many seed zones (see page 4) and landowners across the state have diverse needs. The nurseries grew more than 100 species over all seed zones.

Private nurseries have not been in a position to fill the gap. It is difficult for private nurseries to grow seedlings across the full range of zones the State nurseries covered. In addition, conifer seedlings require special expertise to grow. It is necessary to break seed dormancy, go through a lengthy stratification process, and some seeds even need to be digested. Seedlings need to be properly spaced and monitored daily for water and nutrient needs as well as for early detection of insects or disease. Most nurseries that produce conifers grow them for the U.S. Forest Service or large industrial landowners who contract for large numbers of seedlings. No nurseries grow on spec for small landowners anymore.

The critical shortage in seedling stock continues to impede forest regeneration projects throughout the state. The National Resources Conservation Services (NRCS) estimates that over 1,000,000 seedlings are needed this year alone for regeneration projects in California. The concern is that reforestation costs, including environmental costs, go up exponentially if there is a delay in planting, since more chemicals and equipment are then needed to remove competing vegetation.

Seed Bank remains

Although the nurseries are gone, the State still maintains its Seed Bank—which is vital for conservation storage and emergency needs—at the L.A. Moran Center in Davis. The Seed Bank continues to collect and store seed from seed zones throughout the state (see page 6).

The Seed Bank has huge responsibilities. The goal is to maintain a sufficient supply of high-quality seed for noncommercial regeneration plantings, for climate adaptation needs, and for emergencies such as catastrophic fire and insect and disease outbreaks. However, catastrophic fire now occurs with greater frequency—in the past it was expected about every 10 years and now occurs nearly every year—so demand has increased. The Seed Bank also strives to maintain a full inventory of seed for each of the State Forests (see page 8) in case of catastrophe. Seed bank storage, built to hold about 35,000 pounds of seed, currently has nearly 40,000 pounds, with storage containers spilling into the aisles for forest industry clients that pay to store their seed.



Processing ponderosa pine seed. First the wings were removed, now empty seeds are sorted out.



These white fir seeds are soaking to simulate water take-up from rain. Before seeds can be planted they need to wake up from dormancy and may require special treatment to mimic effects in nature. Many conifer seeds need a cold treatment (simulates winter) or treatment with hot water (simulates a trip through an animal's digestive tract).

There is more need than ever for a robust Seed Bank conservation program. Emergency needs have increased due to more frequent high severity fires, and urbanization and climate change are threatening forest health. Preserving the genetic diversity of conifers today is critical.

Forestry Consortium looking for solutions

A new consortium of agencies, unofficially called the Forestry Consortium, is exploring ways for small landowners to contract with private nurseries to grow site-specific seedlings using seed provided by the State Seed Bank. The Consortium includes CAL FIRE, NRCS, US Forest Service, Placer County Resource Conservation District (RCD), and UC Cooperative Extension.

Cost share recipients working with CAL FIRE or NRCS can place an order for seedlings with approved private nurseries identified by the Consortium. Since it takes 12 to 18 months to grow a seedling, preliminary work to identify species, seed zone, elevation, quantities, and date needed should be done as soon as possible.

The Seed Bank has agreed to provide the appropriate seed to designated private nurseries for these contracts. (However, many seed zones do not have seed available; this must be determined before contracting.)

Landowners must contract directly with the private nursery to grow their seedlings. Usually a deposit is required at the time of the order, with the remainder due upon delivery. The contracted landowner is eligible for cost share reimbursement only after they have paid for the seedlings and planted according to the terms of their contract.

Although in most cases landowners can order seedlings directly through the private nursery, which will then provide order information to the Seed Bank, some nurseries require that the landowner coordinate directly with the Seed Bank. Nurseries vary in their ability to provide the option of bareroot or containerized seedlings, shipping options, and cold storage facilities.

Orders for most nurseries must be placed by early November. A universal seedling order form has been designed by the Forestry Consortium to meet the needs of their agencies for cost share requirements, as well as the Seed Bank's needs to determine if seed is available for the project.

To learn more about contracting with private nurseries, contact NRCS staff, your local CAL FIRE Forestry Assistance Specialist, the Forest Stewardship Helpline at 800-738-TREE, or Teri Griffis at the State Seed Bank, 530-753-2441.



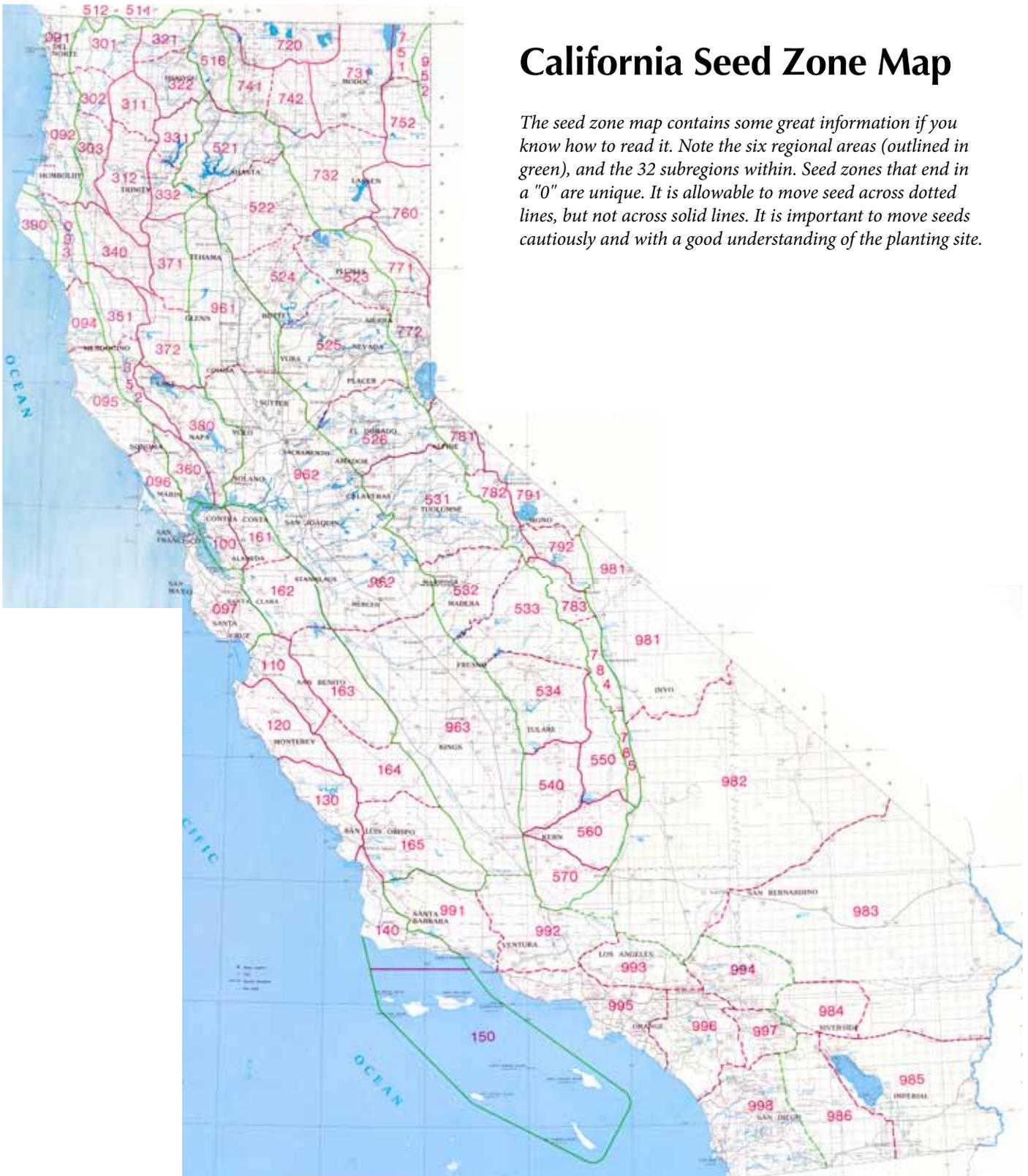
The State nurseries are no longer operating but the State Seed Bank, an invaluable repository of tree seed from all over California, continues its work. (above) Over 40,000 pounds of seed are stored at correct conditions of low temperature and low moisture content to ensure they stay in a dormant state. (right) Teri Griffis manages all the seed bank operations, including cone collection, seed maintenance, testing, quality control, and records.



Every 5 years seed is retested to make sure it has not deteriorated. Some conifer seed can remain viable for 50 or more years. These ponderosa pine seeds were put in spring-like conditions of light and heat and are starting to germinate.

California Seed Zone Map

The seed zone map contains some great information if you know how to read it. Note the six regional areas (outlined in green), and the 32 subregions within. Seed zones that end in a "0" are unique. It is allowable to move seed across dotted lines, but not across solid lines. It is important to move seeds cautiously and with a good understanding of the planting site.



Northern and Southern California Seed Zone Maps are available from FRAP, <http://frap.cdf.ca.gov/data/frapgismaps/select.asp>

More to seed zones than meets the eye

When you order seedlings for your land, you obviously want them to survive and grow up to be healthy trees. One of the most important considerations for successful regeneration is to choose planting material from the correct seed zone.

Seedlings should originate from an area with similar physical and climatic characteristics as your planting site so they are adapted to the site and able to survive conditions there. Seed zones are designed to facilitate getting the right genetic makeup for your seedlings and trees. When an exact match isn't available, there are also rules for moving across seed zones.

The Seed Zone Map is complex, but isn't hard to read, and a good understanding of it will help you make the right choices when ordering seed and seedlings. The three-digit designation (XYZ) used in numbering seed collection zones both identifies the collection zone and also determines the suitability of seed for a planting area.

Be sure to consult with your forester and the nursery to get the correct seed stock.

How to read the seed zone number

The map begins by dividing California into six major regions based on physical features (physiography) and climate. Each region is given a 3-digit number and delineated with a green solid line on the map. The six regions are:

090: North Coast Redwood

100: Central Coast

300: North Coast Interior

500: West Slope Cascades-Sierra

700: East Slope Cascades-Sierra

900: Catchall Areas

950: Great Basin, Northeastern California

960: Central Valley

980: Southern California Desert

990: Southern California Mountains

Within these six regions are subregions, 32 in all, with distinct physiographic and climatic conditions. The second digit of the seed zone number is the subregion number.

Finally, the last digit is one that arbitrarily breaks the subregion into 50-mile latitudinal areas. The exceptions are zones that end with a "0", which designates a unique zone. There are 85 seed zones in all.

Rules

The rules for using seed (or planting stock raised from seed) should be closely observed.

1. Whenever possible, use seed from the zone in which planting or seeding is to be done.
2. If seed from this zone is not available, use seed from an immediately adjacent zone within the same physiographic and climatic subregion (both zones having the same XY number and a Z number differing by only one or two numbers).
3. If seed from an immediately adjacent zone within the same subregion is not available, use the closest available seed from a zone within the same subregion (both zones having the same XY number).
4. Movement of seed from one seed zone to another should be done only with considerable caution to ensure meeting the silvical requirements of the introduced seed.
5. Elevational distribution must always be considered, whether within individual zones or between regions. The 1,000-foot criteria adopted as USDA forest seed policy must be followed closely. Therefore, each seed lot must be separated by zone and 500-foot elevational differences (bands).

Changing rules

The rules for moving seeds are quite strict. However, the prospect of climate change has led to some rethinking of those rules. Although future changes are uncertain, there is strong agreement that California will be warmer. Now, instead of moving seed either up or down an elevation band, seed can be moved up one elevation band but is never moved downslope.

The Forest Service is studying the issue of changing seed zone rules in response to anticipated climate changes. We should have better answers in the next decade or so.

—*much of this information is adapted from California Seed Zones by Buck et al. Download at <http://www.treesearch.fs.fed.us/pubs/41438>.*

There are 85 seed zones
in all. Zones that end
in "0" are unique.

Know your seed zones

Zone number = XYZ
Region = X
Subregion = Y
Zone = Z

Example #1:

Zone 390

3YZ represents the 300 series, or North Coast Interior physiographic and climatic region. 39Z represents one of the 10 subregions of this region. 390 is a unique zone (it ends with "0"). It is, in effect, a subregion since there are no other 39Z zones.

Example #2:

Zone 525

5YZ represents the 500 series, or West Slope Cascades-Sierra physiographic and climatic region. 52Z represents one of the seven subregions of this region. 525 is a zone, an arbitrary unit of the subregion. Other zones in the subregion are 521, 522, 523, 524, and 526.

Can you help?

Keep an eye on your conifer trees. If it seems like an exceptional year for cones is developing, contact the Seed Bank and let them know. If you have a sizeable property and are willing to allow collections, that would be much appreciated too. CAL FIRE reimburses landowners for the privilege of collecting cones from their properties through a rebate arrangement (typically 10% of yield) of clean, upgraded seed.

Call the L.A. Moran Reforestation Center at 530-753-2441 for information about cone and seed processing, seed availability for approved projects, and private nursery resources.

Call to landowners: find the cones

Collecting cones sounds easy, right? Just go out, pick them up, and put them in a bag. Unfortunately, like so many things in life, it's just not that simple.

The challenge

Some of the difficulty in collecting cones is due to conifer physiology; a good cone crop doesn't happen every year. Conifers produce viable seed only about once every 7–15 years. Because of this irregularity, it's not possible to predict when a good cone year will occur. And when it does, there's a very short window of only one to two weeks when they're at their peak maturity before they open up. If you miss collecting in that good year, it could be a very long wait until new seed is available in that location.

There are other challenges to seed collecting. The actual collecting is done by contractors. Funding must be in place ahead of time so the window of opportunity isn't lost. In addition, seed collection must be certified by a Registered Professional Forester (RPF). Since cone season is also fire season, CAL FIRE foresters may not be available to certify the collection.

CAL FIRE performs annual surveys to assess cone production. If a potential cone crop that is needed in the Seed Bank is identified, careful monitoring begins to confirm quality and progress to maturity.

This is where private landowners can help. Because of the many challenges to collecting adequate cones, CAL FIRE and their agency partners are considering developing a network of private landowners who can be additional eyes on the ground and contribute to the process of cone

collection. If you notice a particularly heavy cone crop developing—generally observable in mid to late summer—please notify the Seed Bank. If those are cones that are needed, staff will keep an eye on the crop for possible collection.

The art of cone collecting

Cone collection for the Seed Bank is necessarily a well-controlled process. Seed needs to be healthy, it needs to be collected at the right time, the collection location has to be certified, and processing must be done correctly.

Seed must come from many different individual trees to maintain a broad genetic base and preserves the variability that allows trees to adapt to different conditions. In a good crop year there is a lot of pollen in the air so seeds are guaranteed to be fertilized by many individuals rather than self-fertilized.

A good cone tree has special characteristics. It is dominant or codominant, at least 12" in diameter, and of cone-bearing age (which may be 40–50 years). To produce the best offspring, the tree needs to be good-looking with a straight stem, healthy, and vigorous.

Collectors can gather 25–50 bushels of cone at a location. The guidelines limit collection to 2 bushels per tree from multiple stands (stands are defined as 200 yards away in any direction). Since 50 bushels requires collection from 25 different trees, and 200–300 feet required between trees, a large collection area is necessary.

The State Seed Bank offers a workshop on cone collection in early summer (it may be available in webinar form in the near future). For more information, contact Teri Griffiths, 530-753-2441.



Cones delivered to the L.A. Moran Center.



Sitting in bags to dry before processing.

A very short primer on planting trees

Since it takes a couple of years to get seedlings for a regeneration project, you need to get started now. A little bit of forethought will go a long way toward making your planting efforts a success.

Planning

The first thing is to develop your plan. Planting should be part of your overall Forest Management Plan (*see page 12*). Your local Forestry Assistance Specialist or Registered Professional Forester can help you determine your needs—species, quantity, spacing, timing, etc.

Seeds or seedlings?

Trees are not easy to grow from seed. The success rate in California is low due to animals, disease, and weather and soil conditions. If you decide to plant seeds, it is imperative to prepare the site carefully and address all threats. (Note: seeds are not available from the State Seed Bank for direct seeding—they must be purchased and turned over to an approved nursery for approved projects only.)

In California, most people choose to plant seedlings. Seedlings have a head start over seeds but they, too, have a lot of threats to overcome. Seedlings can be eaten or trampled by animals, heaved from the soil by frost, burned, drowned, shaded, and starved. To survive, seedlings need all the help you can give them.

Bareroot or container?

There are two types of seedling stock: bareroot and containerized. Bareroot seedlings are grown in a nursery bed, then carefully removed. The roots are exposed so they must be planted while dormant to avoid damage. Containerized seedlings have been grown in containers and are usually more expensive, but can be grown in a shorter length of time and planted during the growing season. They may be more successful than bareroot in rocky soils.

Site preparation

Good site preparation is essential for seedling success. Studies have shown that, in California, neglecting site preparation can lead to seedling losses from 40 to 100 percent. Depending on the site you may choose mechanical means, controlled fire, physical removal, or herbicides. Consider every potential threat to your new seedlings and try to minimize it. Posting the area, fencing out livestock, and removing brush piles that harbor

rabbits and rodents can all help seedlings survive. The greatest challenge, however, is making sure your seedlings get their full share of soil moisture and nutrients. This is especially critical in California with its Mediterranean climate characterized by long rain-free summers where soil moisture is severely limited.

Spacing

The number of seedlings you need will depend on your planting objectives. Consult with an RPF or other expert to determine the spacing of your planting and how many seedlings to purchase.

Timing

The best time to plant varies with planting stock, soil conditions, climate, and your location in the state. Plant when soil is moist to a depth of at least 12" (from 2" to 4" of rain in most areas). Avoid planting during extended warm and dry periods or when frost or extreme winds are likely. Many landowners report best survival when seedlings are planted during a light rain or drizzle.

Seedling Care

Carefully evaluate your nursery stock when you receive it. Buds must be firm with no evidence of new growth. White root tips should be less than 1/4 inch. There should be no mold or sour odor. Strip back the bark on a couple of trees—the inner bark should be moist and glistening white. If it is yellow, brown, or has brown spots, the stock is badly damaged and probably won't survive.

Care for your seedlings. Keep them moist and cool, and plant as soon as possible. If you have to store seedlings for more than three days, plant them temporarily in a cool, shaded trench.

Planting

There are a variety of tools you can use for planting, including planting machines, planting bars, hoe-dads, and mattocks. Use the best tools for the specific site conditions.

Roots should be kept moist. Plant seedlings erect at the depth they were planted at the nursery. Roots should point downward in the planting hole; kinked or J-shaped roots will eventually strangle themselves. Eliminate air pockets by firming the soil around the roots.

—for more details on planting get the UC Extension Forest Stewardship Series: *Forest Regeneration at* <http://anrcatalog.ucdavis.edu/Forestry/8237.aspx>

For Best Success

Planting represents a large investment that is carried over the life of a stand. It is in your best interest to:

- Plan your project carefully.
- Prepare your planting site well.
- Take proper care of your planting stock.
- Closely supervise the planting crew.
- Follow up through regular regeneration surveys to check seedling survival and plan for any replacement trees.

The success of your planting effort depends on each of these steps.

A field day at Soquel Demonstration State Forest

For more information on Soquel or the other Demonstration State Forests, visit the State Forest website at http://www.fire.ca.gov/resource_mgt/resource_mgt_stateforests.php.

By Jill Butler, Forestry Assistance Specialist,
and Angela Bernheisel

Have you ever wondered what selective logging looks like, or how fast trees grow back after cutting? One great place to find out could be your local State Forest.

The Soquel Demonstration State Forest, located east of Soquel in the Santa Cruz mountains, held public field trips on three days in September. Over 70 visitors had a chance to

view active operations on the Fern Gulch timber harvest plan and a stream enhancement project.

Activities demonstrated at the first stop ranged from felling a tree to the various means of transporting logs out of the woods. Demonstration of horse yarding was provided by a pair of draft horses from Santa Cruz Carriage Company. Visitors also observed yarding by tractor, rubber-tired skidder, and cable yarder.

This timber harvest removed approximately 3000 trees over an area of about 200 acres. The yield was about 2.2 million board feet, and provided the State Forest with gross receipts of about \$760,000. Proceeds from sale of the logs remain with Soquel; it is hoped that eventually they will cover the costs of staffing and maintaining this forest. Revenues are deposited in a special fund and used to pay for staff, operating costs, research and demonstration projects, maintenance, and improvements.

The second field trip stop provided an overview of the Forest Practice Act and Rules, the regulations governing logging in California, and the chance to see a portion of the plan that was logged previously. This afforded the group an opportunity to see how the completed Single Tree



Ed Orre, Assistant Forest Manager, speaks to the public about selective timber harvesting.

What is the State Forest System?

The Demonstration State Forests are public lands administered by CAL FIRE. There are currently eight State Forests comprising 71,000 acres, and CAL FIRE is in the process of acquiring additional lands.

Five State Forests are managed and staffed: Jackson is located near Fort Bragg in Mendocino County; Mountain Home is near Springville in Tulare County; Boggs Mountain is outside Cobb in Lake County; LaTour is near Lassen National Park in Shasta County; and Soquel in Santa Cruz County.

The distribution of the forests reflects the

State's major tree types: pines, Douglas-firs, true firs, and both coast and Sierra redwoods. The forests are managed to protect and conserve the forest environment.

How do State Forests differ from parks?

State Forests offer similar recreational experiences, including camping, hiking, biking, horseback riding, and nature appreciation. Unlike parks, State Forests also conduct research and demonstrate sustainable timber management and forest resources conservation, including water and soil, fish and wildlife habitat, aesthetics, and cultural sites.

Photos: Angela Bernheisel



Selection cut looked, and to marvel at how fast coast redwoods can sprout back. It is usually not necessary to replant redwoods after a selective cut, as they stump sprout prolifically. The biggest ones present at this site were over two feet tall after four month's growth!

The final stop featured a look at large logs with root wads attached that have been strategically placed in Soquel Creek to improve habitat for fish and replenish wood removed by past stream clearance projects and the 1982 flood. The goal is to install large wood in four locations along



a .7 mile stretch of the East Branch of Soquel Creek and monitor them to document wood movement and changes to aquatic habitat and fish communities. These big logs benefit fish by providing cover, contributing to the development of pools, and providing an anchor point for the collection of gravel where the fish lay their eggs.

The stream habitat improvement is a cooperative project between CAL FIRE, the California Department of Fish and Wildlife, National Oceanic and Atmospheric Administration Southwest Fisheries Science Center, National Marine Fisheries Service, California Geologic Survey, and the Resource Conservation District of Santa Cruz County.

(top) Andy Egger demonstrates horse log skidding.

(above) Lee Locatelli demonstrates cable yarding with his specialized yarder.

(left) Coastal redwood stumps are already sprouting vigorously after only 4 months post-harvest.

Resources **Grow your forest: regeneration**

Get help with planting

There are many places landowners can go with questions. NRCS, CAL FIRE FASs, RPFs, RCDs, and nonprofits like the Society of American Foresters (SAF) all want to help. The NRCS Plant Materials Center and CAL FIRE Seed Bank staff can offer guidance on seed zones, species, quality, and planting techniques.

If this all seems like alphabet soup, call the Stewardship Helpline, 800-738-TREE, and talk with a real person.

Think you'd like to try your hand at growing your own seedlings? It requires a fair amount of knowledge and expertise.

Learn the trade and keep up with current research at the Reforestation, Nurseries, & Genetics Resources website at <http://www.rngr.net/>. There you'll find a number of comprehensive manuals on seed and nursery practices, as well as a database of over 7000 technical articles. You can also download and subscribe to Tree Planters' Notes, Forest Nursery Notes, and other publications.

CAL FIRE's State Nurseries page provides a number of links at the bottom right with planting tips and other valuable information, including how to contact your local Forestry Assistance Specialist (FAS). Go to http://calfire.ca.gov/resource_mgt/resource_mgt_statenurseries.php.

UC Coop Extension's Forest Stewardship Series: Forest Regeneration is available as a free download at <http://anrcatalog.ucdavis.edu/Forestry/8237.aspx>. This publication gives

a complete overview of forest regeneration, including how to prepare and plant a site, choose the right planting stock, and more to help you enhance survival and growth of your seedlings.

Trees are around for a long time, so when you prepare to plant new trees, be sure to consider how climate change might affect your future forest. The Forest Service has a Climate Change Resources Center that provides some background and discussion of management options, including silvicultural planning for tree density and species composition. Go to <http://www.fs.fed.us/ccrc/topics/silviculture/silviculture.shtml>.

Oaks can easily be planted from acorns but it's important to do it right. The new Regenerating Rangeland Oaks in California covers everything from acorn collection and storage to planting and protection. http://ucanr.edu/sites/oak_range/files/59453.pdf.

The UC Extension Oak Woodland Management site has publications, webinars, and trainings. Go to http://ucanr.org/sites/oak_range/.

Technical Assistance

Many agencies are available to provide technical assistance, referrals, information, education, land management plan assistance, and advice.

California Stewardship Helpline

1-800-738-TREE; ncsaf@mcn.org

California Dept of Forestry & Fire Protection

Forest Landowner Assistance Programs
Jeffrey Calvert; jeff.calvert@fire.ca.gov

Forestry Assistance Specialists

Guy Anderson (Mariposa/Madera/Merced)
209-966-3622 x218

Jan Bray (Calaveras) 209-754-3831

Herb Bunt (Glenn, Shasta, Tehama, Trinity, Redding) 530-224-1420

Jill Butler (Santa Rosa) 707-576-2935

Ed Crans (Placer/Yuba/Nevada)
530-889-0111 x128

Damon Denman (Siskiyou) 530-842-3516

Adam Frese (Tuolumne) 209-532-7429 x109

Ivan Houser (Lassen) 530-257-4171

Mary Huggins (S. Lake Tahoe) 530-541-1989

Ken Kendrick (Butte) 530-872-6334

Al Klem (Plumas) 530-283-1792

Patrick McDaniel (El Dorado) 530-647-5288

Jonathan Pangburn (San Benito/Monterey)
831-333-2600

Alan Peters (San Luis Obispo) 805-543-4244

Jim Robbins (Fortuna) 707-726-1258

Tom Sandelin (Fresno/King) 559-243-4136

Tom Tinsley and/or Patrick McDaniel (Amador)
530-647-5200

California Association of RCDs

916 457-7904; staff@carcd.org

Natural Resources Conservation Service (NRCS)

Stephen Smith, State Forester
(530)792-5655

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USDA Forest Service

707-562-8875

Calendar

January 15–17, 2013

Annual Forest Vegetation Management Conf.
Location: Redding, CA
Cost: \$175.00
Website: <http://www.fvmc.org/conference.html>

January 22, 2013

Webinar Series: Integrating ecological and social landscapes to evaluate resilience in fire-prone ecosystems
Speaker: Tom Spies—Research Forester
Sponsor: US Forest Service
Website: <http://www.fs.fed.us/research/docs/landscape-science/webinar-series.pdf>

January 26, 2013

NorCal Society of American Foresters Winter Meeting: Market-based Opportunities to Sustain Working Forests in a Changing World
Location: Sacramento, CA
Website: <http://norcalsaf.org/>

January 28, 2013

Brown Bag with Forestry Webinar: The ecological effects of fuel treatments and current state of fuel treatments on USFS lands in the Sierra Nevada
Speaker: Prof. Scott Stephens—UC Berkeley
Sponsor: UC Center for Forestry
Website: <http://ucanr.edu/sites/forestry/Events/>
Notes: No cost but registration required; 12:10 pm

February 5–6, 2013

Board of Forestry Meeting
Location: Resources Building, Sacramento
Contact: 916-653-8007
Website: <http://www.bof.fire.ca.gov>

February 19, 2013

Webinar Series: Assessing species risk and adaptability to climate change via species distribution models, life history traits, and dispersal models
Speaker: Louis Iverson—Landscape Ecologist
Sponsor: US Forest Service
Contact: Amy Daniels, 703-605-5251, adaniels02@fs.fed.us
Website: <http://www.fs.fed.us/research/docs/landscape-science/webinar-series.pdf>

February 20–22, 2013

Southern Sierra Nevada Change Adaptation Workshop: Managing resources in the face of rapid change and an uncertain future
Location: Visalia, CA
Contact: Koren Nydick, Sequoia and Kings Canyon NP, 559-565-4292, koren_Nydick@nps.gov
Website: <http://www.cafiresci.org/s-sierra-adaptation-workshop>
Note: Register by Jan 11

February 25, 2013

Brown Bag with Forestry Webinar Series: Advances in multiaged silviculture
Speaker: Prof. Kevin O'Hara—UC Berkeley
Sponsor: UC Center for Forestry
Website: <http://ucanr.edu/sites/forestry/Events/>
Notes: No cost but registration required; 12:10 pm

March 5–6, 2013

Board of Forestry Meeting
Location: Resources Building, Sacramento
Contact: 916-653-8007
Website: <http://www.bof.fire.ca.gov>

March 19, 2013

Webinar Series: Watershed-scale experimental design & pre-treatment nitrogen flux
Speaker: Carolyn Hunsaker—Research Ecologist
Sponsor: US Forest Service
Website: <http://www.fs.fed.us/research/docs/landscape-science/webinar-series.pdf>

March 25, 2013

Brown Bag with Forestry Webinar: Finding the trees in the forest
Speaker: Prof. Maggi Kelly—UC Berkeley
Website: <http://ucanr.edu/sites/forestry/Events/>
Notes: No cost but registration required; 12:10 pm

Ties to the Land

Learn how to pass your land and its legacy to the next generation. The second part of these 2-part workshops:

Mt. Shasta - TBA
 McArthur - TBA
 Auburn - TBA
 Eureka - Jan 24
 Jackson - Jan 29
 Sacramento - Jan 31
 Santa Cruz - TBA
 San Luis Obispo - TBA

Cost: \$25/family
Contact: Tong Wu, tongwu@berkeley.edu, or 510-643-5429
Website: <http://ucanr.org/tiestotheland>
Notes: Registration required.

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 For address changes, please send this box or contact Jeff Calvert via email, standard mail, or fax...be sure to reference Forestland Steward newsletter.

NOTE: For address updates or to make comments or suggestions about this newsletter, please contact jeff.calvert@fire.ca.gov. A limited number of extra printed copies may be available. Please send your shipping information and the number of copies you would like to jeff.calvert@fire.ca.gov or mail your request directly.

Prepare your Forest Management Plan this winter, then order seeds in the fall

There is a long lead time for doing forest regeneration projects. You have to contract with a nursery to grow the seedlings (*see page 3*), which can take a year or two. But in order to do that you need to know exactly which species, their seed zone, elevation, quantities, and date needed. You need a plan.

This winter, while you're enjoying the warm indoors, take some time to work on your Forest Management Plan. Money is still available to help pay for the plan, which makes it even more timely. Dubbed the "One Plan" plan, this format has been approved for cost share grants from several agencies, including NRCS, CAL FIRE, and others.

A management plan will be your guide as you take steps to achieve your forest goals. The simple process of putting your goals and objectives on paper will stimulate thought, discussion, and a better understanding of your land and its potential. The final document can be used to apply for cost

Step 1. Identify where, when, what kind, and how many seedlings to be planted.

With Natural Resources Conservation Service staff, identify species, seed zone, elevation, quantities, and date needed. It takes 12 to 18 months to grow a desirable seedling. Most nurseries need to have an order in by early November.

Step 2. Fill out generic nursery order form.

Most nurseries will accept the generic form or have one with equivalent information. Select type of seedling (bare root/container) and alternative species. Determine shipping, storage, and post-shipment handling.

Step 3. Contact and make a contract with nursery.

Find the nursery that will produce the desired product including cost, proper seed, storage, handling, and transport. If seed is not part of the nursery services, contact the CAL FIRE Seed Bank, 530-753-2441, to arrange seed shipping to the selected nursery and payment. Deposits will be required and there is financial risk if the project is not currently approved under a conservation contract and may not be approved in the future. If the number of trees needed is below the minimum number a nursery will grow, check with your local NRCS/RCD office for potential alternatives.

share assistance and bank loans. It can also serve as a historical document for future generations and property owners.

...and if you already have a plan, look it over

A management plan is a living document—it needs to be reviewed and updated through the years as your forest and life situations change. Once you have your initial plan in place, the hard work is done, the basic information about your forest has been collected. After that it's simply a matter of looking it over each year to determine if you're still on track or need to change your management approach or goals, or add sections to the plan.

Learn more about how to create a management plan and the cost-share opportunities currently available to landowners in the Winter 2012 issue of *Forestland Steward*, <http://ceres.ca.gov/foreststeward/pdf/foreststeward/pdf/news-winter2012.pdf>.