

State of California**Natural Resources Agency****M e m o r a n d u m**

To: External CAL FIRE Cooperators
External Foresters, Reforestation
Entities, Research Professionals, and
reforestation minded individuals

Date: 6/7/2024**Telephone:** (530) 753-2441**Website:** www.fire.ca.gov

DocuSigned by:
Denia Troxell
1539A979A3EA413...

From: Denia Troxell, Seed Bank Manager
California Department of Forestry and Fire Protection (CAL FIRE)

Subject: 2024 Cone Crop Survey, changes, and new initiatives.

DUE DATE JULY 31, 2024

The CAL FIRE Lewis A. Moran Reforestation Center (LAMRC), situated in Davis, serves as the sole remaining state-run conifer Seed Bank and operates within the larger Reforestation Services Program (RSP). The Seed Bank staff shoulder the responsibility for the entire state and heavily depend on the expertise of Units, Regions, Program Foresters, and their respective teams to assist in completing the yearly Cone Crop Survey, monitoring activities, and cone collection. The Seed Bank requests your valuable assistance. The RSP has introduced numerous new resources to bolster support. Please reach out to the Reforestation Center promptly should you have any questions at reforestation@fire.ca.gov

Yearly Cone Crop Surveys conducted in your area play a crucial role in identifying viable seeds for reforestation projects, particularly in post-fire restoration efforts. This indispensable information ultimately translates into seeds that can benefit *you* as a landowner.

Program updates

- 2024 [Assessment of Needs \(AON\) for seeds](#) has been updated from previous years. This public facing tool allows anyone to view what the specific bushel needs are for the CAL FIRE seed bank based on seed zones, elevation, species, area, THP's, NTO's, and NTMP's. Since it is a CAL FIRE tool, it focuses on SRA timberlands. A list of cone collection needs based on spatial analysis will be sent to each Unit individually for species, seed zone, elevation combinations, and priorities as a reference.
- The "2024 Cone Observation Survey" via Survey 123 has been updated based on user feedback. This survey is a joint collaboration between American Forests—Cone Corps (AF), the United States Department of Agriculture: Forest Service, Region 5 (USFS), CAL FIRE, the United States Department of the Interior: Bureau of Land Management (BLM), private industry, and other entities to share cone survey datasets. The Reforestation Services Program (RSP) advises that this survey be the primary method for reporting, as it allows

for better analytics and record-keeping.

It is increasingly clear that no single organization can address the depleting seed stock alone. Your participation is crucial. **Please download the updated survey and contribute to this collective effort.**

Getting the survey:

1. Downloading the Survey123 phone application directly onto your phone by going to your App Store>downloading Survey123.
2. Scan the QR code on your phone or use the [direct link](#).

**2024 CA Cone
Observation Survey
Access Information**

Scan to access cone observations reporting form when conducting conifer cone surveys in California.



Accessing your survey data:

For privacy purpose there is an additional step that needs to occur if you are interested in viewing the backend data from your survey points you submitted.

1. You must request to be added to the “State (CAL FIRE State Demo Forests, RSP Staff)” group via this [link](#).
 2. You must login to your ArcGIS account and approve the group request.
- [Seed Zone Lookup Tool](#)—This interactive viewer allows users to search for their planting site location and click on the map to identify their seed zone and 500’ elevation band. This tool is intended to assist those when placing seed or seedling requests, or anyone else who is interested in exploring California Tree Seed Zones. Maps in PDF Form are also available.
 - As the RSP program expands and evolves we are seeking to maintain open communication and connect with Unit staff to find areas to better support the submission, quantity, and quality of surveys. Please take a moment to fill out the survey <https://forms.office.com/g/CLiY87mjHi> We appreciate your time and expertise.
 - A [Landowner Access Agreement](#) specifically for surveys, monitoring, and collections has been updated. This will replace the Calfire719 should any landowner access be granted.
 - [Reforestation because of YOU!](#) (RBY) Is on its second year. This initiative is a program launched by the Seed Bank as a proactive approach to obtaining landowner access earlier in the season in order to assess lands for surveys, monitoring, and collections. The intent is not only to streamline landowner

access but also to set the groundwork for developing a shareable internal dataset for CAL FIRE Units for yearly survey access.

- AF Cone Corps to assist with survey, monitoring, and collections of Demonstration State Forests.

New Resources

- Cone Camps, led by the Reforestation Pipeline and partially funded by CAL FIRE, offer free training designed to equip attendees with the necessary information and skills to effectively survey, monitor, and collect conifer seed-bearing cones. CAL FIRE personnel, both new and existing, who have not received previous training, are encouraged to attend.

There are two levels of training available:

- "Cone Camp" is an introductory training for those with minimal experience in cone surveys, monitoring, or collections.
- "Cone Camp Level 2" provides a more field-based and hands-on approach for those with some level of experience in surveys, monitoring, or collections.

If you are interested, please sign up using the QR code.

Date	Event	Location
June 12-13	Cone Camp - South	San Bernardino
New date! June 25-27	Cone Camp - S. Sierra	Southern Sierra
July 10-11	Cone Camp - Central	Placerville
July 9-12	Cone Camp Level 2 - Central	Quincy/Plumas
July 17-19	Cone Camp Level 2 - North	Shasta Trinity
New date! Aug 6-7	Cone Camp - North	Gazelle



- [The California Cone Hunter’s Pocket Guide](#)—the first edition of the pocket guide has been released. This guide is a useful tool to assist with the requirements of all aspects of cone surveying, monitoring, can collection. Please read and distribute to staff as able. Especially if anyone cannot attend the Cone Camps.

Continuing partnerships

- MOU with USFS. In 2020, CAL FIRE entered a Non-Funded Challenge Cost Share Agreement with USDA, Forest Service Region 5, El Dorado NF, and Placerville Nursery to allow for CAL FIRE to do survey, monitoring, and collections on land owned by the stated entities for a portion of the cleaned, processed seed. Details on the content of the MOU will be included in the individual emails sent to each Unit.

Role of CAL FIRE Forester - Cone Crop Surveys

Foresters or their staff should conduct surveys using the 2024 Cone Observation Survey (Survey123) and follow guidelines found in the “General Cone Collection Standards.”

Thank you in advance for your valuable assistance and support! Please contact the LAMRC Seed Bank Manager, Denia Troxell, denia.troxell@fire.ca.gov, if you have any questions about the information contained in this packet.

Full linked resources

- 2024 Assessment of Needs:
<https://experience.arcgis.com/experience/e338af3ee15845f5b6cc5a8e949fb390/page/Page/?org=CALFIRE-Forestry>
- 2024 Cone Observation Survey (Survey123): <http://arcg.is/1qSKra0>
- Seed Zone Look Up tool
<https://experience.arcgis.com/experience/ee7c8259e92a40d7b617da59ed60801f?org=CALFIRE-Forestry>
- The California Cone Hunter’s Pocket Guide
https://d3f9k0n15ckvhe.cloudfront.net/wp-content/uploads/2024/04/4.29.24_final_CACH_Pocket-Guide_wCover.pdf
- The Reforestation Pipeline Partnership:
<https://www.americanforests.org/coalition/reforestation-pipeline-partnership/>
- Training videos: <https://ucanr.edu/sites/forestry/Reforestation/Webinar/>
 - Procuring Plant Materials
 - CALFIRE Cons Surveys and Collection Certifications

Enclosures: General Cone Collections Standards
Reforestation because of YOU flyer
Landowner Access Agreement

General Cone Collections Standards

Description of Work:

Collect seed cones from general conifer populations. All collections must be approved PRIOR to collection by the CAL FIRE Seed Bank staff. Cone sacks, tags, and ties are provided by LAMRC.

All collected cones will be bagged, tagged, tied, and transported to LAMRC in Davis within 24 hours of collection. If cones cannot be delivered within 24 hours, they must be stored in interim in a cool and ventilated environment and kept separate from each other until they can be transported to LAMRC. During transport, cones must be protected and well ventilated.

Project Location:

Statewide by seed zone and elevation band.

Cone Collection Standards:

Prior to any collections, CAL FIRE Seed Bank staff or a previously designated registered professional forester will assess the viability of a collection through cone cut tests and site assessment.

Crop Rating and Stand Assessment:

1. Each seed lot should have approximately 10 trees represented. The aggregation of these ten trees, within a 500' elevation band, will be referred to as a "stand."
2. Crop ratings are to be given at the stand level. For example, if out of 10 trees, 2 have a heavy crop but the rest are light, the average rating for that stand will be light.
3. The top 2/3rds of a tree are to be assessed for crop rating.
4. Collectable trees shall be dominant or co-dominant, disease-free, of cone-bearing age, at least 12" DBH, with good stem and crown form, no split tops, fast growth rate, and other favorable phenotypic characteristics.
5. Seed trees shall be widely spaced and well distributed, generally not closer than 200' apart within the stand.
6. Stands are separated by at least 200 yards.

Viability:

1. Cones and seeds must be relatively free of insects. Cones of Pinus shall have at least 75% sound, filled seeds per cut surface; for all other species, the minimum is 50% per cut surface.
2. Embryo length shall be at least 90% of the embryonic cavity for all species.

3. Megagametophyte shall be opaque, not translucent, and with a firm, nut-like texture.
4. Seed wings shall be separate from the scale and slightly brittle (like parchment paper).

Collections:

1. Sugar pine and red fir cones shall be bagged in the tree to avoid impact damage to the cones and seeds from free falling to the ground.
2. The peduncle shall be removed from Sugar pine cones before bagging. This can be done with hand-held clippers.
3. Trees should be flagged or identified before collections occur.
4. Cone sacks shall be properly identified with one tag inside and one tag fastened to the outside with the species, lot number, seed zone & elevation, decimal degree coordinates (DD), location (T R Sec), and date of collection. Tags shall be marked with waterproof ink or Sharpie and shall be legible.
5. Only one bushel of cones per sack is allowed, and sacks should be secured at the top to allow for cone expansion. The fill line is clearly marked on CAL FIRE sacks.
6. Only current-year cones are acceptable – cones must contain viable seeds.
7. General collection trees may be climbed with ladders, spurs, or other methods that are not damaging to the tree. Special collections and Sugar pine shall be climbed without spurs.
8. Collections shall contain at least 95% seed-bearing cones by volume. Unacceptable material includes branches, large twigs, tufts of needles, rocks, cones of the wrong species, spent cones, or other foreign matter.

Estimated Start Date:

Varies by species, area, and elevation of the site.

Permission & Insurance:

Collections on Federal, State, and private property may require advance notice, with some requiring a Landowner Access Form.