

Memorandum

To: Interested Parties

Date: May 25, 2021

Telephone: (530) 753-2915

Stewart McMorrow

Website: www.fire.ca.gov

From: Stewart McMorrow, Deputy Chief Forestry Assistance
Lewis A. Moran Reforestation Center
Resource Management
California Department of Forestry and Fire Protection (CAL FIRE)

Subject: 2021 Cone Crop Survey and Cone Collection Certification

DUE DATE JULY 31, 2021

This year, we are requesting assistance from Registered Professional Foresters (RPF), Natural Resource Professionals, and other interested parties to assist CAL FIRE in our cone survey efforts. This request supports the CAL FIRE Seed Bank at the L.A. Moran Reforestation Center ("LAMRC"), whose mission is to maintain an adequate, reliable and continuous supply of high quality site adapted seed necessary to protect and enhance the genetic integrity and diversity of California forestlands (ref. Public Resources Code §4681(a)).

RPF's and other interested persons who would like to assist CAL FIRE in this endeavor should make every effort to fill out and return the Cone Crop Survey form (attached) by the date indicated above.

For those of you who have not been involved with cone surveys before, there is a webinar available for viewing on line. The Cone Surveys and Collection Certification webinar can be found at:

<http://ucanr.edu/sites/forestry/webinars/reforestation>(Part 1- Jan 15 and Part 2- Jan 22).

The goal of the Cone Survey and Cone Collection Certification webinar is to provide a tutorial on the process for conducting a cone survey and to reach a wider audience of foresters and other natural resource professionals and to establish a list of qualified professionals who could assist with surveys and certification as needed.

As we have in the past, CAL FIRE is working with the United States Forest Service (“USFS”) on a cooperative cone survey and collection this year. We will be actively collecting cones from USFS lands if crop production allows, so please do not hesitate to include cone crop information from USFS lands if you know of developing crops. We are also trying to focus our efforts on collecting cones from trees in the heavily affected bark beetle outbreak areas in the Southern and Central Sierra and recent wildfire burn scars. Attached is a brief description of survey guidelines and general collection information.

Role of the Forester - Cone Crop Surveys

If possible, Foresters and other persons conducting a cone survey should complete a survey route that travels through several elevation bands and encompasses a variety of habitat types for a given seed zone. Using the standard survey form (copy attached), the person conducting the survey should also provide enough general comments to give an overview of the cone crops in their chosen area.

Please **report all major tree species present** at survey locations and the rating for each. Also, be sure to **include the legal description (Township, Range and Section)** for each survey location. Use of GPS way points is encouraged but the official record must also maintain location using the public land survey system.

Access onto Private Property

Please be aware that access onto private property will require permission from the landowner. **CAL FIRE DOES NOT CONDONE NOR DOES THIS REQUEST GRANT PERMISSION TO ACCESS PRIVATE PROPERTY WITHOUT LANDOWNER PERMISSION OBTAINED FIRST.**

Cone crops may be observed from areas that are open to the public and do not require prior permission from the landowner, e.g. public roads, Federal, State, and local public parks, USFS lands that are not otherwise restricted.

Also be aware if CAL FIRE pursues a cone crop on private property, 10 to 20 percent of the clean seed will be given to the landowner as “payment” for allowing CAL FIRE and/or its contractors to collect the cones. Seed will be held at the LAMRC seed bank for the landowner’s use when needed.

COVID-19

COVID-19 has impacted virtually all aspects of our lives, including how, where and when we can leave our homes. As with access onto private property, **CAL FIRE does not condone nor does this request grant persons conducting cone surveys to do so in violation of any local mandated health orders.** For more information on how to prevent the spread of Covid-19 and other actions you can take to insure the safety of yourself, your family, and others information can be found at the following link:

<https://covid19.ca.gov/>

Thank you in advance for your valuable assistance and support. Please contact Jessica Huang if you have any questions about the information contained in this packet.

CA Department of Forestry & Fire Protection
L.A. Moran Reforestation Center
5800 Chiles Road
Davis, CA 95618
530-753-2441 (office)
530-565-6506 (cell)

Enclosures

General Cone Collections
Description/Scope of Work
Cone Collection Standards

Description of Work: Collect seed cones from general conifer populations as identified on the CA Department of Forestry & Fire Protection (CAL FIRE) Cone Needs list (current year).

All collections must be approved PRIOR to collection by the CAL FIRE Seed Bank Manager. Cone sacks, tags and ties are provided by CAL FIRE.

All collected cones will be bagged, tagged and tied and transported to LAMRC in Davis within 24 hours of collecting. If cones will not be delivered within 24 hours, they must be interim stored in a cool and ventilated environment and stand free 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 – Actual collection assignments are based on species availability, bid price and collector preference.

Cone Collection Standards:

- 1) The source of each collection **must** be certified. Collector shall arrange for a site visit during collection by a registered professional forester (CAL FIRE or other RPF) for cone lot certification. A list of CAL FIRE Forestry Assistance Specialists and contact information is provided.
- 2) Collectable trees shall be dominant or co-dominant, disease-free, of cone-bearing age, at least 12" DBH, with good stem and crown form, fast growth rate, and other favorable phenotypic characteristics.
- 3) Seed trees shall be widely spaced and well distributed, generally not closer than 200' apart.
- 4) Stands are separated by at least 200 yards.
- 5) No more than 2 Bushels may be collected per tree. Each seed lot should have a minimum of 20 trees represented. This minimum may be waived for small size collections (30 Bushels or less).
- 6) Sugar pine and red fir cones shall be bagged in the tree so as not to incur impact damage to the cones and seeds from free falling to the ground.
- 7) The peduncle shall be removed from Sugar pine cones before bagging. This can be done with hand-held clippers.
- 8) All collections shall be made from the upper 50-60% of the crown to avoid self-pollinated cones.
- 9) Flagging shall be left in an upper branch of all trees collected from to serve as a check on genetic base.

- 10) Cones and seed 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.
- 11) Embryo length shall be at least 90% of the embryonic cavity for all species.
- 12) Megagametophyte shall be opaque, not translucent, and with a firm, nut-like texture.
- 13) Seed wings shall be separate from the scale and slightly brittle (like parchment paper).
- 14) 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, location (T R Sec) and date of collection. Tags shall be marked with waterproof ink or sharpie and shall be legible.
- 15) Only one bushel of cones per sack allowed and secured at the top to allow for cone expansion. Fill line is clearly marked on all CAL FIRE sacks.
- 16) Only current year cones are acceptable – cones must contain viable seed.
- 17) 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.
- 18) Collections shall contain at least 95% seed bearing cones by volume. Unacceptable material includes branches, large twigs and tufts of needles, rocks, cones of the wrong species, spent cones or other foreign matter.

Estimated Start Date: Varies by species, area of the state and elevation of the site.

Permission & Insurance: Collections on Federal, State and private property require advance notice and completed and approved Release of Liability and Indemnity forms. Vehicle identification, proof of auto insurance and certificate of Liability Insurance is required.

Delivery & Payment: A sample of cones will be assessed upon delivery.

Please note: **The minimum standards for cone and seed maturity and quality must be met for processing payment.**

If collection is approved for payment, collector shall submit an invoice that includes at least the following: collector name, address and phone, CAL FIRE name and address, invoice number and date, items (species, zone & elevation, lot #) and quantity of bushels, price per bushel and total cost.

Payment is generally made 45-60 days after receipt of invoice but may take longer (up to 75 days) during Fire Season.



CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
L.A. MORAN REFORESTATION CENTER
CONE CROP SURVEY FORM

Date: _____ Rating By: _____

Seed Zone: _____ Elevation: _____

T: _____ R: _____ Sec: _____ Lat: _____ Long: _____

Stand Observed From: within stand _____ road _____

Motor Log:

Comments on Stand Condition: (form, density, access, safety for collection)

RATING
(Check number that applies)

Species	PP	JP	SP	DF	CRW	WF	RF	IC	Other
1. None									
2. Very Light									
3. Light									
4. Medium									
5. Heavy									

The cone crop rating is based on ocular estimates of cone quantities on dominant and co-dominant trees, 12 inches d.b.h. or greater. Five classes are used as follows:

Rating	Criteria
1. None	No cones on any seed trees.
2. Very Light	Few cones on less than ¼ of the seed trees.
3. Light	Few cones on more than ¼ of the seed trees.
4. Medium	Many cones on ¼ to ½ of the seed trees.
5. Heavy	Many cones on more than ½ of the seed trees.

CALIFORNIA TREE SEED ZONES

The Numbers

The first digit in the seed zone designates the physiographic and climatic region.

The second digit in the seed zone designates the physiographic and climatic subregion. The 900 series is an exception - in that series the second digit designates the physiographic and climatic region.

The third digit in the seed zone designates the zone.

360

The Rules

Select seed within the zone where planting or seeding is to be done. Use caution in introducing seed from outside the zone. If local seed is not available, select an alternative in this order:

1. Adjacent zone within the same physiographic and climatic subregion
2. Any zone within the same physiographic and climatic region
3. Zone within the same physiographic and climatic region or adjacent zone in another region.

Use only seed within 500 feet elevation of planting or seeding location.

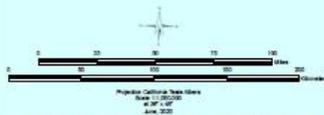
For further information on reforestation please contact CAL FIRE's Lewis A. Moran Reforestation Center or your local CAL FIRE Forester.

<https://www.fire.ca.gov/programs/resource-management/resource-protection-improvement/landowner-assistance/reforestation/>



California Seed Zones

Counties



The State of California and the Department of Forestry and Fire Protection make no representation or warranty regarding the accuracy or quality of the data or the State not the Department shall be held liable under any circumstances for any direct, indirect, incidental, or consequential damages which result from the use of the data or the State or the Department. The use of data or maps. Obtain FRAP maps, data, metadata and publications on the Internet at <http://www.fire.ca.gov/reforestation>. For more information, contact CAL FIRE, PO Box 944240, Sacramento, CA 94244-2400, (916) 227-3939.

DATA SOURCES:
CAL FIRE Seedzone (Seedzone02_1)