



Mission of the CA Reforestation Pipeline Cooperative

To provide a platform upon which diverse stakeholders can work together to accelerate timely, effective, climate-informed reforestation practices across all lands



The Understory: Restoring resilient forests after fire from the ground up December 2 - 4, 2025, Roseville, CA

This three-day event included a field tour of the CAL FIRE L.A. Moran Reforestation Center in Davis, CA and a two-day conference in Roseville, CA. It was presented by the **California Reforestation Pipeline Partnership** and hosted by American Forests, but would not have been possible without the support and participation of over 150 practitioners, researchers, industry professionals, Tribes, and representatives from state and federal agencies.

Event design intended to:

- Provide space for honest collective conversation about the state of fire-impacted forest restoration in California.
- Overcome differences to exchange knowledge and insights respectfully about removing bottlenecks along the reforestation pipeline.
- Discuss reforestation science, policy, recent history and workforce issues to understand needs for addressing a reforestation backlog and keeping up with present-day fires, climate change, drought stress, and pest threats to our forests.
- Help shape what comes next for fire-altered forests and their stewards in California.

Key Themes:

Collaboration + shared stewardship

- People, not just processes, are the heart of California's reforestation pipeline. The strongest solutions emerge where science, lived experience, policy, and cultural knowledge meet each other in the middle, with respect.

Novel conditions + adaptive approaches

- Session after session highlighted not only the challenges ahead, but the innovation already happening across the state. As disturbance regimes shift, so must our tools, language, policies, and expectations.

Timely action + forward momentum

- If we agree on one thing it's that we need to get trees in the ground, ideally right after a fire and shorten the timeline for post-fire restoration. Participants named the need to streamline steps in the pipeline without compromising quality or accountability.

Integrating Indigenous Knowledge

- We heard powerful reminders that restoration requires reciprocity, place-based thinking, and co-stewardship. We also learned about braiding together Indigenous Knowledge and Western Science for two-eyed seeing along the road ahead.
- Read Dr. Cristina Eisenberg's report: [Braiding Indigenous and Western Knowledge for Climate-Adapted Forests: An Ecocultural State of Science Report.](#)



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Workforce development + the next generation

- We learned that our workforce needs to double in order to accomplish our ambitious reforestation goals. We heard from young professionals and leaders in workforce research that culture and professional development are key to engaging and retaining passionate workers who will go on to do great things.
- Read the Watershed Research and Training Center's report: [Advancing Wildfire Resilience Workforce & Career Development in California](#)

RPP's evolution + shared priorities

- The CA Reforestation Pipeline Partnership is maturing and evolving. We've seen great solutions emerge from huddles and want to double down on their efforts to coordinate reforestation data, develop training infrastructure, establish widespread communication channels, and continue building community across sectors.

Tuesday, Dec. 2, 2025 | 1:00pm - 3:00pm | Field Trip at the Reforestation Center

- Davis, CA is home to California's state seedbank and nursery.
- CAL FIRE takes in and processes all cones collected on state land and some from private, non-industrial land owners.
- Seeds get processed using tumblers, shaker tables, dewingers, and x-ray machines that sort out debris from the viable seed.
- Once the seed has been cleaned and processed, it gets tested for germination success and placed into long term storage at 0 degrees.
 - All seeds are stored with information that explains where the seed was collected from such as elevation, so that the seeds can be grown and planted in similar conditions.
- When it comes time to plant the seeds, they go through a process called stratification, which mimics winter warming into spring and awakens the seed.
- Seeds are planted into styrofoam blocks and cared for in the nursery until they are ready to be planted back out on the landscape.

Wednesday, Dec. 3, 2025 | 9:00am - 4:00pm | The Understory Day 1

Opening Remarks

- **Shelley Villalobos**
 - The Understory is a gathering that explores not just the visible work of post-fire forest restoration, but the deeper story beneath it, honoring the people who do this work and the challenges we all face.
- **Dirk Charley**
 - Land and gathering blessings.
- **Hillary Franz**
 - This work is bigger than any one individual.



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- California is changing fast and there are many parts to the work of forest health and reforestation.
 - California faces a hotter and dryer climate, mega droughts and extreme fires, climate change, landscape type conversion, outdated policies and a history of fire suppression.
 - Habitat areas are moving to higher elevation faster than plant populations can keep up with, requiring human intervention to maintain our beloved landscapes.
 - The scale of this work is great, as wildfire damage is outpacing recovery.
- The world is watching California; we need to keep pushing the envelope on what's possible.

Orientation

● Jimi Scheid

- Introduction to CAL FIRE's programs and funding opportunities that are crucial to reforestation.
 - [Reforestation Services Program](#), [CA Forest Improvement Program](#), [Business and Workforce Development Grants](#), [Forest Health Research Program](#).
- Reforestation is one element of post-fire restoration and recovery.
- Response prioritization in private and public lands
 - Where do we put resources?
 - Practice without planning perpetuates problems and precludes progress
 - Forests do not grow on their own
 - Define success
 - Different methods and protocols can all lead to results
- Resilient forests require time and effort; it is up to all of us to work together to get the work done.

● Liz Berger

- Introduction to CalForests, a trade association that represents people in reforestation.
- The success of post-fire restoration efforts depends on the timing of implementation.
 - Moving into safe areas before the fire is completely out can help shorten response time
 - Planning and documenting competition are some of the things that take a long time.
 - More of the work needs to cross jurisdictional boundaries



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- Stark differences between organizations and property lines present challenges
 - Funding continues to be a challenge to overcome
 - Getting money to the places that can mobilize efforts and responses
 - Couple the work between prevention and post-fire restoration efforts
 - Partnerships are important – they work.
 - California public-private partnerships lead to innovation
 - Pinch points/things that hold us back: timelines, red tape, funding, mobilization
 - The longer it takes to respond to fire the more challenges we face

Panel: Novel Conditions, new Approaches | Speakers: Forest Schafer, Dirk Charley, Steve Ostoja, Libby Pansing

- There is a projected 48% loss of forest (~15million acres) – results in doubling of carbon emissions and loss of recreation, amongst other benefits that forests provide.
- There is a 500% expected increase in severe fire acreage
- What is at stake in California:
 - Increased intensity and frequency of fire
 - Reduced natural regeneration post-fire
 - Water provisioning and health
 - Biodiversity
- Restoration starts while fire is still burning; reforestation requires more than just planting trees and walking away
 - Extended timeline work
 - Regeneration failure expected at 82% after high severity fire events
 - [Planscape](#) – assess the post-fire polygon to determine areas that are unlikely to regenerate naturally.
 - [Reforestation Toolshed](#) – database of online reforestation resources.
 -
- Tribal inclusion – share stewardship of cultural, spiritual, and historically significant areas
 - Work together, share knowledge.
 - Promote cultural sensitivity and honor confidentiality.
- Think about what tomorrow is going to look like
 - Will our current efforts hold up through the decades? Is our current path the best one?
 - Support forest processes, recognize fire as a process and cycle, see the relationship between post-fire and pre-fire.
 - What species will do well in 50-100 years?



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- With the resources available, where do we focus work?
- Conditions are novel, but that doesn't mean old methods and processes can't be used; balance current approaches with innovation.

Panel: Policy to Action | Speakers: Curtis Alling, Brittany Covich, Steve Frisch, Rick Hopson

- Fire and post-fire restoration both have social repercussions.
 - The post-fire recovery timeline is long; it's hard for local communities and especially businesses to make it through.
 - Communities suffer from loss of capacity, budget constraints, displacement, etc.
- Political will is required to get this work done, particularly when addressing funding shortages, which remains to be the biggest barrier to scaling this work.
 - The State spends \$400 million on post-fire mitigation and recovery, while \$2.5 to \$3 billion is a more realistic price tag for achieving our goals.
 - If California wants to do something about post-fire recovery issues, then there needs to be political will with the voters so we can get policy passed.
 - Our current workforce includes about 90,000 people and we need to double that number in order to reach our wildfire resiliency goals.
- Helpful things to be prepared for fire:
 - Advanced technical assistance for businesses (i.e. prep go bags)
 - Road model – clearly defined roles for fire response for local government, nonprofits, state, federal, etc.
 - Practice the response plan
- Time is the enemy – the longer we go without the aforementioned items, the less likely it is for people to return to communities affected by fire.
- Align resources to decrease administrative time vs boots on the ground operation time; if more partners (public and private) can hit the ground running earlier on after fire that would improve overall operations.
 - Develop a regional strategy to work with block grants
 - i.e. offer one pool of money with one application to take less time administering grants and make the process more streamlined
 - Use the same people working in fire camps for recovery work
 - Move quickly into planning for NEPA.
 - Create broad master agreements to make way for more opportunities to work together

Tompkins Talk | Steve Ostoja, Joe Sherlock, Matt Dias, Stewart McMorrow, and Ryan Hilburn

- Ryan Tompkins was a big mover and shaker in the reforestation world. He left a legacy of kindness, respect, curiosity and intellect that lives on in our work today.
- Anyone could call Ryan and ask for 5 minutes of his time, and that would quickly turn into 1.5 hours of deep conversation.
- Stories about Ryan offer a positive reminder to be unbiased in our approaches to reforestation problems, and to make a concerted effort to communicate across



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barriers, always with respect, to bridge the gaps between private industry and agencies.

Keynote | Galen Smith

- The larger the scale of a project, the simpler our reforestation plans need to be.
- Create a plan
 - Be ready to mobilize after fire and reforest as soon as possible – the best time to plant is right after fire.
 - Assess fire severity
 - Additional things to consider: timelines, staff and capacity.
- Success begets success in the reforestation process.
 - Do whatever it takes to get trees back in the ground. Be committed to the process: salvage log, site prep, vegetation management, planting, and monitoring.
- Lessons to carry forward:
 - Efficient communication, both internally and externally
 - Alignment on approach including tactics, flexibility, and project scope and timeline.
- Explore what we want post-fire forests to look like and clarify intentions to get there.

Thursday, Dec. 4, 2025 | 9:00am - 5:30pm | The Understory Day 2

History in the Making: Indigenous Knowledge and Restoration After Fire | Dr. Cristina Eisenberg, ShiNaasha Pete

- TEK (Traditional Ecological Knowledge) is the original science of how we humans interact with the land.
 - It was learned by doing and paying close attention to the land.
 - Indigenous knowledge comes from understanding the land with humility, and offering services in reciprocity.
- One way of connecting with TEK is to bring stories back to the land.
 - [Braiding sweetgrass](#) illustrates the idea of being stronger together, and of bringing together Indigenous Knowledge and Western Science through respectful collaboration.
 - When we approach problems with two-eyed seeing, we get a holistic, culturally informed, and place-based view of forest management.
- Catastrophes like fire have a way of bringing people together.
 - It is critical that we seek out and honor Indigenous perspectives in our pursuit of forest restoration, ideally long before catastrophe happens.
 - For example, Blackfeet tribal groups in Montana were ignored in forest restoration processes due to park officials not believing their stories about living off the land in designated park areas, until a fire came through in 2017 and revealed tribal cultural sites dating back 10,000 years.



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- Tribes have a spiritual connection to the land and communities desire to maintain their culture; cultural humility needs to be practiced throughout restoration planning.
- Indigenous knowledge encourages us to restore our relationships to forests and not just forests by themselves.

Workforce Germination | Allison Jolley, Spencer Lachman, Cecilia Ruiz, Leonel Solorio, Ruby Beauchamp

- Allison Jolley presented on the [Watershed Research and Training Center's](#) newly released report on [Advancing Wildfire Resilience Workforce and Career Development in California](#).
 - The report was developed in collaboration with the [Sierra Business Council](#) and experts in wildfire resilience workforce development.
 - It provides 7 recommendations to advance career development priorities through building and retaining the human capacity necessary to scale up wildfire resilience efforts.
 - **Recommendation 1:** Scope and offer human resources development and compliance resources for all wildfire resilience employers to bolster organizational capacity and support employees.
 - **Recommendation 2:** Improve access to and pathways for state wildfire resilience careers.
 - **Recommendation 3:** Integrate leadership, mentorship, communication, and team-building training and support systems into wildfire resilience workplaces to build a healthy workplace culture.
 - **Recommendation 4:** Leverage grant programs to stabilize and invest in workforce and career development.
 - **Recommendation 5:** Support traditional and non-traditional education, training, recruitment, and advancement efforts that increase exposure and access to the diversity of wildfire resilience jobs and career paths.
 - **Recommendation 6:** Explore innovative mechanisms to stimulate and stabilize wildfire resilience jobs, employees, and employers, especially for non-profit organizations, businesses, special districts, Tribes, and Tribal entities.
 - **Recommendation 7:** Consult and collaborate with Tribes, tribally-led organizations, and Tribal practitioners to develop specific investments, policies, and programs.
- Panelists discussed how young professionals are looking for a healthy work culture, professional development opportunities, individual mentorship, and clear career pathways.
- As a message to people hiring: be welcoming to folks with unconventional backgrounds, they may become the next forest champion.



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Lunch + Squirrel Awards

- Road Warrior - Jack Stewart & Robert Ochoa
- Rookie of the Year - Reiley Allison
- Squirrel of the Year - Colt Langstaff
- Cone Squad of the Year - New Growth Forest Management
- Bushel Bagger – Stanislaus National Forest (Nell Cook, Jacob Baker, Ryan Murdoff, Cynthia Harmon, Kristin Meyer, Lia Jigour, & Vincent Camp)
- Cone Hunter of the Year - Spencer Lachman
- Hidden Champion - Olivia Roe

Rebirth of the RPP | Shelley Villalobos, Leana Weissberg

- See slides 124 - 135 for more information.

Breakout Discussions

- **Fishbowl: Post Fire Management**
 - This interactive session used a fishbowl format, where a small group of people began an open conversation while others listened, then selected people rotated into the inner circle to add comments and reflections as they felt ready and inspired. This inclusive format allowed for the full range of voices in the room to be heard. Together, we explored what facilitating healthy, resilient forests means to us, and how those views are shaping the forests that future stewards will inherit.
- **Tribal Engagement Huddle**
 - This session explored whether and how a dedicated Tribal Engagement huddle might ideate and pursue solutions to pinch points affecting the pace and scale of Tribal post fire reforestation activities.
- **Reforestation Science Huddle**
 - This session invited participants to help co-design the next chapter of RPP offerings to California's collaborative reforestation network by shaping the Reforestation Science Huddle, launching in 2026 as an evolution of the current Monitoring Huddle. Participants brainstormed the topics, research questions, formats, and priorities that will guide the new huddle and its offerings to the reforestation community.
- **Workforce Development**
 - Over the past few years, Cone Camp has trained hundreds in conifer seed scouting, while Cone Corps has mentored nearly 40 individuals across the reforestation pipeline, building skills and pathways into California's restoration workforce. Participants in this session explored the next phase of workforce development by reflecting on lessons learned, emerging training needs, and



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brainstorming inclusive strategies to equip and strengthen the next generation of reforestation practitioners.

Appreciation For Sponsors And Partners

A heartfelt thank-you to our partners and sponsors whose support made *The Understory* possible: CAL FIRE, U.S. Forest Service, Sierra Nevada Conservancy, Sierra Nevada Alliance, Mason Bruce & Gerard, Cal Forest Nurseries, and UC Extension.



CA REFORESTATION PIPELINE PARTNERSHIP

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Thank you to the sponsors helping make this event happen!

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DEC 2-4, 2025
ROSEVILLE, CA
Restoring resilient forests after fire from the ground up





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