

Timber Production and Postfire Forest Management in California

Agency records on plantations native regeneration and watershed accountability

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Timber production is an explicit purpose of California's demonstration forests and industrial forest ownerships. Selected postfire projects on private and federal land also use a recognizable production-oriented approach: establish chosen conifers, suppress competing vegetation, and manage the resulting stands toward a preferred density and growth rate. Calling the trees native does not establish that this approach restores the full ecosystem that would otherwise recover. [1, 6-11]

The central concern is the choice of what recovery should produce. When returning native hardwoods and shrubs are treated as obstacles to planted conifers, management is actively selecting one ecological outcome over another. Wildlife habitat and watershed benefits must be evaluated independently of timber growth. They cannot be demonstrated simply by counting planted trees.

The records also expose a verification gap. CAL FIRE documented grant-supported herbicide work before planting, while Lahontan acknowledged that its timber waiver does not expressly require herbicide monitoring in groundwater and surface water. A proposed study of postfire forestry herbicides was omitted from an Effectiveness Monitoring Committee (EMC) funding package despite staff's statement that all proposals could be funded. These findings justify scrutiny of priorities and outcomes. They do not, by themselves, establish a concealed motive or a statewide majority of plantation acreage. [25-27]

How the agencies describe the production priority

CAL FIRE describes Board policy in terms of maintaining "**forest crop land in a productive condition.**" Its explanation of Public Resources Code section 4639 centers "**maximum sustained production of high-quality forest products,**" followed by consideration of recreation, watershed, wildlife and other values. The same page says state forests are retained in timber production for research and demonstration. [1]

These words support describing timber production as a foundational objective in that program. CAL FIRE also describes watershed research, recreation and habitat work, and states that timber receipts fund research, infrastructure, recreation and administration within the demonstration forests. Those activities are real stated purposes; their presence does not answer whether production priorities constrain the ecological choices made on a particular site. [1]

The Board's broader description of the Forest Practice Act uses the words "**ensure productivity, sustained yield, and due consideration of watershed, recreation, wildlife, range, aesthetic, and fishery values.**" It also identifies a duty to adopt rules addressing timber operations that cause or threaten unreasonable effects on beneficial uses of water. Production is explicit; the unresolved question is whether protection of the other values is demonstrated through measured outcomes. [2]

How far the model extends

CAL FIRE lists 14 demonstration forests totaling approximately 85,000 acres and says their research informs the forestry industry and private landowners. These are demonstration sites for a wider sector, but they are not a representative acreage inventory of California forest management. [1]

The management authorities differ across ownerships. CAL FIRE enforces Forest Practice Rules for nonfederal state and private timber operations. The U.S. Forest Service operates under federal planning law, which requires coordination of timber, watershed, wildlife, recreation and other uses. Its mandate cannot be reduced to the state demonstration-forest statute. [3, 5]

CDFW's published background figures identify 16,616,065 acres of timberland within 32,101,515 acres of forest, approximately 51.8%. The underlying inventory citation is from 2015, so these are historical figures, not a new 2026 estimate. CDFW defines timberland by commercial production capability and lack of reservation. The category does not establish that every acre is actively harvested, artificially regenerated, or treated with herbicide. [4]

A credible majority claim would require a defined area and a mapped tally of actual practices: plantation establishment, harvest method, species selection, herbicide treatment and natural regeneration. Acreage treated repeatedly must be counted once when estimating land area. A fire perimeter, project boundary, forest ownership, or timberland classification cannot substitute for that tally. The documented finding is that the model extends into operational commercial and federal forestry; its statewide plantation share remains unquantified here.

How a native forest becomes a managed timber stand

For this report, timber-farm management means deliberately organizing a stand around selected trees and production goals through planting, vegetation control, spacing, thinning and eventual harvest. It describes a management approach, not a claim that all planted stands are identical or that every intervention has a commercial purpose.

Sierra Pacific Industries presents its business as a sequence of regeneration and planting, forest management, harvest and manufacture. Its listed planted species are native conifers. The company also describes biological inventories and water-quality monitoring. This is direct evidence of a timber-production system and of the company's environmental claims; the webpage alone does not establish what chemicals its water testing includes or how results are independently verified. [6]

A 2019 review by university and Forest Service scientists describes standard western reforestation as dense conifer establishment in grids, followed by shrub control and thinning. It recommends greater variation in planting and use of natural recruitment where appropriate. Native origin and a mix of conifer species can coexist with plantation structure. Conversely, some natural forests are predominantly coniferous, so broadleaf absence alone does not prove plantation management. [7]

The questions that reveal the management objective are practical. Which species are retained? Which are killed? How much natural regeneration is accepted? Does success mean a diverse recovering community, or a specified number of fast-growing conifers? Those choices should be disclosed before the project is presented to the public as restoration.

Herbicides can target the native recovery itself

UC Agriculture and Natural Resources' March 2026 postfire guidance identifies planted-tree survival and development, along with fuel reduction, as primary reasons to control shrubs and grasses. It explicitly discusses "**targeting of oaks and shrubs like greenleaf manzanita, tanoak, and chinquapin**" with herbicides. It also discusses suppressing *Ceanothus* and manzanita. These include native plants, so this guidance is not confined to invasive-plant removal. [8]

The ecological tradeoff is visible in that prescription. A resprouting hardwood or shrub can simultaneously compete with a planted conifer and contribute to the recovering ecosystem. Calling it competing vegetation describes its relationship to the selected tree; it does not establish that removing it improves the watershed or every wildlife community.

Herbicide effects are not uniform across species. UC's guidance notes that shrub reduction can increase other native plants. A California study likewise found higher native plant richness after shrub removal in reforested postfire areas. That finding does not make the eliminated shrub habitat valueless; it shows why evaluating plant counts, composition, cover and wildlife use separately matters. [8, 24]

Operational examples in Lassen and Plumas

Feather River reforestation after the Dixie Fire provides a specific planted-species list: ponderosa pine, Jeffrey pine, Douglas-fir, incense cedar and rust-resistant sugar pine. All five are conifers; no broadleaf species is named in that list. This is evidence of conifer selection, including several pines, rather than an overwhelmingly fir prescription. The account describes dead-tree removal, thinning, mastication and chipping, and says 50% of participating landowners agreed to a one-time post-planting herbicide application. That is a participant percentage, not a treated-acreage percentage. The list does not establish that all existing hardwoods were removed. [9]

On Lassen National Forest, Fall River Resource Conservation District reports that the Bald and Eiler projects obtained approval for herbicide use after poor seedling survival in earlier reforestation. It describes snowbrush regrowth as a challenge, reports Bald planting completed in spring 2023, and reports mastication and herbicide site preparation in the Eiler footprint. The same page describes Manzanita Chutes units as predominantly pine plantations planted between 1950 and 1970. These examples demonstrate plantation management and native-vegetation control on federal land. Fire-footprint acreage is not the treated acreage. [10]

The October 2025 West Lassen Headwaters decision calls for "**adequate stocking for future wildlife habitat, timber production and other resource benefits.**" It anticipates 120-200 planted conifers per acre with herbicides, and up to 250 without them to compensate for mortality. The long-term target is 25-135 surviving trees per acre; initial density is not intended mature density. It allows grids and clump-and-gap arrangements. [11, printed p. 19]

The same decision includes hardwood and aspen enhancement, meadow and riparian work, and natural regeneration in smaller burned patches. It also removes some proposed herbicide areas because of water-resource concerns. Those provisions prevent an accurate account from describing the entire project as an undifferentiated plantation or dismissing every habitat measure as fictitious. The decision nevertheless documents deliberate control of regrowing vegetation to establish chosen tree stocking. [11, printed pp. 6-7, 14-15, 19]

CAL FIRE documented grant supported spraying and promotion

An October 9, 2024 CAL FIRE site-visit report makes the public/private connection especially concrete. Under agreement 8GA23900 / 23-DG-11052021-253, Disaster Recovery of Private Lands in California, it identifies W.M. Beaty as land manager and lists CAL FIRE, U.S. Forest Service and California Forestry Association participants. The sites were Humbug Valley in Plumas County and Cheney Creek in Lassen County. [25]

CAL FIRE's report says: "**Activities to date include herbicide purchase and application in two areas: Humbug Valley, impacted by the Dixie Fire in 2021 and Cheney Creek, impacted by the Sheep Fire in 2020.**" [25]

It then states: "**Pre-emergent herbicide application is being conducted in conjunction with mastication as site preparation ahead of planting.**" The intended planting is described as "**a mix of Sierra Mixed Conifer species planted at a density of 150-180 TPA.**" TPA means trees per acre. Participants discussed how lower planting density would affect later vegetation-release work. [25]

The visit included filming by the California Forestry Association, with CAL FIRE, USFS and W.M. Beaty discussing the grant and postfire reforestation. The report closes: "**No issues or concerns were noted.**" It contains no receiving-water herbicide measurements. That closing statement records what was noted during the visit; it cannot establish that chemicals remained on the treated land. [25]

This record documents funded implementation and public promotion alongside an unreported chemical outcome. It does not establish that no testing occurred elsewhere, or identify which particular Motor Sheep acres received grant reimbursement. Those questions require treatment maps, payment records and laboratory data. The appropriate public standard is that environmental claims accompanying funded forestry should be supported by measurements capable of testing them.

Natural recovery is an ecological outcome worth protecting

Forest Service scientists White and Long explain that severe fire can restore meadows, shrubfields and open forests with substantial hardwood components where conifers expanded partly because of fire suppression. Their warning is direct: "**Reforestation in such areas may run counter to restoring ecological function.**" A site can be recovering ecologically even when it is not producing the conifer stocking that a forester prefers. [12]

Natural conifer recovery also requires field assessment. A 2025 study of the Dixie and Caldor fires found that seeds surviving in cones could support substantial regeneration in some severely burned interiors. The result depended on fire timing and other conditions; the authors considered this mechanism more likely an exception than a general rule. Early seedlings are not proof of long-term survival. The study strengthens the case for surveying before planting or disturbing a site, rather than assuming severe canopy loss means recovery has failed. [13]

There are places where seed-source loss, drought or repeated fire make conifer recovery difficult. White and Long identify contexts in which planting can help prevent persistent loss of forest values. The decision should be based on the site's ecology, likely future climate and intended benefits. A blanket instruction either to plant everything or to leave every site entirely alone misses those differences. [12]

Natural recovery should be an explicit alternative in project analysis. Agencies should explain why an existing native community is insufficient, which ecological function planting will restore, and why the same objective cannot be achieved with less vegetation removal. The burden of explanation is especially strong where management proposes killing established native plants to help nursery-grown trees.

Wildlife habitat can be lost while tree growth improves

Early forest recovery after fire can provide abundant herbs, broadleaf shrubs, young hardwoods and dead wood. A southwest Oregon study compared postfire stands with limited subsequent management against intensively managed clearcuts receiving planting and herbicide treatments. During years 2-5, postfire stands

had about twice the vegetation cover and approximately 50% more bird species. Broadleaf cover supported foraging, and dead wood supported cavity-nesting animals. [14]

This was an observational comparison of management packages, not an experiment isolating herbicide effects. Responses changed with stand age and species group; some bees initially favored harvested stands, and many biodiversity measures converged later. The study therefore supports protecting particular habitat features, not a claim that every animal always benefits from the same conditions. Its Oregon setting also limits direct quantitative extrapolation to California. [14]

A project may improve planted-tree growth while reducing food, cover or nesting structures used by some animals. Wildlife assessment should identify those losses and the species affected. Promising future conifer habitat does not by itself measure the consequences of removing the habitat present now. A larger landscape can need both mature forest and naturally recovering open patches.

Repeated planting and reburning deserve direct scrutiny

The plantation-reburn concern has a documented California example. The 2019 reforestation review describes areas planted at more than 300 trees per acre after the 1987 Stanislaus complex fire that burned again in the 2013 Rim Fire. It reports rapid spread, high intensity and complete mortality in many of those young plantations. The authors warn that dense regular spacing can undermine fire and drought resilience. This establishes a recurring management risk, not that every postfire plantation will burn identically. [7]

A 2025 northern Sierra Nevada study used prefire LiDAR across five large fires covering roughly 460,000 hectares. It found 1.45 times the odds of high-severity fire on private industrial land compared with public land after accounting for weather and biophysical factors. That is a difference in odds of severity, not a 45% increase in ignition probability. Stand structure helped explain the association, and extreme weather magnified structural effects. Ownership is not a controlled experiment and does not establish the effect of any individual herbicide application. [15]

Evidence also supports some active treatments. A 2024 synthesis found substantial reductions in subsequent wildfire severity from prescribed burning and thinning combined with burning; thinning alone was less effective. Evidence for these treatments cannot automatically justify dense replanting, salvage logging or spraying native vegetation. Each treatment needs evidence that matches its claimed benefit. [16]

A fire in a plantation remains a wildfire. The National Wildfire Coordinating Group defines wildfire by unplanned ignition, not by whether the vegetation is untouched or planted. The relevant criticism is that the word wildfire does not disclose the land's management history. Fire reporting should identify plantations, recent harvest, vegetation-control history and treatment age so the public can evaluate their contribution to severity. [17]

More trees do not automatically mean a better watershed

In Yosemite's Illilouette Creek Basin, researchers examined four decades of managed wildfire. Forest cover declined by 22%, while meadow area and shrubland expanded. Locations that shifted from forest to dense meadow became substantially wetter. The fraction of precipitation becoming runoff appeared stable or increasing, compared with declines in nearby unburned watersheds. This supports the possibility that a more open, varied landscape can improve water availability under some conditions. It does not show that every burned plantation will behave the same way. [18]

A synthesis of 78 western forest studies found that streamflow and snowpack after disturbance could increase, remain unchanged or decrease. Increased evaporation and vegetation regrowth sometimes offset

expected water gains from tree mortality. Water effects depend on climate, terrain and the vegetation that returns. More annual runoff also does not by itself establish more late-summer water for wildlife or cleaner drinking water. [19]

Watershed claims should therefore separate water quantity, seasonal timing, temperature, sediment and chemical contamination. A project can meet a tree-survival target without demonstrating improvement in any of those outcomes. Likewise, an erosion inspection cannot substitute for laboratory analysis of a herbicide. The monitoring method must measure the claim being made.

The state documented plantation herbicides in water

The Central Valley Water Board's 2017 information sheet connects the issue directly to plantation establishment. It records approximately 12,000 pounds of hexazinone applied in the Battle Creek watershed in 2013 and early 2014, alongside other herbicides, most associated with **"post-fire conifer plantation establishment."** It then states: **"Hexazinone was detected in all 26 samples."** The pilot also detected 2,4-D, triclopyr and imazapyr, although it did not quantify their water concentrations and had equipment and method limitations. [28, p. 16]

The same Water Board document says **"label instructions and applications were ineffective at preventing discharge of specific chemicals"** to surface waters in that sampling experience. That is the regulator's assessment of those historical applications. It does not establish failure of every later treatment or quantify a current statewide violation rate. It does establish that chemical movement from forestry use was a known management problem requiring measurement. [28, p. 23]

A proposed test of the rules was left unfunded

The 2021 concept and full proposal developed an application-informed approach to water monitoring. That earlier project was recommended for funding but subsequently withdrawn over indirect-cost limits. The later EMC-2022-001 proposal was a separate funding decision. Keeping those events distinct is essential to understanding what happened. [20, 22]

Led by UC Davis with USGS and Central Valley Water Board participation, EMC-2022-001 proposed testing ten herbicides with four sampling approaches. It tied sampling to application notices and seasonal events, including a spring storm and first-flush rainfall. Its text questioned whether existing rules protected water after large-scale burned-land treatments. Describing the presumption that certain postfire herbicide uses caused no individual or cumulative impacts, the proposal states that it **"has not been tested."** This is the applicants' assessment submitted to the EMC, not a formal finding adopted by the Board. [21, printed pp. 4, 6, 8, 12]

The November 18, 2022 minutes record staff's statement that **"all proposals could be funded as requested."** Nevertheless, the approved package covered EMC-2022-003, 004 and 005, omitting 001. CAL FIRE representative Drew Coe questioned its connection to the rules; the minutes summarize his view as **"does not have as direct linkage back to the FPRs."** Other members supported the proposal. [27, pp. 8-9, 15-16, 19]

In discussion of another proposal at that meeting, Central Valley Water Board representative Justin LaNier described private-land management as **"more like cropland."** This is a recorded assessment, not a statewide acreage finding. The minutes establish a funding choice and public reasons for concern about rule relevance. They do not disclose every individual's ranking rationale or prove that liability avoidance determined the outcome. [27, p. 13]

The accountability question is concrete: why was the application-linked chemical test omitted when staff reported enough money to fund it, and what equivalent monitoring was subsequently implemented? Completed ranking sheets, tally records, correspondence and later project deliverables should answer that question. General references to environmental protection do not answer it.

Lahontan expressly acknowledged the testing gap

Lahontan's May 9, 2025 letter states: "**The Lahontan Timber Waiver does not expressly require monitoring of groundwater and surface water for herbicides and mixtures of herbicides.**" It also acknowledges case-by-case investigative authority. This is direct evidence about the waiver's express requirements, rather than an inference based only on an unsuccessful records search. [26, letter p. 2; supplied volume p. 62]

The published effectiveness-monitoring form describes "**a visual evaluation of management measures**" and focuses on erosion and sediment delivery. A road inspection or photograph can be useful for that purpose. It cannot identify the herbicide dissolved in a water sample. The existence of effectiveness-monitoring paperwork is therefore not evidence that herbicide containment was chemically verified. [29, p. 1]

In the Motor Sheep matter, Lahontan's November 21, 2025 response states: "**The Lahontan Water Board staff did not conduct an inspection during project implementation.**" It explains why the agency considered the later requested inspection unhelpful, disputes attribution of the detections to the project and closes the matter. The records thus preserve both the inspection gap and the agency's position; the contamination-source dispute remains distinct from the fact of chemical detection. [30, letter pp. 3-4; supplied volume pp. 99-100]

DPR operates environmental-monitoring programs, and companies may also claim water monitoring. Those facts do not establish adequate coverage downstream of a specific forestry application. The relevant records are analyte lists, sampling locations, rain and snowmelt timing, detection limits, laboratory results and the budget assigned to collecting them. The documented Lahontan gap must not be inflated into a claim that no California agency ever tests water. [6, 23]

What public accountability should require

California Water Monitoring Project can test the watershed claims at the scale where applications occur. The proposed starting point is Lassen and Plumas counties: obtain pesticide-use records, identify treated locations, prepare a sampling plan, and test connected runoff during fall rain and spring snowmelt. Expand geographically as funding and volunteers permit.

Sampling plans should identify the reported active ingredients and select laboratory methods capable of detecting them. Record locations, dates, flow conditions, chain of custody, quality-control samples and detection limits. Where feasible, compare water above and below the treatment area. Access to remote runoff pathways matters because convenient road crossings may not capture the relevant drainage.

Publish application records and laboratory results together, distinguishing detected chemicals from demonstrated sources or effects. A detection downstream supports investigation; attributing it to one project requires attention to other applications, drainage connections and timing. When warranted, submit complaints, guide regulators to the sampling locations, and publish their investigation findings and responses.

Agencies and funded project operators should disclose treatment maps; pre-treatment regeneration surveys; planted and retained species; herbicides and application dates; expected timber outputs; wildlife tradeoffs; runoff-testing budgets; sampling results; and criteria for changing practices when impacts appear. These records would let the public compare promised watershed protection with measured outcomes.

Logging has an important economic and historical place in California. Recognizing that role does not require presenting timber production as equivalent to ecological restoration. Where public funding supports conifer establishment and removal of native regrowth, agencies should state the production objective plainly and demonstrate the claimed watershed and wildlife benefits with evidence independent of tree-growth targets.

Sources and record locations

Numbered references identify the source for each factual passage. Quotation marks indicate exact wording; bold emphasis is added. Page references distinguish printed document pages from pages in the supplied evidence volume. Agency records reproduced in that volume are cited as primary correspondence, separately from the volume author's analysis.

- [1] **CAL FIRE.** [Demonstration State Forests](#). Program purposes, statutory summary, acreage and timber revenue.
- [2] **Board of Forestry and Fire Protection.** [About](#). Forest Practice Act responsibilities and water-protection duties.
- [3] **CAL FIRE.** [Forest Practice](#). State and private timber-operation jurisdiction and review.
- [4] **California Department of Fish and Wildlife.** [Timberland Conservation and Fire Resiliency Program](#). Forest and timberland definitions and acreage; underlying inventory citation dated 2015.
- [5] **United States Code.** [16 USC 1604](#). National Forest System planning and coordination of multiple uses, subsection (e).
- [6] **Sierra Pacific Industries.** [Our Business](#). Company account of planting, harvest, manufacturing and environmental monitoring.
- [7] **North and colleagues 2019.** [Tamm Review Reforestation for resilience in dry western US forests](#). Forest Ecology and Management 432: 209-224. Standard practices and Rim Fire reburn example, pp. 209-210. DOI 10.1016/j.foreco.2018.09.007.
- [8] **UC Agriculture and Natural Resources 2026.** [Managing Competing Vegetation with Herbicide](#). March factsheet; native vegetation targets and conifer establishment.
- [9] **UC Agriculture and Natural Resources 2026.** [FSE Newsletter Conifer Seedling Thinning](#). July newsletter, Feather River RCD account and guidance on natural regeneration.
- [10] **Fall River Resource Conservation District.** [California Climate Investments](#). Bald and Eiler reforestation and Manzanita Chutes project updates. Statements about anticipated 2025 work are not proof of completion.
- [11] **US Forest Service Lassen National Forest 2025.** [West Lassen Headwaters Project Decision Notice and Finding of No Significant Impact](#). Signed October 15, 2025. Printed pp. 6-7, 14-15 and 19. Official decision hosted by project partner Sierra Institute.
- [12] **White and Long 2019.** [Understanding ecological contexts for active reforestation following wildfires](#). New Forests 50: 41-56. DOI 10.1007/s11056-018-9675-z.
- [13] **Young and colleagues 2025.** [Canopy seed survival through extreme fire in nonserotinous conifers](#). Ecological Applications e70142. First-year regeneration in the Dixie and Caldor fires. DOI 10.1002/eap.70142.
- [14] **Frank 2025 Oregon State University Extension.** [Comparing early seral forest conditions following timber harvest and wildfire](#). Researcher account of southwest Oregon comparisons; includes links to the underlying bird and bee studies.
- [15] **Levine Collins Coppoletta and Stephens 2025.** [Extreme Weather Magnifies the Effects of Forest Structure on Wildfire Driving Increased Severity in Industrial Forests](#). Global Change Biology 31: e70400. DOI 10.1111/gcb.70400.

- [16] **Davis and colleagues 2024.** [Tamm review of thinning prescribed fire and wildfire effects on subsequent wildfire severity](#). Forest Ecology and Management 561: 121885. DOI 10.1016/j.foreco.2024.121885.
- [17] **National Wildfire Coordinating Group.** [Wildfire](#). Glossary definition based on unplanned ignition.
- [18] **Boisrame Thompson Collins and Stephens 2017.** [Managed wildfire effects on forest resilience and water in the Sierra Nevada](#). Ecosystems 20: 717-732. DOI 10.1007/s10021-016-0048-1.
- [19] **Goeking and Tarboton 2020.** [Forests and water yield](#). Synthesis of disturbance effects on streamflow and snowpack. Journal of Forestry: 172-192. DOI 10.1093/jofore/fvz069.
- [20] **Board of Forestry EMC archive 2021.** [Herbicide monitoring full proposal](#). December proposal describes burned-watershed sampling and comparison with pesticide-use data.
- [21] **UC Davis USGS and Central Valley Water Board 2022.** [EMC 2022 001 Full Project Proposal](#). Aquatic Toxicity and Cumulative Watershed Effects of Pesticide Discharge Related to Post-Fire Reforestation. Applicant statements are distinguished from adopted Board findings.
- [22] **Board of Forestry EMC 2022.** [September 28 meeting notes](#). Discussion of pesticide-monitoring methods, jurisdiction, budget and withdrawal of a previously recommended proposal. This is not evidence that every proposal had the same disposition.
- [23] **California Department of Pesticide Regulation.** [Environmental Monitoring](#). Agency monitoring-program overview; does not establish project-specific sampling coverage.
- [24] **Bohlman North and Safford 2016.** [Shrub removal in reforested postfire areas increases native plant species richness](#). California vegetation-response study.
- [25] **CAL FIRE 2024.** *October 9 site visit report*. Topher Byrd, Statewide Reforestation Coordinator. Agreement 8GA23900 / 23-DG-11052021-253. Primary record reproduced at page 102, exhibit E12, in the supplied volume The California Board of Forestry and Water Boards Knew. Quoted text verified against the page image.
- [26] **Lahontan Regional Water Quality Control Board 2025.** *May 9 letter*. Jennifer Callahan. Question 3 and response, letter page 2. Primary record reproduced at page 62, exhibit L1, in the supplied volume The California Board of Forestry and Water Boards Knew.
- [27] **Board of Forestry EMC 2022.** [November 18 meeting notes](#). Budget statement p. 8; discussion p. 9; cropland assessment p. 13; funding motion pp. 15-16 and quorum clarification p. 19. The minutes contain internal vote-count and apparent carry-over text inconsistencies; no vote total is inferred here.
- [28] **Central Valley Water Board 2017.** [Attachment D Information Sheet for Order R5 2017 0061](#). Historical plantation herbicide use and detections p. 16; assessment of label/application effectiveness p. 23. These are 2017 statements, not a current pesticide-label summary.
- [29] **Lahontan Regional Water Quality Control Board 2024.** [Attachment J Effectiveness Monitoring Form](#). Visual evaluation, erosion and sediment-delivery scope, p. 1.
- [30] **Lahontan Regional Water Quality Control Board 2025.** *November 21 response letter*. Jan M. Zimmerman, Assistant Executive Officer. Inspection and source-attribution discussion, letter pp. 3-4. Primary record reproduced at pp. 99-100, exhibit L8, in the supplied volume The California Board of Forestry and Water Boards Knew.