Forest & Wildland Stewardship Interagency Tracking System Framework Version 1.0

Introduction

This tracking system framework supports the need of the California Wildfire and Forest Resilience (WFR) Task Force to report on the status of wildfire and forest resilience projects. It has been developed by the WFR Task Force Monitoring, Reporting, and Assessment (MRA) Work Group, in coordination with state and federal agencies and other WFR Task Force stakeholders.

Background

On January 8, 2021, the Governor's Forest Management Task Force released a comprehensive action plan to reduce wildfire risk for vulnerable communities, improve the health of forests and wildlands, and accelerate action to combat climate change. The WFR Task Force efforts going forward are guided by this action plan with an overall goal to increase the pace and scale of forest management and wildfire resilience efforts by 2025 and beyond. https://fmtf.fire.ca.gov/

Several documents established a target of the State of California and the USDA Forest Service each treating 500,000 acres per year.

- *California Forest Carbon Plan* and Executive Order B-52-18 (May 2018)
- *Agreement for Shared Stewardship of California's Forests and Rangelands* (August 2020)
- *Wildfire & Forest Resilience Action Plan* (January 2021)

In addition to these targets, the WFR Task Force and State have a variety of other policy goals for forest and wildland management. These goals create a clear need to collect data on the management of forests and other wildlands in order to support monitoring, assessment, and scientific research.

Goals

The MRA Work Group identified several goals in creating a system to report on the status of wildfire and forest resilience projects

- Provide transparency and accountability for State and Federal land management efforts toward the acreage targets stated in the *Forest Carbon Plan*, *Agreement for Shared Stewardship*, and other documents, including strategy documents created by the WFR Task Force
- Provide data that can be used for planning, assessment, and science as part of the Forest Data Hub (Action Plan Deliverable 4.3).
    - Collect sufficient data to move beyond "acres treated" as the sole measure of effectiveness.
- Work in coordination with other reporting systems to limit reporting burden and increase efficiencies.

The expected product is a spatial database that can provide both summary information on statewide activity and GIS maps capable of showing local implementation, for use by policymakers, land managers, scientists, and the public. The tracking system itself will not directly assess effectiveness, but the tracking system is designed to collect data that will facilitate assessments of policy effectiveness. Providing spatial data and associated attributes for stewardship activities will allow

system users and broader stakeholders to create their own assessments of effectiveness at local, regional, and statewide scales.

Data Collection

The MRA Work Group has created a framework for the Forest & Wildland Stewardship Interagency Tracking System. Data in this system are collected at three scales (see Appendix A), with different data attributes collected at each of these scales (see Appendix B). The system is intended to collect spatial data at all three scales, where those data are available.
-Project: Largest discrete unit used for planning and implementation purposes; a project may be comprised of one or more treatments. Some areas within the project may not receive treatment. The spatial extent of a project is represented by a map polygon in the tracking system geodatabase.
-Treatment: The application of one or more land management activities in order to achieve one or more natural resource objectives within the project area. The spatial extent of a treatment is represented by a map polygon in the tracking system geodatabase.
-Activity: Application of a spatially and temporally discrete land management prescription in order to complete a treatment. An Activity is represented by an attribute table associated with a treatment map polygon in the tracking system geodatabase.

These three layers are linked within the tracking system database. Data for the Activity level are nested in and linked to data at the Treatment level. In turn, data for the Treatment level are nested in and linked to Project-level information. When initially entered into the reporting system, a proposed Project may not have any associated Treatment or Activity data. As the Project develops to include Treatment and Activity data, this may necessitate an update to the Project Status or other attributes.

The foundation of the tracking system is the Activity data. This section of the database provides information about the work being conducted, including the type of work, start and end date, organization(s) funding the work, organization(s) administering the work, organization(s) implementing the work, and the quantity of work.

A key point of information at the Activity level for understanding potential environmental and economic outcomes is the fate of residues (also referred to as activity fuels). Residues are defined as plant biomass, such as branches or tree tops, resulting from or altered by a vegetation management activity, including timber harvest, thinning, pruning, or site preparation. Residues will not be generated by all activities, such as prescribed herbivory or tree planting.

At the treatment level, the tracking system collects information on objectives for the work being conducted, land ownership group, and whether the project is within the wildland urban interface. A key attribute at the treatment level is the estimated retreatment date, which helps provide information on future land management resource needs.

Project data are collected in order to demonstrate how geographically disparate treatments are connected through planning and larger landscape objectives. The scale of a project can vary widely from a few acres to an entire watershed and may cross multiple ownerships.

Implementation Strategy

Reporting is being implemented in phases (Figure 1). In all phases, data will be collected quarterly.

- Under Phase 1, the Forest & Wildland Stewardship Interagency Tracking System will utilize existing geospatial databases from the Department of Forestry and Fire Protection (CAL FIRE) and the United States Department of Agriculture Forest Service (USDA FS), including CalMAPPER and FACTS. The Task Force will request that other state and federal agencies submit tabular information and geospatial data, as available.
- For Phase 2, transfer of data from CAL FIRE and USDA FS databases will be automated. A contractor will build a web application and create a bulk upload process that will enable other state and federal agencies to efficiently provide data.
- Phase 3 will expand automated data transfer to databases from smaller agencies to increase upload efficiency and increase accuracy. A contractor will create a mobile app with data collection capabilities. Reporting will expand beyond to include local governments, industrial timberland owners, and Tribes.

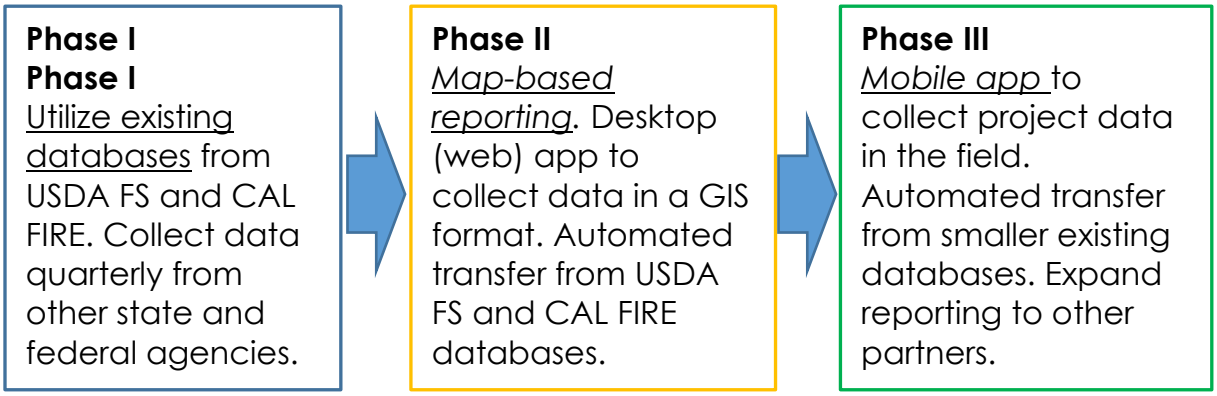
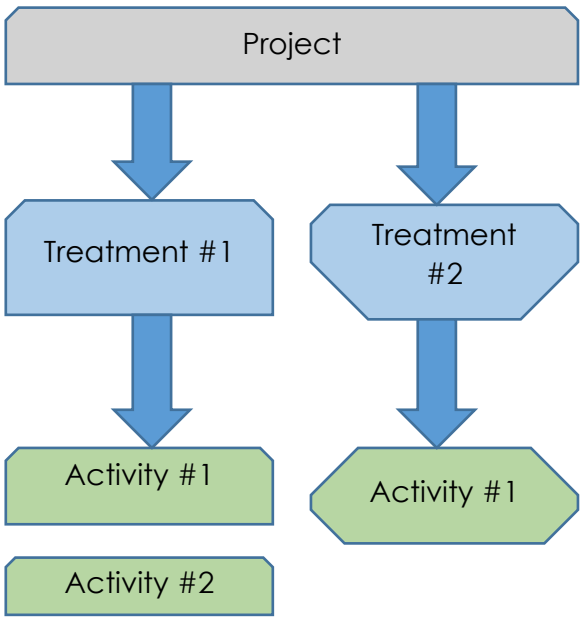


Figure 1: WFR TF report tool Phase 2 and Phase 3 Conceptual Diagram

Data quality control will be iterative. Data should be vetted by agency staff prior to submission. In phases 2 and 3, the application will include some quality control measures to ensure that submitted data are complete and use appropriate units. Once data are accepted into the application, they will be reviewed by Task Force members or contractors. Accepted and transformed data will be routed back to agency staff for review and approval prior to publication.

Appendix A – GIS Data Structure



Project Data Fields (sample):
Funding Source(s)
Administering Organization(s)
Implementing Organization(s)
Status (e.g., Planned, Ongoing, Complete)

Treatment Data Fields (sample):
Objective (Fuelbreak)
WUI (Yes/No)
Land Ownership Type
Status (e.g., Planned, Ongoing, Complete)
Estimated Retreatment Date

Activity Data Fields (sample):
Description (e.g., Hand Thin)
Status (e.g., Planned, Complete)
Residue/Activity Fuels Fate
Vegetation Class
Funding Source

Figure 2: Spatial Data Structure

Appendix B – Data Dictionary

Table 1: Data Request Summary

List of attributes to be collected at each scale.

Table Name	Field Name	Field Type	Description	Options
Project	Primary_Funding_Source_Name	Text	The name of budget funds providing primary support of the project.	*Ex: State General Fund, CCI, etc.*
Project	Primary_Funding_Org_Name	Text	The name of the primary organization providing funding for the project.	*Ex: USFS, CAL FIRE, Caltrans*
Project	Primary_Administering_Org_Name	Text	The name of the primary organization administering the funding.	*Ex: USFS, CAL FIRE, Caltrans*
Project	Primary_Implementing_Org_Name	Text	The name of the primary organization implementing the funding by providing staff, volunteer, or contract labor.	*Ex: USFS, Sonoma County, Butte FSC*
Project	Reporting_Org_Name	Text	Name of the organization reporting the project into this database.	*Ex: CAL FIRE, State Parks*
Project	Project_Contact	Text	A contact name for the organization. Not specific to the project.	

Table Name	Field Name	Field Type	Description	Options
Project	Project_Email	Text	A contact email for the organization. Not specific to the project.	
Project	Project_Name	Text	Common name for each project	
Project	Project_ID	Text or Integer	Unique identifier for each project	
Project	Project_Start_Date	Date	Date funding is first obligated to the project for planning or implementation purposes.	
Project	Project_End_Date	Text	Date all treatments were fully implemented and complete.	
Project	Project_Status	Text	Project status	
Project	Lat/Lon	Decimal Degrees. Use World Geodetic System (WGS) 1984.		
Treatment	TreatmentID	Text or Integer	A unique identifier for the treatment within a project (for that organization), usually a number or an alpha-numeric code, rather than a full name. Preferred that it does not include text that identifies which organization, in case that must be kept private.	
Treatment	Treatment_Name	Text	The name of the treatment.	
Treatment	County	Text	The primary County in which the treatment resides, by area.	
Treatment	WUI	Text	Defined via data layer	Yes/No
Treatment	Primary_Objective	Text	The primary goal of the treatment (see options).	Ex: Broadcast Burn, Fuel Reduction, Fuel Break, Road Way Clearance
Treatment	Secondary_Objective	Text	The secondary goal of the treatment (see options). Optional field.	Ex: Broadcast Burn, Fuel Reduction

Table Name	Field Name	Field Type	Description	Options
				, Fuel Break, Road Way Clearance
Treatment	Tertiary_Objective	Text	The tertiary goal of the treatment (see options). Optional field.	Ex: Broadcast Burn, Fuel Reduction, Fuel Break, Road Way Clearance
Treatment	Estimated Retreatment Date	Date	Approximate estimated date at which the treatment will need to be performed again.	
Treatment	Treatment_Status	Text	Treatment status	Ex: Planned, Active, Complete
Treatment	Treatment_Start_Date	Date	Date the treatment started, usually the date of the first activity	
Treatment	Treatment_End_Date	Text	Date all treatment activities were completed.	
Treatment	Treatment Area (Acres)	Numeric	Area receiving treatment	
Treatment	Ownership_Group	Text	The general level of the agency or organization	Federal, State, Local, Private, Other
Activity	Activity_Id	Text or Integer	A unique identifier for the activity	
Activity	Activity_Name	Text	A name for this activity, if applicable	
Activity	Primary_Funding_Source_Name	Text	The name of budget fund supporting this activity.	*Ex: State General Fund, CCI, etc.*

Table Name	Field Name	Field Type	Description	Options
Activity	Primary_Funding_Org_Name	Text	The name of the organization providing primary funding for this activity.	*Ex: USFS, CAL FIRE, Caltrans*
Activity	Secondary_Funding_Source_Name	Text	The name of budget fund providing primary support for this activity.	*Ex: State General Fund, CCI, etc.*
Activity	Secondary_Funding_Org_Name	Text	The name of the organization providing secondary funding for this activity.	*Ex: USFS, CAL FIRE, Caltrans*
Activity	Tertiary_Funding_Source_Name	Text	The name of budget fund providing secondary support for this activity.	*Ex: State General Fund, CCI, etc.*
Activity	Tertiary_Funding_Org_Name	Text	The name of the organization providing tertiary funding for this activity.	*Ex: USFS, CAL FIRE, Caltrans*
Activity	Administering_Org_Name	Text	The name of budget fund providing tertiary support for this activity.	*Ex: USFS, CAL FIRE, Caltrans*
Activity	Implementing_Org_Name	Text	The name(s) of the organization implementing the funding by providing staff, volunteer, or contract labor.	*Ex: USFS, Sonoma County, Butte FSC*
Activity	Activity_Description	Test	The practice used to achieve management objectives.	
Activity	Activity Unit of Measure	Text	The units used to measure and quantify the activity accomplished	acres, tons, each,
Activity	Activity Quantity	Numeric	The planned quantity of an activity when it reaches completion.	
Activity	Activity Status	Text	The current status of the activity.	Planned, Active, Complete, Cancelled
Activity	Broad_Vegetation_Type	Text	Identify the primary broad vegetation type for the activity area.	Forest, Woodland, Shrubland, Grass, etc

Table Name	Field Name	Field Type	Description	Options
Activity	Residue Quantity	Numeric	If applicable, enter the amount in bone dry tons of biomass residues (activity fuels) generated by the activity.	
Activity	Residue Fate	Percent	If applicable, enter the portion of residues (activity fuels) generated by the activity that were left on site, treated, or removed. Multiple entries allowed; must total 100.	Ex: Chipping, durable products, biochar, etc.
Activity	Activity Start Date	Date	Expected or actual beginning date.	MM/DD/YYYY.
Activity	Activity End Date	Date	Expected or actual stop date for work. For land acquisitions and easements, end date is when the acquisition or easement has been fully executed and is legally in effect.	MM/DD/YYYY.
Activity	Activity Percent Complete	Percent	If the Activity Status is "Active", enter the cumulative portion of Activity Quantity that has been completed as of the date reported.	

Table 2: Project Status

List of entries and definitions for the project status field.

Status	Status Defined
Outyear	The project has been identified in publicly-available documents and is expected to go through regulatory analysis (NEPA/CEQA/THP or equivalent) in the next 3-10 years.
Proposed	The project has been documented in the Schedule of Proposed Actions, is in public scoping period, or is in the process of having environmental compliance documents prepared (NEPA, CEQA, THP, etc.).
Planned	Regulatory documents have been completed (NEPA, CEQA, THP) and/or funds have been obligated to the project.
Active*	All documents complete, project is funded and work is occurring at the site.
Complete	All work required for the implementation of that project has finished. For land acquisitions and easements, complete is when the acquisition or easement has been fully executed and is legally in effect.
Cancelled	A planned project was stopped prior to implementation and will not be revisited with the formerly obligated funds.

*Aligns with "Accomplished" in the USDA Forest Service FACTS database.

Table 3: Treatment & Activity Status

List of entries and definitions for the project status field.

Status	Status Defined
Planned	Regulatory documents have been completed (NEPA, CEQA, THP) and/or funds have been obligated to complete the work.
Active*	All documents complete, funding is available, and work is occurring at the site.
Complete	All work required for full implementation has finished. For land acquisitions and easements, complete is when the acquisition or easement has been fully executed and is legally in effect.
Cancelled	Planned work was stopped prior to completion and will not be revisited with the formerly obligated funds.

*Aligns with "Accomplished" in the USDA Forest Service FACTS database.

Table 4: Objective

List of objectives and definitions for the treatment.

Objective	Objective Definition
Biomass Utilization	Work conducted in an area where the secondary or tertiary objective is to utilize woody biomass for wood products, and/or generate energy through combustion or gasification, and/or utilize woody biomass to help develop markets for beneficial uses of the material.
Burned Area Restoration	Work conducted in a recently burned area intended to promote recovery and ecological stability.
Carbon Storage	Work conducted to improve carbon storage or carbon stability in forests, shrubs and grasslands.
Climate Adaptation	Worked conducted to increase the ability of an ecosystem to be resilient to or resist climate change. Resilience is the ability to recover from a climate change-related event, while resistance is ability to withstand that event unchanged.
Cultural Burn	Application of fire to the environment predominantly to achieve cultural objectives.
Ecological Restoration	Work conducted to re-establish the composition, structure, pattern, integrity and ecological processes necessary to facilitate terrestrial and aquatic ecosystem sustainability, resilience, and health under current and future conditions.
Fire Prevention	Activities conducted to help educate the public about Fire Prevention. Includes CWPP, public education events, placement of prevention signs, and community meetings related to fire prevention.
Forest Pest Control	Work conducted to control the spread of active forest pest and diseases, typically used during active infestations such as Sudden Oak Death and Gold Spotted Oak Borer outbreaks.
Forestland Stewardship	Work conducted to encourage private and public investments in forestlands and resources within the state to ensure adequate future high-quality timber supplies, related employment, and other economic benefits, and to protect, maintain, and enhance the forest resource for the benefit of present and future generations.
Fuel Break	Work conducted to modify flammable vegetation to create defensible space in an attempt to reduce fire spread to structures and/or natural resources, and to provide a safer location to fight the fire. Fuel breaks are strategically placed along a ridge, valley bottom, access road, or around a subdivision
Habitat Restoration	Work conducted to improve or protect wildlife habitat
Invasive Species Control	Work conducted to control or remove populations of invasive plants and other organisms.

Land Protection	Protection of natural and working lands against conversion to other land cover types, such as developed or cropland, that would result in the loss of natural vegetation. Often through the establishment of easements, acquisitions, fee title, or other activities.
Mountain Meadow Restoration	Work conducted to restore mountain meadow lands.
Non-Timber Products	Work conducted to collect, propagate, or preserve non-timber products, including food, medicinal, cultural, spiritual, or other materials from an ecosystem.
Other Forest Management	Precommercial forest management treatment activities. Or work conducted in an area to improve stand structure or composition.
Other Fuels Reduction	Work conducted in an area where the primary objective is to reduce fuel loads. While this can be accomplished through Fuel Break and Broadcast Burn objectives, this should be used when Fuel Break and Broadcast Burning objectives are not being utilized
Prescribed Fire	Work conducted in an area where the primary objective is reducing fuel loads through broadcast burning and pile burning.
Recreation	Work conducted to improve or maintain recreation opportunities.
Reforestation	Work conducted to promote the reforestation of non or understocked forestland and areas burned by wildfire, drought, pests, or other natural disturbances to increase carbon sequestration and rebuild natural habitats and ecosystems. Tree planting associated with timber harvest operations is not tracked because these activities are legally required to meet minimum stocking standards following timber operations.
Riparian Restoration	Work conducted to improve riparian habitat or stream channel function.
Roadway Clearance	Work conducted along the right of way of fire roads, county roads, or highways for purposes of improved ingress and egress. This includes the removal of dead trees resulting from insect or drought. Right of Way Clearance is not done with the intent of stopping a fire at the location of work but instead focuses on ingress and egress enhancement
Site Preparation for Planting, Seeding, or Natural Regeneration	Manipulation of a site to enhance the success of regeneration, including through the completion of activities such as broadcast burning, mastication, mowing, dozer, or herbicide application.
Timber Harvest	Work conducted in an area where the primary objective is to harvest timber to produce wood products.

Utility Right of Way Clearance	Work conducted along the right of way of Electric Utility lines. This includes the removal of dead trees resulting from insect or drought. Right of Way Clearance is not done with the intent of stopping a fire at the location of work but instead focuses on keeping trees from hitting powerlines and/or high fuel loads from forming under powerlines.
Watershed Restoration	Work conducted in uplands and/or riparian areas to restore watershed function, including improvements in water quantity, water quality, habitat, and other ecological characteristics
Wetland Restoration	Work conducted in land that is covered or saturated by water for all or portions of a year (excluding mountain meadows and riparian areas), to improve ecosystem function, including water quality, habitat, and other ecological characteristics.

Table 5: Broad Vegetation Type

List of vegetation type classes and definitions.

Broad_Vegetation_Type	Vegetation Type Definition
Forest	Land exhibiting greater than or equal to 10% canopy cover comprised of live trees.
Grass/Herbaceous	Natural vegetation dominated by grass and/or other herbaceous vegetation. Woody vegetation (trees and shrubs) is infrequent and less than 10% canopy cover.
Shrublands and Chaparral	Land exhibiting greater than or equal to 10% canopy cover comprised of shrubs or chapparal. These lands are dominated by woody plants but lack tree cover. Shrubs and chaparral area defined as woody plants that are less than 8 meters tall and usually have many stems arising at or near the base of the plant.
Sparse	Areas characterized primarily by low levels of natural vegetation, typically resulting from harsh growing conditions.
Wetland	Land that is covered or saturated by water for all or portions of a year, and do not fall within other categories. Includes vernal pools, mountain meadows, and peatlands.

Table 6: Activity Descriptions

List of vegetation management activities and associated definitions.

Activity Description	**Activity Unit of Measure**	**Activity Definition**
Aspen/Meadow/Wet Area Restoration	Acres	Harvest or other treatment within aspen stands (defined as a location with the presence of living aspen (P*opulus tremuloides*)), meadows, and wet areas in order to restore, retain, or enhance these areas for ecological or range values, with a primary goal of successful regeneration of aspen and recruitment into larger size classes.
Broadcast Burn	Acres	Prescribed burning where fire is applied to the majority or entire area within a well-defined boundary for reduction of fuel hazard, as a resource management treatment, or both.
Chemical, Biological, or Physical Pest Control	Acres	Work to control spread of active forest and rangeland pests, invasive plants, and/or diseases through the use of chemical or biological agents or physical mechanisms.
Clearcut	Acres	The removal of a stand in one harvest.
Commercial Thin	Acres	The removal of merchantable trees in a young-growth stand to maintain or increase average stand diameter of the residual crop trees, promote timber growth, to reduce tree density, and/or improve forest health. The residual stand consists primarily of healthy and vigorous dominant and codominant trees from the preharvest stand.
Conversion	Acres	The use of timber operations to transform timberland to a non-timber growing land use type where future timber operations or regrowth of native vegetation will be prevented (e.g., developed land, agriculture). Does not include operations where encroaching trees may be removed as part of ecosystem restoration (e.g., wet meadow or shrubland restoration).
Dozer	Acres	The use of a bulldozer to clear vegetation on fuels reduction projects, along a prescribed fire perimeter, to

Activity Description	Activity Unit of Measure	Activity Definition
		construct a fire line on a wildfire, or site preparation for planting.
Easement	Acres	Protection of forest and rangelands lands against conversion to development through the establishment of easements, fee title, or other activities.
Group Selection Harvest	Acres	The harvest of small patches within a matrix of the mature forest in order to mimic the natural gap creation that takes place in old-growth stands, as defined in the California Forest Practice Rules.
Habitat Revegetation	Acres	Re-establishment of natural herbaceous vegetation or shrubs for the purpose of ecosystem restoration.
Herbicide Application	Acres	Application of chemical treatments to manipulate or control undesirable vegetation.
Land Acquisitions	Acres	Protection of forest and rangelands lands against conversion to development through land acquisition via fee title or other actions.
Mastication/Chaining	Acres	Mechanical shredding, grinding, chopping, or pulverizing of small trees, shrubs, and woody debris into smaller fragments that are left on the ground surface.
Mowing	Acres	Mechanical treatment to remove or reduce light vegetation. Ground Disturbance is low to none.
Oak Woodland Management	Acres	Timber harvest within certain deciduous oak woodlands, forests, and savannahs as necessary to restore or conserve the ecological, cultural, and economic values of these historically oak-dominated stands.
Piling	Acres	The creation of fuel heaps by mechanical or hand means.
Precommercial Thinning (Manual)	Acres	Primarily hand cutting non-merchantable trees with chainsaws or

Activity Description	Activity Unit of Measure	Activity Definition
		other tools to reduce tree density (stocking).
Precommercial Thinning (Mechanical)	Acres	Mechanically cutting non-merchantable trees with a feller-buncher or similar equipment to reduce tree density (stocking).
Prescribed Herbivory	Acres	The use of domestic livestock to accomplish specific and measurable vegetation management objectives. Those would include things like removing biomass (fine fuel loads), reducing populations of specific plant species, slowing the re-establishment of shrubs on burned or mechanically thinned sites, and improving plant community structure for wildlife habitat values
Pruning	Acres	The removal, close to the branch collar or flush with stem, of side branches (live or dead) and/or multiple leaders from a standing live tree or shrub.
Rehabilitation of Understocked Area	Acres	Timber harvest for the purpose of restoring and enhancing the productivity of commercial timberlands which do not meet stocking standards prior to any timber operations.
Road Obliteration	Miles	Removal of roads via operations such as hillslope recontouring, soil ripping, and placement of organic matter.
Sanitation and Salvage Harvest	Acres	Sanitation is the harvest removal of insect attacked or diseased trees in order to maintain or improve the health of the stand. Salvage is the harvest removal of only those trees which are dead, dying, or deteriorating, because of damage from fire, wind, insects, disease, flood, or other injurious agent. Practices implemented as defined in the California Forest Practice Rules.

Activity Description	Activity Unit of Measure	Activity Definition
Seed Tree Removal Step	Acres	The removal of not more than 15 predominant trees per acre when the regeneration present exceeds minimum stocking requirements.
Seed Tree Seed Step	Acres	The removal of a stand in one harvest except for well distributed seed trees of desired species which are left singly or in groups to restock the harvested area.
Shelterwood Prep Step	Acres	Harvest intended to improve the crown development, seed production capacity and wind firmness of designated seed trees in a subsequent shelterwood harvest.
Shelterwood Removal Step	Acres	The removal of the protective overstory trees when a fully stocked stand of reproduction has become established following implementation of shelterwood seed step.
Shelterwood Seed Step	Acres	Harvest with the retention of seed trees that are of full crown, capable of seed production, and representative of the best phenotypes available in the preharvest stand.
Single Tree Selection	Acres	Removal of individual trees and small groups of trees throughout the stand to achieve or maintain a balanced uneven-aged stand structure.
Stream Channel Improvement	Miles	Alteration of the stream channel for ecological benefit, including alteration of the channel path, placement of logs or rocks to pool water, slope stabilization, or construction of wing dams to correct stream bank erosion,
Transition Harvest	Acres	The transition method may be used to develop an unevenaged stand from a stand that currently has an unbalanced irregular or evenaged structure. The transition method involves the removal of trees individually or in small groups from irregular or evenaged stands to create

Activity Description	Activity Unit of Measure	Activity Definition
		a balanced stand structure and to obtain natural reproduction, as defined in the California Forest Practice Rules.
Tree Planting	Acres	Re-establishment of forest cover following a natural disturbance (e.g., wildfire, insect outbreak, etc.) by planting seedlings and/or cuttings with or without site preparation.
Variable Retention Harvest	Acres	Harvesting based on the retention of structural elements or biological legacies (trees, snags, logs, etc.) from the pre-harvest stand for integration into the post-harvest stand to achieve various ecological, social and geomorphic objectives, as defined in the California Forest Practice Rules.
Wetland Restoration	Acres	Work not defined by other entries on the Activity list, conducted in land that is covered or saturated by water for all or portions of a year, to improve ecosystem function, including water quality, habitat, and other ecological characteristics.
Wildfire Managed for Resource Benefit	Acres	Wildland fire acres burned following unplanned ignitions that are managed to achieve objectives such as ecosystem restoration or hazard reduction

Table 7: Residue/Activity Fuel Fate

List of potential fates for residues (activity fuels), defined as plant biomass, such as branches or tree tops, resulting from or altered by a vegetation management activity, including timber operations, thinning, pruning, mastication, or site preparation.

Residue (Activity Fuel) Fate	Residue (Activity Fuel) Fate Definition
Biochar or Other Pyrolysis	The thermal degradation of biomass in the absence of oxygen to produce biochar, bio-oil, or other by-product, conducted on-site where residues were created.

Residue (Activity Fuel) Fate	Residue (Activity Fuel) Fate Definition
Broadcast Burn	Prescribed burning where fire is applied to the majority or entire area within a well-defined boundary for reduction of fuel hazard, as a resource management treatment, or both.
Chipping	Use of machines to cut woody material into small fragments. Includes leaving on site or removing.
Durable Products	Used to create durable wood products (plywood, oriented strand board, dimensional lumber, etc.)
Firewood	Firewood collection for commercial or individual issue, including for production of wood pellets.
Landfill	Disposed of in a landfill
Left on Site	Residues left on site to decompose without further treatment, such as after mastication, chipping, or piling.
Liquid Fuels	Used to produce liquid fuel (ethanol, hydrogen, bio-diesel, etc.), either on-site where the residues were created or off-site.
Lop and Scatter	Hand method of cutting limbs and tops of felled trees into smaller pieces, and scattered across the site.
No Residue/Not Applicable	No substantive residues (activity fuels) were created as a result of this activity.
Offsite Bioenergy	Used to generate energy at an offsite biomass energy facility (for combustion or gasification)
Other	Material treated or removed by a means not included on this list.
Pile Burning	Burning of piled material, including piles and decks created by hand and/or machine.
Unknown	Fate of activity fuels is unknown.

Table 8: Wildland-Urban Interface Designation

Entries for the Wildland-Urban Interface (WUI) data attribute.

WUI (Yes/No)	WUI Definition
Yes	The geographical intersection of two disparate systems, wildland and structures. At this interface, structures and vegetation are close enough that a wildland fire could spread to structures or fire could spread from structures to ignite vegetation.
No	Non-Wildland Urban Interface

Table 9: Ownership Group

Land ownership types and definitions

Major Owner Type	Major Owner Definition
Federal	Owned by the United States government, including US Department of Agriculture, US Department of Interior, US Department of Defense, or other agencies.
State	Owned by the State of California, including Department of Parks and Recreation, Department of Fish & Wildlife, State Lands Commission, Department of Forestry & Fire Protection, Department of Transportation, or other agencies.
Local	Owned by municipal, county, special district, or joint powers authority.
Private - Non-Industrial	Owned by a company or individual(s) not operating a primary wood-processing plant.
Private - Industrial	Owned by a company or individual(s) operating a primary wood-processing plant.
NGO	Owned by a not-for profit, citizen's group that is organized on a local, national or international level to address issues in support of the public good.
Tribal	(a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation; (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state; (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights- of-way running through the same; and (d) lands owned by Indian tribal governments, including those outside of the boundaries of (a), (b), or (c).