



Wildfire & Landscape Resilience Interagency Tracking System

Framework Version 2.0

Introduction

The Wildfire & Landscape Resilience Interagency Tracking System (Tracking System) framework supports the need of the California Wildfire and Forest Resilience Task Force in obtaining and communicating data on wildfire and landscape resilience activities critical to planning, monitoring, and reporting applications. It has been developed by membership of the Task Force's Monitoring, Reporting, and Assessment (MRA) Work Group in coordination with other government agency partners and stakeholders.

Background

California's [Wildfire and Forest Resilience Action Plan](#) was released on January 8, 2021, providing 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. Task Force efforts 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.

Several documents established a target of the State of California and the USDA Forest Service each treating at least 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)

The USDA Forest Service goals for work in California are consistent with recently established national goals for creating wildfire resilience. In addition to these targets, the Task Force, State, and USDA Forest Service have a variety of other policy goals for forest and wildland management¹. These goals establish a clear need to collect and share data on management in forests and other lands to support planning, monitoring, assessment, and scientific research.

¹ State and Federal policy documents, including: State's Climate Change [Scoping Plan \(2023\)](#); [Natural and Working Lands Climate Smart Strategy](#) (2022); [Water Resilience Portfolio](#) (2021); [30x30](#) (2022); USDA Forest Service's [10-year strategy for Confronting the Wildfire Crisis](#); [USDA Forest Service-State of California Agreement for Shared Stewardship of California's Forest and Rangelands](#) (2020).





Mission

The Task Force created the Tracking System in response to Action Plan Deliverable 4.8 (“develop consistent reporting tools”). The Tracking System is a geospatial database that provides summary information on management activity across the state, along with GIS maps detailing where, what, and when work is planned or completed.

Goals

The MRA Work Group identified several goals specific to creating a reporting system for wildfire and landscape resilience activities:

- **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, monitoring and assessment, operations, and science** as part of the Wildfire and Landscape Resilience Data Hub (Action Plan Deliverable 4.3) and other data systems 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.

To achieve these goals, the Task Force has created 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. While the Tracking System itself does not directly assess ecosystem impacts or management effectiveness, it can be used to facilitate outcome assessments, including those led by Task Force members (Goal 4.5 Develop Statewide Forest Ecosystem Monitoring System). Providing spatial data and associated attributes for stewardship activities will allow system users to create their own tailored assessments of ecosystem impact and management effectiveness at local, regional, and statewide scales.

Data Structure

This framework document for the Tracking System describes the structure and content of the database. 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).





- 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 to achieve one or more management 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 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. To assist in creating data summaries, each Activity is also assigned to a Category (e.g., Timber Harvest, Beneficial Fire, etc.).

Where available, the Tracking System collects information at the Activity level that can be used to inform environmental and economic assessments such as evaluating the fate of residues (also referred to as activity fuels). Residues are defined as plant biomass, such as branches or treetops, 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 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.





Not all source datasets used to populate the Tracking System are structured in the Project/Treatment/Activity format. Integrating these datasets into the Tracking System involves working with staff from the source agency to ensure that these data are transformed in a way accurately represents the work occurring on the ground. For example, the USDA Forest Service's Forest Activity Tracking System (FACTS) does not use the Treatment stratum, with the spatial data and related attributes instead included at the Activity level. To fill the Tracking System database, some of the FACTS attributes are crosswalked into the Treatment stratum. The *Tracking System Data Conversion and Reporting Methods* and supporting documents provide details on integration of source datasets.

Implementation Strategy

Data collection has been implemented in phases (Figure 1).

- Under Phase 1, the Tracking System has assembled management data from existing geospatial databases from state and federal land agencies, including the Department of Forestry and Fire Protection's (CAL FIRE) CalMAPPER database and the USDA Forest Service's Forest Activity Tracking System (FACTS) within the Enterprise Data Warehouse (EDW). These databases cover work implemented directly by these agencies and work completed through contracts and grants.
- In Phase 2, the MRA Work Group has broadened scope and started integrating data from additional state regulatory databases, such as the Prescribed Fire Information Reporting System, California Vegetation Treatment Program, and utility wildfire mitigation databases.
- Phase 3 intends to expand beyond the state and federal governments to include local governments, Tribes, and other entities.

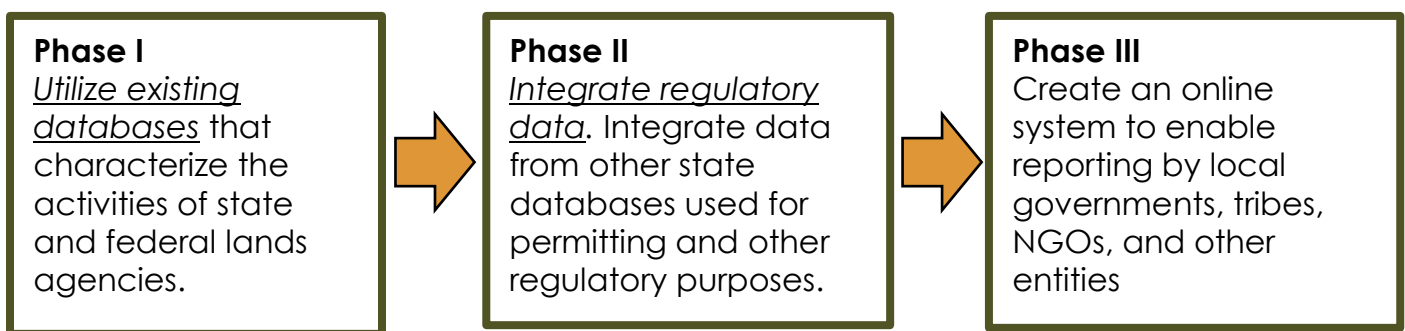


Figure 1: Tracking System Data Acquisition Conceptual Diagram

Data quality control will be iterative. Data should be vetted by agency staff prior to submission. As the Tracking System matures, the application will institute additional quality control measures to help ensure that submitted data are complete and meet minimum data standards. 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

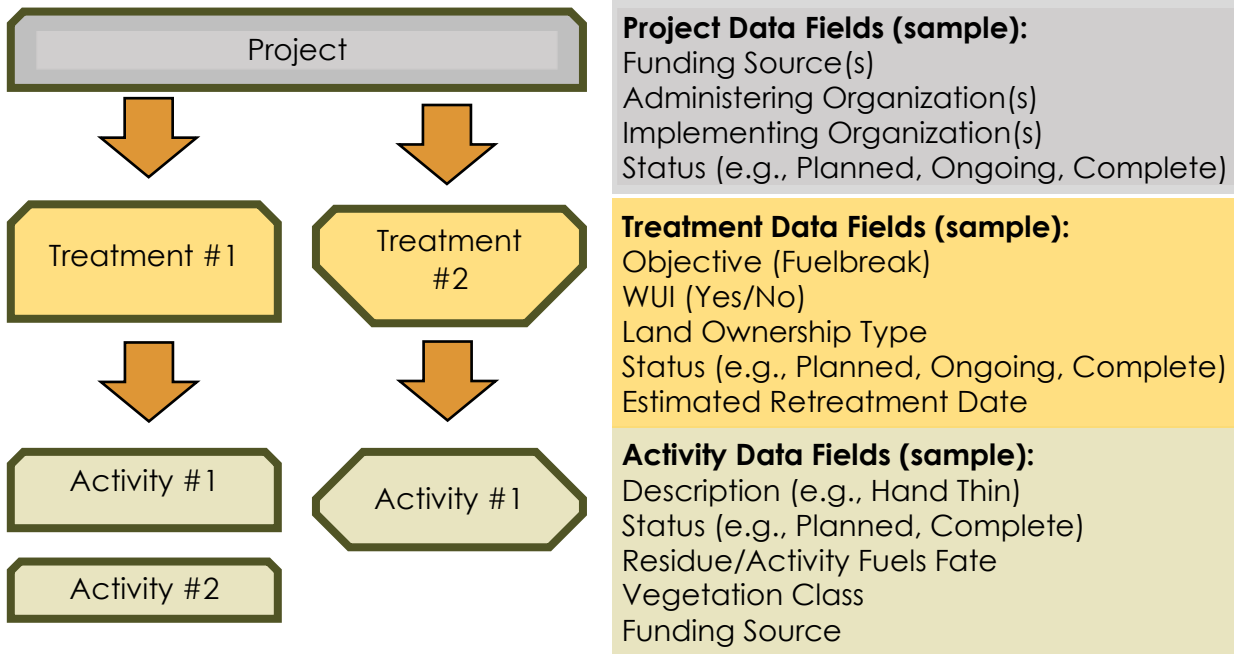


Figure 2: Spatial Data Structure

Appendix B – Data Dictionary

Table 1: Data Request Summary

List of attributes to be collected at each scale.

PROJECTS

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.	
Project	Project_Email	Text	A contact email for the organization. Not specific to the project.	





Table Name	Field Name	Field Type	Description	Options
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.		

TREATMENTS

Table Name	Field Name	Field Type	Description	Options
Treatment	Treatment_ID	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, 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

ACTIVITIES

Table Name	Field Name	Field Type	Description	Options
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 secondary 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 tertiary 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 the primary organization administering the funding.	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	Text	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
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.

*Best aligns with "Accomplished" in the USDA Forest Service database because those projects are under contract, but work may not yet have begun.

†For USDA Forest Service projects, this status is derived from date information within FACTS. USDA Forest Service projects with a "Cancelled" status may be cancelled, paused, or have an unknown status.

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.

* Best aligns with "Accomplished" in the USDA Forest Service database because those activities are under contract, but work may not yet have begun.

†For USDA Forest Service activities, this status is derived from date information within FACTS. USDA Forest Service activities with a "Cancelled" status may be cancelled, paused, or have an unknown status.

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	Work 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.
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 chaparral. 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	Category
Alternative Prescription	Acres	A method of timber harvest utilizing a silvicultural method not defined within the California Forest Practice Rules.	Timber Harvest
Aspen/Meadow/Wet Area Restoration	Acres	Harvest or other treatment within aspen stands (defined as a location with the presence of living aspen (<i>Populus tremuloides</i>)), meadows, and wet areas in order to restore, retain, or enhance these areas for ecological or range values.	Timber Harvest
Biomass Removal	Tons	Any activity (e.g., hand, mechanical) that removes fuel from the site by carrying or dragging.	Hand & Mechanical Fuels Reduction
Broadcast Burn	Acres	Prescribed burning where fire is applied to the majority or entire area within a well-defined	Beneficial Fire





		boundary for reduction of fuel hazard, as a resource management treatment, or both.	
Chaining/Crushing	Acres	Mechanical shredding, grinding, chopping, or pulverizing of small trees, shrubs, and woody debris into smaller fragments that are left on the ground surface.	Hand & Mechanical Fuels Reduction
Chipping	Acres	Use of machines to cut woody material into small fragments. Includes leaving on site or removing.	Hand & Mechanical Fuels Reduction
Clearcut	Acres	The removal of a stand in one harvest.	Timber 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.	Timber Harvest
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).	Timber Harvest
Dozer (Area)	Acres	The use of a bulldozer to clear vegetation on fuels reduction projects, along a prescribed fire perimeter, to construct a fire line on a wildfire, or site preparation for planting.	Hand & Mechanical Fuels Reduction
Dozer (Line)	Miles	The use of a bulldozer to clear vegetation on fuels reduction projects, along a prescribed fire perimeter, or to construct a fire line on a wildfire.	Hand & Mechanical Fuels Reduction
Easement	Acres	Protection of forest and rangelands lands against conversion to development through the establishment of easements, fee title, or other activities.	Land Conservation
Erosion Control	Acres	Methods to reduce or repair erosion, such as, Water bars, Road surface grading, Cross-drains, vegetation establishment, etc.	Watershed & Habitat Improvement
Grazing Allotment	Acres	Areas of land designated and managed for livestock grazing.	Hand & Mechanical Fuels Reduction
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.	Timber Harvest
Habitat Revegetation	Acres	Re-establishment of natural herbaceous vegetation or shrubs for the purpose of ecosystem restoration.	Watershed & Habitat Improvement





Handline	Miles	Clearing burnable material to mineral soil using hand tools.	Hand & Mechanical Fuels Reduction
Herbicide Application	Acres	Application of chemical treatments to manipulate or control undesirable vegetation.	Hand & Mechanical Fuels Reduction
Invasive Plant Removal	Acres	Work to control spread of active invasive plants through the use of chemical, biological, or physical mechanisms.	Hand & Mechanical Fuels Reduction
Land Acquisitions	Acres	Protection of forest and rangelands lands against conversion to development through land acquisition via fee title or other actions.	Land Conservation
Landing Treated - Area Mitigated	Acres	Removal of harvest residues/activity fuels from tree landing sites.	Hand & Mechanical Fuels Reduction
Lop and Scatter	Acres	Hand method of cutting limbs and tops of felled trees into smaller pieces, and scattered across the site. Slash should be reduced to a depth of < 24".	Hand & Mechanical Fuels Reduction
Mastication	Acres	Pulverizing brush and timber into smaller fragments that are left on the ground surface via use of a masticator (machine with rotary head or horizontal drum located in front).	Hand & Mechanical Fuels Reduction
Mowing	Acres	Mechanical treatment to remove or reduce light vegetation. Ground disturbance is low to none.	Hand & Mechanical Fuels Reduction
Oak Woodland Management	Acres	Timber harvest within certain deciduous oak woodlands, forests, and savannas as necessary to restore or conserve the ecological, cultural, and economic values of these historically oak-dominated stands.	Timber Harvest
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.	Watershed & Habitat Improvement
Pile Burning	Acres	Burning of piled material including hand and machine piles and decks.	Hand & Mechanical Fuels Reduction
Piling	Acres	The creation of fuel heaps by mechanical or hand means.	Hand & Mechanical Fuels Reduction
Planned Treatment Burned in Wildfire	Acres	Planned prescribed fire activities that are completed due to a natural ignition wildfire occurring, and acres burned are determined as meeting land management planning objectives in the post-assessment.	Beneficial Fire
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.	Hand & Mechanical Fuels Reduction
Pruning	Acres	The removal, close to the branch collar or flush with stem, of side branches (live or dead)	Hand & Mechanical Fuels Reduction





		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.	Timber Harvest
Removal of Hazard Trees and Snags - Area	Acres	Dead, down, or dying trees within recreation sites that are a threat to visitor safety. Trees of commercial size are sold; all slash is required to be removed by the purchaser.	Timber Harvest
Road Obliteration	Miles	Removal of roads via operations such as hillslope recontouring, soil ripping, and placement of organic matter.	Watershed & Habitat Improvement
Roadway Clearance	Acres	Any crushing, mowing, or other treatment that grinds or shreds roadside vegetation. Use this Activity Description only if the specific treatment (e.g., mowing, mastication, etc.) is unknown or if multiple methods are utilized.	Hand & Mechanical Fuels Reduction
Salvage Harvest	Acres	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 another injurious agent. Practices implemented as defined in the California Forest Practice Rules.	Timber Harvest
Sanitation Harvest	Acres	Sanitation is the harvest removal of insect attacked or diseased trees in order to maintain or improve the health of the stand. Practices implemented as defined in the California Forest Practice Rules.	Timber Harvest
Seed Tree Prep Step	Acres	Harvest intended to improve the crown development, seed production capacity and wind firmness of designated seed trees for a future seed-tree seed cut.	Timber Harvest
Seed Tree Removal Step	Acres	The removal of not more than 15 predominant trees per acre when the regeneration present exceeds minimum stocking requirements.	Timber Harvest
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.	Timber Harvest
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.	Timber 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.	Timber Harvest
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.	Timber Harvest





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.	Timber Harvest
Site Preparation	Acres	Manipulation of a site to enhance the success of plant establishment via planting, seeding, or natural regeneration.	Tree Planting
Slash Disposal	Acres	Proper disposal of slash (limbs, bark, tree tops, or other debris from forest products) using methods such as lop and scatter, piling and burning, hauling, chipping, etc.	Hand & Mechanical Fuels Reduction
Special Products Removal	Acres	Harvest and removal of special forest products, including, but not limited to, bark, berries, boughs, bryophytes, bulbs, burls, Christmas trees, cones, ferns, firewood, forbs, fungi, grasses, mosses, nuts, pine straw, roots, sedges, seeds, transplants, tree sap, wildflowers, fence material, mine props, posts and poles, shingle and shake bolts, and rails. Special forest products do not include sawtimber, pulpwood, non-sawlog material removed in log form, cull logs, small roundwood, house logs, telephone poles, derrick poles, minerals, animals, animal parts, insects, worms, rocks, water, and soil.	Timber Harvest
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.	Watershed & Habitat Improvement
Thinning (Manual)	Acres	Primarily hand cutting non-merchantable trees with chainsaws or other tools to reduce tree density (stocking).	Hand & Mechanical Fuels Reduction
Thinning (Mechanical)	Acres	Mechanically cutting non-merchantable trees with a feller-buncher or similar equipment to reduce tree density (stocking).	Hand & Mechanical Fuels Reduction
Transition Harvest	Acres	The transition method may be used to develop an unevenaged stand from a stand that currently has an unbalanced irregular or even aged structure. The transition method involves the removal of trees individually or in small groups from irregular or even aged stands to create a balanced stand structure and to obtain natural reproduction, as defined in the California Forest Practice Rules.	Timber Harvest
Tree Planting	Acres	Re-establishment of forest cover by planting seedlings and/or cuttings with or without site preparation.	Tree Planting
Tree Release and Weed	Acres	Activity designed to free young trees from undesirable, competing vegetation. Includes cleaning and weeding which are done in stands not past sapling stage.	Hand & Mechanical Fuels Reduction





Tree Seeding	Acres	Scattering or placement of seed more or less evenly over a designated area for establishment of forest stand or tree cover; includes broadcast, partial, full, or aerial seeding with or without site preparation.	Tree Planting
Trees Felled (> 6in dbh)	Each	Cutting down trees >6 inches in diameter at breast height (dbh).	Hand & Mechanical Fuels Reduction
Utility Right of Way Clearance	Acres	Vegetation management (pruning, tree felling, mastication, etc.) within a utility right of way intended to keep vegetation from hitting powerlines and/or high fuel loads from forming under powerlines. Use this activity description only if the specific treatment (e.g., mowing, mastication, etc.) is unknown or if multiple methods are utilized.	Hand & Mechanical Fuels Reduction
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.	Timber Harvest
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.	Watershed & Habitat Improvement
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.	Beneficial Fire
Yarding	Acres	Any activity (e.g., hand, mechanical) that removes fuel from the site by carrying or dragging.	Hand & Mechanical Fuels 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.
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.)





Residue (Activity Fuel) Fate	Residue (Activity Fuel) Fate Definition
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).

