## SUMMARY OF THE FOREST PROJECTS PLAN

Proposed by: Upper Mokelumne River Watershed Authority (UMWRA)

Location: Amador Ranger District, Amador County, Eldorado National Forest

**Introduction**

The Forest Projects Plan (FPP or proposed project) is a large, landscape-level forest and wildlife habitat improvement and protection project located on U.S. Forest Service (USFS or Forest Service) lands, primarily within the upper Mokelumne River watershed[[1]](#footnote-1).This document covers Phase 1 of a two-phased approach to the Forest Projects Plan. Phase 1 primarily focuses on actions related to reducing forest ladder fuels and other non-commercial forest management activities to be implemented in the Amador Ranger District. Phase 2 will incorporate the Calaveras Ranger District into the project area and will be a much more comprehensive planning document. It is anticipated Phase 2 will include additional forest management actions such as commercial thinning and is expected to take approximately two years to complete.

The Upper Mokelumne River Watershed Authority (UMRWA) designed the FPP in collaboration with the Amador Calaveras Consensus Group (ACCG)—a community-based local collaborative that works to create healthy forests and watersheds, fire-safe communities, and sustainable local economies—and with the Amador Ranger District Wildlife Biologist and Fuels Management Officer. The FPP builds on strategic planning and collaboration achieved by ACCG through use of ACCG’s recently developed Strategic Landscape Prioritization Tool, known as the GIS Mapping Tool, to assist in identifying treatment areas. The proposed treatments are designed to include what the ACCG refers to as “mutually agreeable” in the group’s Forest Treatment Guidance Document, and non-to-moderately controversial forest restoration and understory fuels treatments such as fuel breaks, ridge-top understory thinning, mechanical fuels reduction forest thinning, forest ladder fuels treatments and hand treatments within a minimum of 10,000 acres. Select hazard trees would be removed as necessary to facilitate the safe implementation of the habitat treatments. Additionally, prescribed fire treatments would be implemented by the Forest Service.

The FPP would enhance wildlife habitat through mechanical fuels reduction, manual vegetation treatments and prescribed burning within three target ecosystems that provide essential components of wildlife habitat: late seral/old forest ecosystems, aquatic ecosystems, and aspen stands.

The treatments would enhance forest health by reducing competition for resources (water, sunlight, nutrients) within stands that are ‘overly dense’ and in habitats that have been diminished due to conifer encroachment from lack of fire (aquatic systems, aspen stands). Another critical benefit from project implementation would come from lowering the risk of high-severity fire effects within both treated and adjacent untreated areas. The project treatments were designed to reduce and maintain lower ladder fuels to slow the spread and reduce the intensity of future fires, thus protecting forested habitat from loss due to large, high severity wildfire.

**Purpose and Need**

The past decade has brought major environmental changes in the Sierra Nevada, including unprecedented drought, bark beetle and other insect outbreaks, large high-intensity wildfires, and associated tree mortality. While ecosystems of the Sierra Nevada have evolved to be well-adapted to fire, the recent increases in the size, frequency, and intensity of fires have resulted in ecosystem transitions, changes in hydrology, and associated effects to sediment and nutrient fate and transport. These dramatic shifts have reduced habitat quality and quantity for sensitive species and pose a significant risk to natural biodiversity.

North et al. (2021) estimate that of the 13 million acres of federal forest lands across the Sierra Nevada, fires historically reduced fuels on approximately 631,000 acres annually. In contrast, the footprint of all fuel treatment areas on Forest Service lands from 2011–2020 was 63,357–92,725 acres/per year.[[2]](#footnote-2) As a result, fuel loads in forests today are much higher than historical conditions. Accordingly, North et al. (2021) propose the targeted use of traditional silvicultural methods (i.e., mechanical and hand-thinning treatments) to prepare landscapes for both prescribed fire and to better manage wildfire. Such treatments would increase the pace and scale of fuels reduction on dry Sierra Nevada Forests and restore ecosystem function and integrity. Drawing on North’s work, the FPP would utilize mechanical fuels reduction and manual vegetation treatments to prepare the landscape for wildfire resilience and prescribed burning strategies. The FPP would also utilize prescribed burning as an initial treatment where site conditions allow.

UMRWA is currently leading the National Environmental Policy Act (NEPA) planning process for the FPP to allow implementation of these strategically-placed on-the-ground fuels treatments for the protection of large trees and wildlife habitat as quickly and as efficiently as possible. The NEPA planning and analysis will also serve as a component of the larger landscape fuels strategy plan for the Amador Ranger District and as required by the Sierra Nevada Forest Plan Amendment (SNFPA Record of Decision, p. 4).

The areas proposed for these fuels treatments are at high risk for wildfire and are characterized by dense understory and overstocked forest conditions that are susceptible to mortality from drought, pests, pathogens, and catastrophic wildfire. The current surface fuel loading and ladder fuels in this area create hazards to firefighters, wildlife, and watershed health. These hazards can be reduced through widespread reduction of surface and ladder fuels and tree thinning. As demonstrated in the recent Caldor Fire, these treatments would also facilitate fire suppression tactical operations in the event of a wildfire.

The proposed treatments would be implemented across the landscape including in sensitive areas and unique habitats that have traditionally been excluded from these types of fuel treatments. The proposed project is adding protection to three ecosystems that provide essential components of wildlife habitat: late seral/old forest ecosystems, aquatic ecosystems, and aspen stands.

*Late Seral/Old Forest Ecosystems*

Late seral/old forest ecosystems support a complex vegetation structure—with relatively dense overstory canopy, tall, large-diameter trees and snags, and a varied understory including downed wood and debris—that provides habitat for a wide variety of plant and animal species. Of particular importance in the Sierra Nevada are two birds that are emblematic of late seral/old-growth conifer and mixed conifer forests, the California spotted owl and the northern goshawk. California spotted owls and northern goshawks are old-growth forest specialists and, at the landscape scale, require heterogeneous forest stands that support patches of large live trees and snags with moderate-to-dense canopy cover in the higher tree strata (North et al. 2017, USDA-FS 2019).

Habitat for late seral ecosystem species such as California spotted owl and northern goshawk has been severely reduced and degraded by recent large-scale high-intensity wildfires (Jones et al., 2016, USDA-FS 2019, Blakely et al., 2019, Jones et al. 2020). While California spotted owl and northern goshawk may thrive in the dense forest conditions resulting from past fire suppression policies, both species evolved in Sierran landscapes characterized by frequent-fire regimes and low- to moderate-severity fire with small patches of severe fire (Kramer et al., 2020, Gutierrez et al. 2017) which created heterogenous forest structures. These historical forests contained higher densities of large trees and lower densities of small trees than today, with the same approximate basal area but fewer trees per acre (Lydersen et al. 2013, Safford and Stevens 2017)). Current management recommendations promote forest restoration toward its natural range of variation, taking into account the dynamics of a forest ecosystem over time in response to disturbance and succession processes (USDA-FS 2019). Consistent with recent recommendations, the objective of the FPP is to develop more resilient habitat conditions for old-growth species by reducing forest density, increasing structural heterogeneity, and selecting for tree species and phenotypes adapted to changing climate and fire conditions (North et al. 2021). This includes restoring heterogenous conditions at multiple scales by integrating tree clumps, widely spaced large trees, and gaps or openings (Larson and Churchill 2012, North et al. 2012, North et al. 2021).

*Aquatic Ecosystems*

Aquatic ecosystems provide habitat for species such as Sierra Nevada yellow-legged frog and Yosemite toad. Sierra Nevada yellow-legged frogs are a highly aquatic species whose preferred habitat consists of streams or lakes with a gentle slope such that at the shore there is shallow warm water. A large portion of the FPP is located within federally designated critical habitat for Sierra Nevada yellow-legged frog (Subunit 2F, East Amador), which was delineated to encompass extant populations in the Sierra Nevada. Yosemite toads breed in high-elevation wet meadow complexes, moving into adjacent upland forests outside of the breeding season. Federally designated critical habitat for Yosemite toad (Unit 1, Blue Lakes/Mokelumne) is located in higher elevation areas in the southeastern portion of the FPP. Past fire suppression practices and associated changes in vegetation structure within a watershed may have reduced the portion of precipitation that ends up as runoff to creeks and streams (in general, reducing vegetative cover increases water yield, and increasing vegetative cover decreases water yield [Hibbert 1967]).

In addition, as described in Brown et al. (2015), high-intensity fire can result in intensive and extensive changes in watershed condition including effects on water yield, peak flows, and sediment yield, resulting in further alteration and degradation of aquatic habitats post-fire. Debris flows, which are common after severe wildfire, can greatly reduce breeding and rearing habitat for stream-breeding amphibians such as Sierra Nevada yellow-legged frog. Pools may fill completely with sediments, or if they do not completely fill, they may dry out and hold less water before tadpoles can mature. Debris flows may also create barriers that prevent dispersal and re-colonization post-fire. In southern California, post-wildfire landslides and debris flows extirpated one of the largest known populations of the closely-related southern mountain yellow-legged frog (*Rana muscosa*) (Backlin et al. 2004). For Yosemite toads, which spend a large portion of the year in terrestrial habitats, changes in the terrestrial environment may have a strong impact on their population dynamics (Hassack and Corn 2007). Low-intensity wildfire can increase the recruitment of coarse woody debris for shelter, which can offset greater soil temperatures and evaporative water loss resulting from reduced canopies. However, high-intensity wildfire may severely reduce large woody debris on the forest floor that provides refugia for terrestrial amphibians.

The treatments proposed under the FPP are intended to improve watershed conditions by reducing fuel loads and restoring fire regimes within the natural range of variation. Such treatments would enhance aquatic functions and services in the Mokelumne River and its tributaries by increasing water yield and reducing the risk for debris flows, erosion, and sedimentation caused by severe wildfire. The FPP would also enhance and preserve high-elevation meadows that provide breeding habitat for Sierra Nevada yellow-legged frogs and Yosemite toads by removing lodgepole pines that are encroaching on and changing the hydrology of meadow habitats (Brown et al. 2015).

*Aspen Stands*

Aspen stands within the proposed project area have been compromised by fire suppression and conifer encroachment, which, over time, has resulted in fewer and smaller stands comprised of a single age-class of trees. The FPP is expected to improve landscape-level forest habitat heterogeneity and diversity compromised by fire suppression and conifer encroachment by increasing the spatial extent of aspen stands, and to enhance within-stand resiliency by creating stands characterized by multiple age classes.

Aspen stands are typically (though not always) an early successional community that transitions to greater conifer-dominance, which then becomes increasingly fire prone until fire returns and aspen again temporarily dominate (Shepperd et al. 2006, Shinneman et al. 2015). Fire, as well as other types of disturbance, is therefore integral to the persistence of aspen on the landscape. Regeneration, adding diversity of age classes (most existing stands have one mature age class and little regeneration in younger age classes), and expansion of aspen stands would contribute to wildlife habitat diversity and resilience in several ways. Generally widely distributed in North America, in California aspen is more limited in range, most often confining itself to areas of above average soil moisture, such as stream banks, meadows, springs, and subsurface water sources (Sheppard et al 2006). The relatively high fuel-moisture content in many aspen stands often makes them resistant to fire spread, and they can act as natural fire breaks (Shepperd et al. 2006). As a wildfire advances toward an aspen community, the fire often drops from the crowns and proceeds as a low intensity surface fire or even stops (Alexander and Lanoville 2004).

Multiple locations within the upper Mokelumne watershed, such as in and around Anderson Canyon, have been identified where aspen are currently declining due to conifer encroachment and competition. Conifer encroachment, fire suppression, and livestock/ wildlife browsing and have resulted in an overall decline in the health of aspen stands. Aspen is shade intolerant and needs full sunlight for successful establishment and growth. Aspen are being shaded out by conifer encroachment throughout the northern Sierra Nevada, and the aspen clones in the project area are also declining. The aspen stands in the project are currently being overtopped by conifers, resulting in a lack of successful regeneration and declining stand health. Removing competing conifers to maximize sun exposure and reducing the insulating litter/surface fuel layer to stimulate potential for sprouting to create conditions conducive to restoring or expanding these remnant clones of aspen have proven successful on aspen restoration projects in Region 5.

Furthermore, aspen forests are biodiversity hotspots, second only to riparian habitats (Shepperd et al. 2001, Western Aspen Alliance 2019), and, while typically a minor habitat component, they may add disproportionately to overall landscape diversity (Martin and Maron 2012, Kouki et al., 2014, Rogers 2017). Aspen stands provide habitat for numerous birds and may be particularly important for cavity-nesting species including flickers (*Colaptes* spp.), woodpeckers (*Picoides* and *Melanerpes* spp.), chickadees (*Parus* spp.) and nuthatches (*Sitta* spp.). Mammals such as the North American beaver (*Castor canadensis*), Sierra Nevada mountain beaver (*Aplodontia rufa californica*), and mule deer (*Odocoileus hemionus*) have a noted affinity for aspen (De Byle and Winokur 1985, Sheppard et al 2006). Other common denizens of aspen stands include shrews, mice, squirrels, chipmunks, hares, cottontails, and porcupine. Mixed conifer–aspen stands provide excellent habitat for flying squirrels, a critical prey species for the California spotted owl (Andersen et al. 1980 in DeByle and Winokur 1985). Bats are also known to use aspen stands, drawn by the diversity of insects and availability of cavities (De Byle and Winokur 1985).

*Other Project Benefits to Forests and People*

This project is also designed to help protect wildlife habitat and communities within the Wildland Urban Interface (WUI) to the extent possible. Another critical benefit from project implementation would come from lowering the risk of high-intensity fire effects within both treated and adjacent untreated areas. The project treatments are designed to reduce and maintain lower ladder fuels to slow the spread and reduce the intensity of future fires, and thus protect forested habitat from loss due to large, high severity wildfire.

Restoration of healthier, more resilient forests will aid a reduction in uncontrolled emissions from wildfire over the long-term and improve growth, life-span, and carbon storage of residual trees. Surface water quality, supply and reliability will be protected by reducing fire-induced soil erosion, benefiting downstream users, hydroelectric infrastructure, and potentially special status species. Project activities are planned within drainages that flow into the Mokelumne River upstream of Pardee Reservoir, which is a critical water storage infrastructure providing water to 1.4 million downstream California residents.

**Location**

The proposed project areas are situated primarily within the upper Mokelumne River watershed on National Forest System lands administered by the Amador Ranger District on the Eldorado National Forests. Proposed treatments were initially evaluated for all Amador Ranger District lands outside of Wilderness within the Mokelumne River watershed and within 5 miles adjacent. The Northern and Eastern edges of the project area incorporate a buffer within the South Fork American River watershed for added protection of the Mokelumne watershed which is at risk in this area based on winds, slope and fire shed data (Amador Ranger District Fuels Specialist, pers comm). Extending these treatments into portions of adjacent watersheds provides protective buffers and treats topographically advantageous areas for fire suppression (ridgetops), and includes many overly dense conifer forest areas in need of treatment. Much of these lands are classified as WUI.

UMRWA utilized the GIS Mapping Tool described above to identify areas within the upper Mokelumne watershed at high risk for fire that are inside and outside the WUI. UMRWA identified one large potential project area with a protective boundary area within the Amador Ranger District.

**Proposed Activities**

The project proposes to implement four categories of treatments: 1. Mechanical Treatments of Surface and Ladder Fuels, 2. Hand Thinning, 3. Prescribed Burning; and 4. Aspen Stand Restoration. The most cost efficient and effective treatment or combination of treatments will be chosen for each area based on in-field verification of on-the-ground conditions, suitability, timing, equipment availability, and post-treatment results. Additionally, two supplemental activities/treatments (pruning and hazard tree felling and removal) may be undertaken at select locations where conditions warrant such supplemental activities.

Project activities include thinning brush and small trees, removing ladder fuels, pruning trees, and removing or compacting the arrangement of surface fuels in order to prepare the landscape for wildfire resilience and prescribed burning. These are simple, cost efficient and effective fire hazard reduction techniques that will increase the annual acreage of fuels reduction treatments and enable more intensive treatments in key areas. The FPP would also utilize prescribed burning as an initial treatment where site conditions allow.

Mechanical Fuels Reduction

Mechanically reduce shrubs and small trees generally up to 10 inches dbh (larger live trees may be masticated where necessary to facilitate machinery movement within the stand). Masticate dead trees up to 16” diameter (larger dead trees may be masticated to abate an imminent safety hazard). Mechanical fuels reduction treatments within the prescribed fire treatment areas will only occur where required field surveys have been conducted.

* Treat ground fuels through grinding, machine crushing, or chipping.
* Mechanical Fuel Reduction would be applied:
  + to slopes ≤40% where feasible;
  + within 0.25 miles of road centerline;
  + where hand treatments are not required or specified;
  + within California spotted owl and Northern goshawk Protected Activity Centers (PACs) within WUI Defense and Threat Zones (except within 500’ of the activity center and as consistent with SNFPA) (SNFPA ROD, p.60, #72 and #73);
  + Except where necessary to facilitate machinery movement within the stand, no live trees shall be cut that exceed 10" DBH and meet minimum merchantable timber specifications (i.e., would produce at least a 10' straight log with a 6" diameter inside bark at the small end). Lodgepole pine is not considered merchantable in this project.
* On slopes >40% a tethered mastication system may be utilized where feasible and in accordance with soil standards. Tethered systems consist of a cable winch mounted on a piece of equipment. The winch system either mounts to the working equipment or it is mounted to another piece of equipment, like a dozer, that also acts as the anchor. When mounted to the working equipment, the winch line is anchored to an anchor point, such as a stump or the base of a standing tree, somewhere on the slope. The mechanical influence of the winch is used for enhanced traction and mobility on steep slopes (often called “traction assist”) or for safety on steep slopes (preventing machine sliding and overturning and reducing soil disturbance).

Hand Thinning Brush and Small Trees

Hand thinning may occur anywhere in the project where other treatments are not feasible or where this activity will not conflict with other resource concerns/restrictions.

* Hand thin brush and live trees generally up to 10” diameter in areas where mechanical fuels reduction treatments are unsuited or prohibited. Hand cut dead trees up to 16” diameter (larger dead trees may be cut to abate an imminent safety hazard).
* Hand thinning within California spotted owl and northern goshawk PACS outside of WUI and surrounding activity centers within WUI would target select conifer trees less than 6 inches diameter prior to implementing prescribed fire (SNFPA ROD, p. 60, #74). Outside the WUI, stand-altering activities would be limited to reducing surface and ladder fuels through prescribed fire treatments. In forested stands with overstory trees 11 inches dbh and greater, prescribed fire treatments will be designed to promote average flame length of 4 feet or less. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect important elements of owl habitat.
* Hand thinning may be followed by chipping, lopping and scattering, and/or prescribed burning.

Prescribed Burning

* Implement prescribed burning using ground based or aerial ignition methods to reduce understory fuels. Prescribed understory fire would be prioritized in strategic locations to reduce the risk of large fires within treatment areas and on the surrounding landscape. Prescribed understory burning may take place following mastication or hand thinning, or as a stand-alone treatment.
* Construct hand or machine fire lines where needed to contain the fire. Natural barriers and roads would be utilized as fire containment lines where possible.

Aspen Restoration

* Aspen stands will be defined in consultation with the United States Forest Service.
* Remove encroaching conifers and shrubs to reestablish the historic aspen stand edge, enhance stand function, increase the diversity of age classes, and promote aspen growth.
* Treatments for aspen may extend beyond the current perimeter of an aspen stand up to (1) 1½ times the height of aspen trees in the stand (the maximum extent of lateral aspen roots), (2) the distance required to prevent remaining, adjacent conifers from shading the aspen stand and suppressing aspen regeneration, or (3) up to 100 feet (to conduct treatments or process treatment by-products), whichever is greater.
  + Utilize hand thinning, ground based mechanical equipment (e.g., masticator, feller buncher, skidder), chipping, lopping and scattering, and/or prescribed burning.
  + Mechanical fuels reduction treatments (including logging of merchantable sized trees, and removal or decking of logs) would be applied to stands on slopes generally ≤40% and hand cutting would be applied on slopes generally >40%; removing trees less than 30" diameter. Larger conifer trees may be girdled and left standing.
  + Construct temporary fencing around aspen treatment areas as needed to prevent damage to young aspen sprouts from browsing animals.

**Supplemental Activities/Treatments**

Pruning

* Residual trees may be pruned to raise the base height to live crown in order to reduce the risk of wildfire or prescribed fire moving into the crowns. Pruning involves severing all limbs on live trees up to a height of 8’ to 12’ on the bole, while retaining a minimum of 50% but not to exceed 50% of total tree height.

Hazard Tree Felling and Removal

* + Weak and high- risk trees of all sizes (both dead and unstable live trees) identified as an imminent hazard to the implementation of proposed project activities will be felled and may be removed.
  + Hazard trees will be identified and assessed using the 2012 Region 5 Hazard Tree Guidelines for Forest Service.

**Anticipated Timing and Extent of Proposed Activities**

This project is intended to support an implementation window of five to six years while a larger scale and more comprehensive Phase 2 Forest Projects Plan is completed. The timing and duration of implementation for this project is expected to vary based on the type of action. We estimate 500 to 2,000 acres of hand treatments and 500 to 2,000 acres of mechanical fuels reduction treatments could be implemented on an annual basis over the next five to six years and repeated for 10 to 15 years or more, depending on fuel conditions and funding. We estimate that 10,000 acres or more may be treated with prescribed fire in the next five to six years.

**Forest Plans and Sierra Nevada Forest Plan Amendment**

The FPP is consistent with the Eldorado National Forest Plan, as amended by the 2004 SNFPA. In addition, the project would achieve concepts described in the more recent 2019 California Spotted Owl Conservation Strategy (Owl Strategy). Both documents recommend treatments that retain high quality habitat, and protect habitat and PACs, from stand destroying wildfire. Furthermore, the FPP is consistent with the national-level, Wildfire Crisis Strategy, which articulates a need for an increase in pace and scale of fuel treatments within high-risk firesheds (including the Upper Mokelumne River watershed) in the western United States. The treatments planned in this project would retain habitat where it exists, reduce potential for larger wildfires in and adjacent to habitat, and improve stand health which will benefit spotted owls and other species through time. This project and others like it may serve as a model for future projects.

The FPP aligns with the Mokelumne Avoided Cost Analysis which was a joint effort by the ACCG, the Forest Service, the Sierra Nevada Conservancy, and The Nature Conservancy. The analysis demonstrated the importance of forest management to protecting resources in disproportion to their costs. The project is consistent with Amador County High Country Community Wildfire Protection Plan objectives in that work will help to protect human life, protect property from wildfires, minimize ignitions, decrease wildfire intensity and damage, and protect infrastructure. The proposed project advances the State’s Shared Stewardship Memorandum of Understanding with Forest Service Region 5, which identifies a shared goal to increase the pace and scale of science-based forest stewardship activities, and better protect human life, infrastructure, and ecosystems. Finally, this project/work advances California’s Wildfire and Forest Resilience Action Plan; it promotes forest and watershed health, protects critical infrastructure including creation of fire-safe roadways, reduces the likelihood of large-scale fire, and decreases the potential for uncontrolled emissions.

**Public Outreach and Use of Mapping Tool**

The UMRWA team utilized the GIS products recently developed in collaboration with the ACCG Strategic Landscape Assessment Work Group – SLAWG (as part of the Sierra Nevada Conservancy (SNC)-funded GIS Mapping Tool Project) to identify priority treatment areas. The UMRWA team worked closely with the SLAWG to develop a landscape prioritization tool that utilizes a wildfire risk assessment framework outlined in GTR-315 (Scott et al., 2013). This prioritization tool was utilized to identify where the region’s high-valued assets and resources would be most vulnerable to predicted future wildfire. This process identified “priority areas” for future treatments – model outputs were areas identified as being most at risk. Along with the “priority areas” output generated from the tool, UMRWA also utilized the project inventory database that was developed by the ACCG to track previously identified project and treatment areas.

Based on GIS analyses compiled as part of the Mapping Tool Project (described also below, under Site Description), the project planning areas are considered high priority for habitat protection and fuels treatments due to dense, overstocked, homogeneous forest conditions that are susceptible to mortality from drought, pests, pathogens, and catastrophic wildfire. While high severity fire has likely been part of the natural range of variability for several forest types at low to mid-elevation in the Sierra Nevada, the number of large fires (>160 acres) per year has increased from 1950 to 2010, and the proportion of high severity fire area in large fires has steadily increased from 1984 to 2010 in the Sierra Nevada (Miller and Safford 2012). In the time since 2010, there have been other large fires with similar trends of increasing total fire size, making the proportion of area of high severity fire greater in modern times, and increasing the size of contiguous high severity patches. The associated impacts of high severity fire on forest structure, wildlife and their habitat, and soils and watershed condition are beginning to be understood. It is widely accepted that mechanical fuels reduction thinning and prescribed burning are effective strategies in changing forest stand structure and fuel beds to a condition that is more resistant to stand-replacing, high intensity fire, resulting in diminished high severity fire effects (Stephens et al. 2012).

UMRWA worked closely with FS staff and the Amador Calaveras Consensus Group (ACCG) to design project activities with well-established treatment methods to reduce fuels and the threat of wildfire, maximize co-benefits such as watershed protection, while simultaneously minimizing the time needed to complete the NEPA/CEQA processes. The proposed landscape-level planning initiative and the associated NEPA/CEQA compliance will address a minimum of 10,000 acres identified as most urgently needing understory treatments. Most of the treatments employed will be service work or stewardship such as hand treatments and mechanical fuels reduction.

**Environmental Review Process**

Planning involves the NEPA/California Environmental Quality Act (CEQA) processes which must be completed before any significant future fuels treatments can be implemented in the upper Mokelumne watershed. It is critical that UMRWA and others work as expeditiously as possible to vastly increase the areas where forest treatments can be conducted and implement those projects as-soon-as possible.

The exact deliverables and milestones for the NEPA/CEQA process will depend on which NEPA strategy is decided by the Forest Service. The final decision about which NEPA compliance strategy is required will be made following scoping, however; we anticipate this planning project will fall under a NEPA Categorical Exclusion (CE)/Decision Memo (DM) (36 CFR § 220.6(e)(6)) (wildlife habitat improvement activities) and CEQA compliance will be completed under a statutory exemption (PRC Section 4799.05(d) (AKA Senate Bill 901). These permitting strategies generally require fewer steps and less time; however, the exact number of acres included in the NEPA DM/CEQA compliance documents will depend on funding availability primarily for archaeological field surveys in areas needing mechanical fuels reduction (e.g., ground disturbing activities) or wherever archaeological field surveys are required prior to execution of the NEPA DM. Specific reports likely to be prepared as part of the NEPA process include: Wildlife Biological Evaluation, Botanical Biological Evaluation, hydrological analyses, Cultural Resources documentation, and all analyses required to complete the NEPA Project Record reports, Decision Memo(s) and CEQA Notice of Exemption.

Once the NEPA/CEQA process is completed on the larger landscape, UMRWA is committed to seeking funding over time for implementation of the entire planning area. Implementation costs for on-the-ground fuels treatments include flagging unit boundaries (if needed), procurement, contract administration, monitoring, and project management.

The NEPA DM will incorporate a thorough and detailed list of environmental protection measures to avoid adverse impacts to environmental resources including soil, plants and fish and wildlife. These environmental protection measures are carefully worded and discussed as part of the entire NEPA and CEQA processes. The FS has adopted a number of Best Management Practices and protection measures to avoid unnecessary environmental impacts. For example, to reduce the spread of noxious weeds and, per USDA guidelines, invasive plants will be monitored during baseline and post treatment periods (USDA 2013). Previous UMRWA implementation projects have incorporated these BMPs into contract documents and compliance is maintained through regular inspection by UMRWA staff.

**BACKGROUND AND CONTEXT**

The majority of the proposed project area is a subset of the much larger 390,904-acre program known as the Cornerstone Collaborative Forest Landscape Restoration Program (CFLRP) also known as Cornerstone. The purpose of the CFLRP is to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes. The project employs a diverse mix of management actions that build on the Cornerstone initiative.

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Design Criteria to be included with Scoping/Interested Party Letter.

1. The FPP also includes an adjacent protective buffer on the northeastern boundary of the Mokelumne watershed, which was included based on recommendations from USFS personnel to further strengthen protection of the watershed based on prevailing winds, topography, hazardous fuel conditions and other risk factors. [↑](#footnote-ref-1)
2. Includes mechanical, prescribed burn and managed wildfire treatments. [↑](#footnote-ref-2)