



Roosevelt Watershed Protection and Forest Thinning Project

WaterSMART Environmental Water Resources Projects for Fiscal Year (FY) 2022
Funding Opportunity No. R22AS00026

Applicant:

Salt River Project (SRP)

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D.2.2.4. Technical Proposal and Evaluation Criteria

D.2.2.4.1. Executive Summary

Date: 12/9/2021

Applicant Name: Salt River Project (SRP)

Applicant Location: Tempe, Maricopa County, Arizona

Category A Applicant: Organization with water or power delivery authority

Project Summary

The Salt River Project (SRP), U.S. Forest Service (USFS), and the Town of Payson (Payson) are supporting the Arizona Department of Forestry and Fire Management (DFFM) to thin 2,284 acres of overgrown, unhealthy forest in the Roosevelt project of the East Clear Creek Watershed in Northern Arizona. Currently, the Roosevelt project area is at high risk of catastrophic wildfire that will have devastating effects on U.S. Bureau of Reclamation (BOR) owned water infrastructure and impair SRP's ability to provide reliable water supplies to downstream uses. The project goals are to move the forest on a positive trajectory by removing hazardous fuels, restoring forest structure, composition, and function. Restoring the forest will initiate the re-establishment of fire-adapted, resilient, diverse, and a sustainable forest ecosystem. The result will reduce the risk of uncharacteristic wildfire to the Wildland Urban Interface (WUI) and municipal water supply watersheds in and adjacent to the Roosevelt project area. It is imperative to reduce the risk of post-wildfire erosion and post-wildfire flooding that would impact reservoir operations and long-term storage. These restored forests will spur wildlife prosperity, bolster drought preparedness for Payson and other small northern Gila county communities, create a more resilient forest ecosystem, and prevent devastating wildfires in the East Clear Creek Watershed.

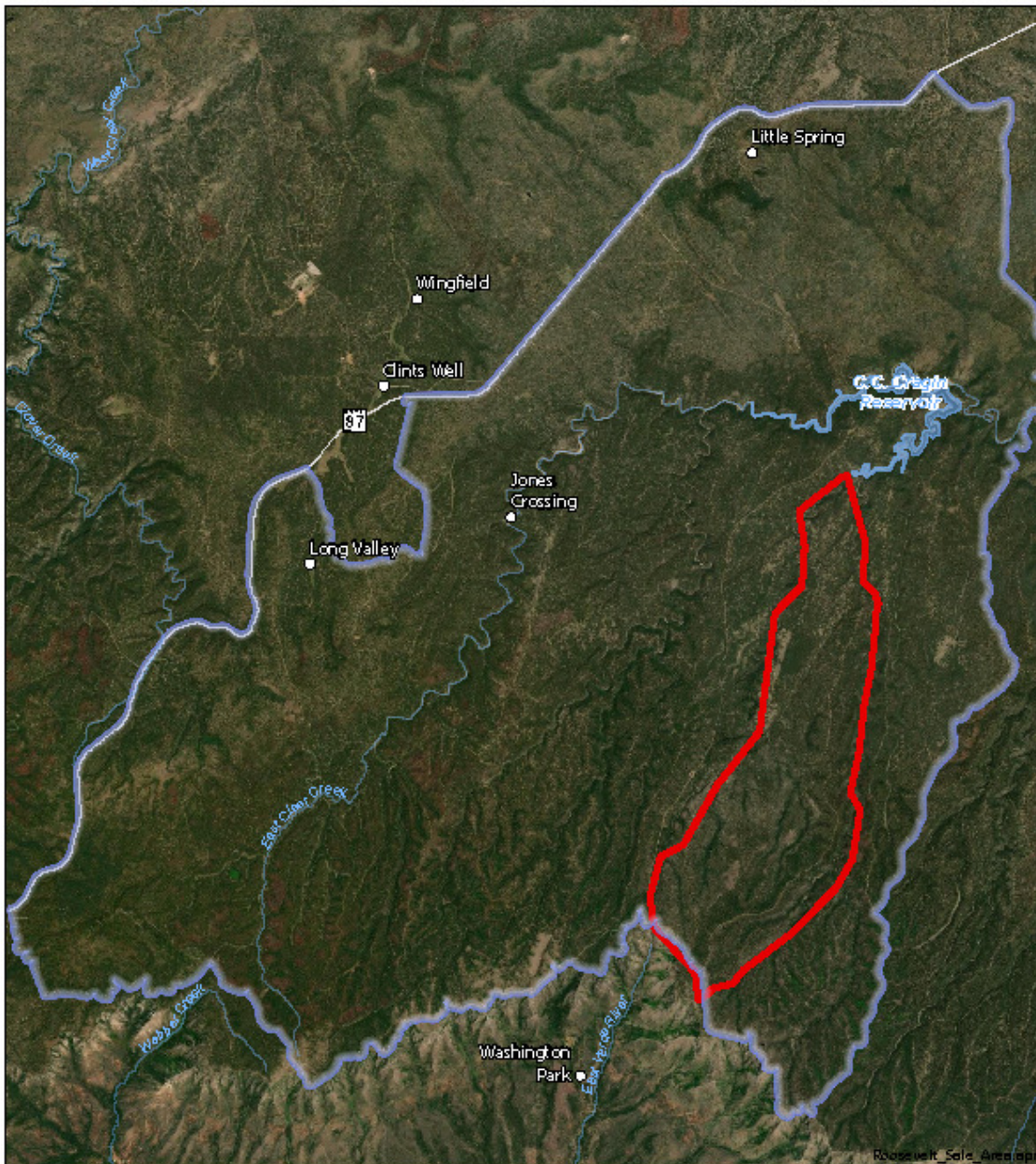
The project area provides additional protection to the Cragin pipeline that supplies water to Payson's newly built water infrastructure system (completed September 10, 2018) designed to give Payson a robust, renewable water supply to protect against drought, reduce the use of groundwater, and to provide a sustainable water supply for over 16,000 residents and future growth. The project also benefits Verde River downstream water users. Water from the C.C. Cragin Reservoir is pumped to the East Verde River and joins the SRP service system which delivers reliable, quality water to over 1 million municipal, agricultural, and residential users. East Clear Creek watershed has experienced severe and extreme drought conditions over the past several years and this past winter season (2020/ 2021 winter) precipitation was again well below normal. Restoring this forest will help the remaining trees become more resilient to drought, insect and disease infestation, and climate change. A more resilient and healthy forest will also ensure that the forest does not succumb to catastrophic wildfire that will impact the water infrastructure, water supplies, and power infrastructure.

Project Length and Completion

The Roosevelt project will take up to two years to complete. The Roosevelt project phase 2 estimated start date is January 2024.

Project Located on a Federal Facility

This project has significant mutual benefits to the U.S. Bureau of Reclamation (BOR). BOR owns the C.C. Cragin Dam and associated water infrastructure facilities that are located near the Roosevelt project area. SRP has responsibility for the care, operation, and maintenance of the BOR-owned Cragin water facilities and ensures delivery of water to its customers and shareholders, including northern Gila county communities and the Town of Payson. Removing hazardous fuels and restoring healthy forest structure of the Roosevelt project area will ensure BOR water infrastructure is protected from major damage and that SRP can continue to deliver reliable and sustainable water supplies from the C. C. Cragin Reservoir.



Roosevelt Sale Area



- Town
- CWPP Boundary
- ▭ Roosevelt Sale Area



D.2.2.4.2. Project Location

The Roosevelt project is located in Coconino County in the Coconino National Forest in Northern Arizona and is within the East Clear Creek Watershed. It is located approximately 15 miles North of the Town of Payson. Please see the attached map of the project location. The project latitude is 111.2179033°W 34.4835080°N.

D.2.2.4.3. Technical Project Description

USFS, DFFM and SRP have a unique partnership that allows the organizations to develop and implement forest restoration projects on National Forest System lands (NFS). This partnership utilizes two agreements. The first agreement is a Master Good Neighbor Authority agreement (GNA) between USFS and DFFM. This Master GNA allows USFS and DFFM to develop supplement project agreements (SPAs) to implement forest restoration projects for specific restoration projects. The second agreement, a Memorandum of Understanding (MOU) between SRP and DFFM, allows SRP to help fund forest restoration projects that are being implemented by DFFM under the Master GNA. As an application of the MOU, SRP utilizes a consortium of funding such as grants, fundraising through private and public partnerships, and SRP matching funds. Then SRP pools the funding and provides a donation to DFFM to pay for the costs of implementing forest restoration projects. To date, this partnership has funded three projects that are in various stages of implementation. The proposed Roosevelt project will utilize these partnership arrangements.

The Roosevelt Project is a 2,284-acre area. The project includes two phases. Phase 1 is 1,913 acres and will begin operations in September 2022. Phase 1 is being funded with funding from USFS, DFFM, SRP, and Payson. Phase 2 is 371 acres (cutting units 11 and 13) and will begin operations approximately January of 2023. BOR grant funding and matching SRP funds will be applied to phase 2 costs. No other federal, state, local, or other funding will be applied to phase 2. This grant application will only apply to phase 2 of the project. The grant application will highlight the work of the entire project and phase 2 to provide a comprehensive and holistic perspective of the project benefits. The type of work, costs and benefits do not change between phase 1 and phase 2. The only difference between the phases is the size, funding types, and start dates.

The Roosevelt project work activities focus primarily on mechanical thinning to return the forest to healthier conditions. Much of the thinning that needs to be completed involves removing small-diameter trees that have little value. The market price for the wood being harvested, compared to the costs to remove the material, are such that the overall project costs will exceed value by about \$2000 per acre. Those costs will need to be covered by SRP and BOR grant funding for the project phase 2 to move forward and meet desired forest conditions.

DFFM will hire contractors for phase 2 to cut trees that meet the USFS standards/ guidelines and approved by USFS for each designated cutting units. A cutting unit is a smaller area within the project that has similar characteristics and requires the same treatment. Each forest restoration project will have multiple cutting units that have different treatment guidelines prescribed (prescriptions) by USFS. Contractors will follow these prescriptions to implement the appropriate treatments.

To hire contractors to implement the project work activities, DFFM will prepare an open competitive bid package and select a contractor based on past performance, ability and availability to complete work activities, and price. The selected contractor(s) will cut and remove timber from the Roosevelt project using the following process based on three diameters at breast height (dbh) categories:

- Sawlogs: 9" + dbh
- Pulpwood or Non-Sawlogs: 6"-8.9" dbh
- Biomass: 2"-5.9" dbh

Sawlogs and some non-sawlogs will be cut, skidded, decked, processed, and loaded onto a haul truck. This process is described as follows:

- Cut: the designated trees are cut down and branches and leaves are trimmed away using a feller buncher.
- Skid: cut trees are dragged to a landing using a feller buncher.
- Deck/ Process: Logs are sorted into piles based on the dbh categories in the landing using a logging loader or boom loader.
- Load/ Haul: Logs are loaded onto haul truck trailers to be transported to various existing forest product industry locations.

Some non-sawlogs, biomass, and tops and limbs of trees (slash) will go through a similar process: cut, skid, pile, chip/grind, and haul. The difference is in the pile and chip/grind process. The smaller timber material is piled separately from the decks of sawlogs. In the chip/grind step, the material in the piles is fed into chippers to create woodchips. Some biomass and slash will be left on the project site and will be burned in future prescribed burns conducted by USFS. Piling and burning of biomass and slash is a common practice and allowed under the Cragin Watershed Protection Project Environmental Assessment (CWPP EA) when conditions allow for the materials to be piled and burned. A good portion of this material once harvested will be transported to existing facilities where the material will be processed into various wood products and sold into existing forest product industry markets.

As part of the project work items, existing USFS roads must have maintenance performed on them to ensure that the roads can support the heavy equipment that will be conducting the work and hauling the timber. There must also be routine road maintenance while the thinning project is being carried out. At the end of the project, there is additional road maintenance that will be needed to ensure the roads are safe for all other uses. In addition, contractors will need to create temporary roads in the work area to ensure they are not routinely driving heavy equipment far distances. These temporary roads will save costs for the project by saving time and fuel. Once the project is completed, these temporary roads will be closed and returned to the state they were in before the thinning project started. Road maintenance and temporary road work are standard work activities for thinning projects and will be conducted by contractors hired by DFFM for phase 1 and phase 2.

D.2.2.4.4. Performance Measures

All applicants are required to provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project. Quantifying project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of the project.

The Roosevelt project provides three ecological benefits: avoided wildfire and restored forest resiliency, increased carbon sequestration, and Mexican Spotted Owl habitat (MSO) protection

The avoided wildfire and restored forest resiliency benefit will be measured by ensuring that the projects prescriptions are accurately implemented by the hired contractors and approved by USFS. Documentation of USFS approval can be provided to BOR. The overall performance measure for phase 2 is the successful implementation of 371 acres of treatment. Desired conditions, which are the future conditions of a healthy forest, will have an average of 100 trees per acre. Implementing the treatments will reduce the risk of high-severity wildfire and restore the forest to a more resilient and healthy state.

The increased carbon sequestration benefit will be modeled using an Avoided Wildfire Methodology. (NFF, 2018) The model results can be provided to BOR to provide project benefit quantification.

The MSO habitat protection benefit will be measured by ensuring that the project prescriptions are accurately implemented by the hired contractors and approved by USFS. Documentation of USFS approval can be provided to BOR. For phase 2, this means that 371 acres of MSO recovery habitat treatments were implemented. Implementing the treatments will reduce the risk of high-severity wildfire and restore MSO habitat.

The Roosevelt project provides two water benefits: protecting water quality and increasing local ecosystem water availability.

The protecting water quality benefit will be monitored through SRP's Flowtography® sites that are going to be installed in the East Clear Creek watershed. These sites will allow SRP to monitor for post-wildfire flooding erosion and sediment loading (or lack thereof) that is impacting the watershed and the C.C. Cragin Reservoir.

The increasing local ecosystem water availability benefit will be modeled using a Forest Hydrology model that was developed between Arizona State University (ASU) and SRP. This model will predict the decrease in evapotranspiration and increases in local ecosystem water availability.

D.2.2.4.5./ E.1 Evaluation Criteria

E.1.1. Evaluation Criterion A- Project Benefits

E.1.1.1. Sub Criterion A.1 – Benefits to Ecological Values

Please explain how the project will benefit ecological values that have a nexus to water resources or water resources management, including benefits to plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems that are supported by rivers, streams, and other water sources, or that are directly influenced by water resources management.

In your response, please identify the specific ecological values benefitted and how those ecological values depend on, or are influenced by, water resources or water resources management.

In addition to the water benefits outlined in Sub-Criterion A.2, the Roosevelt project provides three categories of ecological benefits: avoided wildfire and restored forest resiliency, increased carbon sequestration, and Mexican Spotted owl habitat protection.

Avoided Wildfire and Restored Forest Resiliency

The century-long exclusion of frequent, low-intensity wildfires has led to striking and rapid changes in the Roosevelt project area's forested ecosystems. Baseline forest conditions have resulted in an increased number of trees; increased volume of small-diameter trees, both alive and dead; increased susceptibility to insect and disease epidemics. The overgrowth of small diameter trees has changed forest conditions causing frequent, low-intensity surface fires to increasingly larger crown fires. The Roosevelt project area consists of dense stands of ponderosa pine and mixed conifer forests, with tree densities ranging from 500 to 1,000 trees per acre on about 65 percent of the project area. Desired conditions, which are the future conditions of a healthy forest, will have an average of 100 trees per acre. Roosevelt's current project area conditions are susceptible to devastating crown fires. This application provides a detailed analysis on the wildfire threat in Evaluation Criterion F. Current forest conditions in the Roosevelt project area also limit the effectiveness of fire-fighting efforts.

After implementation of removing these hazardous fuels by employing thinning treatments, a variety of forest conditions would exist across the Roosevelt project area. The Roosevelt project area would be diverse with groups and patches of variable tree densities, including dense groups of trees and small areas of scattered individual trees. Old trees and old forest structure would be sustained over time across the landscape. Canopy openings within the forest would be common and support a growing diverse species composition and productive grass/ forb/ shrub community. The desired condition for the Roosevelt project area will allow for frequent low-severity surface fires that are natural to the project area. Overall, the project area would be resilient to disturbance, including insects, disease, wildfire, climate change, and would be sustainable through at least several generations of trees. Overall, a BOR grant for the Roosevelt project phase 2 would reduce the threat of catastrophic wildfire and improve forest resiliency.

This ecological benefit is interrelated with the water supplies in the East Clear Creek watershed. Catastrophic wildfire and post-wildfire flooding deposits ash, debris, and sediment into streams and the C.C. Cragin Reservoir, which diminishes water quality, destroys fish and aquatic habitat, and in some cases renders the water unusable. These devastating impacts will be avoided by restoring forest resiliency through the Roosevelt project. The water impacts will be elaborated on in a Sub-Criterion A.2.

Increased Carbon Sequestration

Losing the forest within the Roosevelt project area to catastrophic wildfire would produce large amounts of carbon dioxide that is emitted during wildfires. After a landscape is lost to wildfire it no longer acts as a natural carbon sink and turns the forest into a carbon emitter with all the

dead and decaying material. This carbon sink can be lost for many years depending on the severity of the wildfire. (McCauley, et al, 2019)

Restoring the Roosevelt project area has been shown to create net positive carbon benefits according to a case study produced by SRP and the National Forest Foundation. The case study shows that not undertaking forest thinning treatments will lead to greater carbon storage initially, but those gains are lost to wildfire and climate-induced mortality. The initial increase in carbon sequestration is due to continued carbon storage in small diameter trees that are susceptible to high-severity wildfire. The volatility of carbon storage is clearly affected by the rapid loss of forests and forest carbon between year 25 and year 35. By year 25, the fire models predict that more than 80% of acres analyzed in the East Clear Creek watershed will have burned in a high-severity wildfire. (NFF, 2018) Over the 40-year life of the project 99% of acres are expected to experience high-severity wildfire. These wildfires would result in the net loss of more than 30 tons of carbon per acre. In addition, wildfires may also cause a change in ecosystem type, moving from a forest ecosystem to a shrub, grassland/ chaparral ecosystem, which have less ability to provide long-term, stable carbon storage. (NFF, 2019)

The results for implementing forest thinning treatments show stable carbon storage and reflects the ability of a restored forest to withstand wildfires due to reduced fuel loads. Thinning treatments prevent the loss of carbon from high-severity wildfires and help secure existing carbon in healthier, more resilient forests. Thinning treatments are initially expected to reduce above-ground carbon storage through the removal of many small diameter trees from fuels reduction, thinning and prescribed fire activities. This loss of carbon is temporary as the trees remaining in restored tree stands continue to sequester carbon. Restored acres are also at a lower risk of experiencing high-severity wildfires and carbon reversals. Above-ground carbon benefits average 25.9 tons of carbon per acre over the lifetime of the project. The results of this case study analysis show a clear above-ground carbon storage benefit resulting from the forest thinning including a Roosevelt project estimated carbon benefit of 59,155.6 tons, specifically for phase 2 a carbon benefit of 9,608.9 tons. (NFF, 2018)

Mexican Spotted Owl and Habitat Protection

The extent of the threatened MSO is widespread within East Clear Creek watershed and specifically the Roosevelt project area. The Roosevelt project area contains the Pinchot MSO Protected Area Core (PAC) and 1,356 acres of MSO recovery habitat. Phase 2 will treat 371 acres of MSO recovery habitat. PACs conserve core use areas for the owls, which include the nest site, several roost sites, and the most proximal and highly used foraging areas. Recovery habitat is areas that are critical to the species and are outside the PACs. USFS is required by the 2012 MSO Recovery plan to manage habitat for the survival of the species. (FWS, 2012)

The greatest threat to survival of these species is catastrophic wildfire. The planned thinning activities for the Roosevelt project will ensure that MSO habitat characteristics are maintained, including retaining a larger tree basal area, all dead standing trees (snags), and hardwood trees species. The Roosevelt project includes treatments to emphasize sustainable ecological function and a return toward natural fire regimes, which are more compatible with maintenance of MSO habitat conditions and the long-term recovery goals of the species. (CWPP EA, 2018)

In a 2012 Recovery Plan for the MSO written by the U.S. Fish and Wildlife Service (FWS), it is pointed out that climate change will reduce the water supply for the terrain supporting the MSO. It is also noted that there is a far greater chance of drought in the area which leads to an increased danger of devastating wildfire and insect outbreaks. The Recovery Plan then goes on to list the possible effects of climate change on the MSO: “1) shifts in the distribution of the owl itself, along with major prey species and potential competitors and predators, possibly along elevational or latitudinal gradients; 2) effects on demographic rates, such as survival and reproduction; 3) changes in coevolved interactions, such as prey-predator relationships; 4) direct loss of habitat due to increased fire severity, bark beetle outbreaks, and direct warming of habitats; 5) increased population or range expansion of species that are direct competitors; and, 6) reductions in population size.” (FWS, 2012)

The project would create a habitat for the MSO that is much more resilient to wildfire and would therefore protect the MSO. The project would also reduce the effects of climate change by creating a healthier forest that is more resilient to wildfire, insect, and disease infestation. These factors are all important in ensuring the survival of the MSO in the future. The BOR grant for the Roosevelt project phase 2 will ensure the habitat of the MSO is protected from the ruinous impacts of wildfire.

Please also explain whether the project will increase water supply reliability for ecological values by improving the timing or quantity of water available; improving water quality and temperature; or improving stream or riparian conditions for the benefit of plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems, or through similar approaches.

The Roosevelt project does increase water supply reliability for ecological values in two ways: protecting water quality and increasing local ecosystem water availability. This application will provide greater details below.

Water Quality Protection

The East Clear Creek watershed encompasses three sub-watersheds that supply the C.C. Cragin Reservoir. The full storage capacity of the C.C. Cragin Reservoir is 15,000 acre-feet. The sub-watersheds are very productive with the majority of the water supply to the Reservoir originating from snowmelt runoff during the late winter and early spring months. The East Clear Creek watershed area is a prized ecosystem in Arizona because of the unique water landscape that includes 26 miles of streams, 47 springs, 986 acres of riparian land, and four wetlands. The characteristics of this lush landscape support a variety of wildlife and fisheries experienced in only a few other areas of Arizona including the threatened Little Colorado spinedace, and candidate conservation agreement species roundtail chub, bluehead sucker and Little Colorado River sucker spp. (CWPP EA, 2018)

High-severity crown wildfire is the greatest threat to this unique environment and the existence of the springs, riparian areas, wetlands, and the streams feeding the C.C. Cragin Reservoir. Case studies on ensuing post-wildfire precipitation events indicate that post-wildfire erosion on wildfire-impacted watersheds have caused increases in sediment yield of over 1,400 times pre-fire conditions. (American Planning Association, n.d.) In addition to increased erosion and its

impact on sediment concentrations in surface waters, wildfires can result in an increase in nutrient (i.e., nitrogen and phosphorus) loading to water bodies resulting in an increase in algal growth and reduction in dissolved oxygen leading to fish kill. Runoff from wildfires contains heightened levels of nitrates, phosphates, heavy metals, total organics, and turbidity. (CWPP EA, 2018) For example, the 2002 Rodeo-Chediski fire produced significant post-wildfire increases in calcium, magnesium, potassium, sulfate, phosphorus, and nitrogen. “The increased calcium and sulfur concentrations were about half of the U.S. Environmental Protection Agency’s (EPA) drinking water quality standards, but the values for magnesium, potassium phosphorus, and nitrogen rose to 2 times, 5 times, 390 times, and 22 times, respectively, above EPA drinking water quality standards.” In addition, there were significant increases in lead, iron, copper, and arsenic levels post Rodeo-Chediski fire. “The values [were] very high and dangerous, constituting of about 460%, 3000%, 300%, and 6850% of the U.S. EPA drinking water standards for lead, iron, copper, and arsenic, respectively.” Finally, “conductivity and turbidity levels increased by 422% and 1,020,000% above the U.S. EPA standards, respectively.” (Teclé, A. and Neary, D., 2015) These type of water quality effects could be seen at the Roosevelt project and the CWPP if a catastrophic wildfire were to occur.

Nutrient rich and ash-saturated post-wildfire flows not only affect the biological function of springs, riparian, and wetlands in the East Clear Creek watershed but would have a significant impact on water treatment costs for Payson or potentially the inability for Payson to use Cragin water altogether. This effect trickles down to all Cragin downstream water users, including communities in Northern Gila County, Mesa Del Caballo, and those that live along the East Verde River. Without access to water from the Cragin Reservoir, Payson and surrounding communities will need to rely on groundwater to meet its water needs. This is a troublesome scenario because the groundwater that Payson relies on has been decreasing in quantity for several years while the Town’s water demand has only increased. Relying on groundwater is not a long-term or sustainable solution for Payson and its neighbors, so it is imperative to keep the existing Cragin water supplies safe from post-wildfire impacts.

Increased Local Ecosystem Water Availability

Multiple studies conducted in ponderosa pine forests in Northern Arizona conclude that the removal of forest cover and tree density increases water yields by decreasing evapotranspiration (ET). The studies also indicate that while surface water flow initially increases due to thinning, over time water benefits tend to diminish to no significance within six to ten years. Studies also conclude that forest cover and basal area (tree density) reductions of 30 to 100 percent resulted in water yield increases of 15 to 41 percent. (Masek Lopez, 2019) The planned forest thinning treatments meet several conditions necessary to see an increase on the water balance, including basal area reductions ranging from 27 percent to 56 percent.

Using the equation below, SRP calculated the total water (in acre-feet) for ET, ecosystem needs, and recharge within the watershed for wet years and dry years. This scenario assumes that a three percent ET savings will occur in year one after thinning and decreases to one percent in year three through six. This scenario uses the highest and lowest ranges, meaning that all six years were either wet or dry, knowing that each year will likely fall somewhere in between. Lastly, SRP applied a percentage of the ET savings to the Roosevelt project based on the project acreage.



The table below presents the water balance benefit ranges that would remain in the East Clear Creek watershed ecosystem due to the Roosevelt project because the water was not lost to ET. These ranges do not represent increased water yield, but the amount of water that was not lost to ET and remained in the ecosystem (water balance benefit). The table below shows the water balance benefit and the estimated years the benefits would accumulate. SRP started the full benefits on the year that all the treatments would be completed for Roosevelt (2024), although benefits would start accruing as the treatments occur. An end year of 2030 was chosen because previous studies on ET savings have shown that water savings become negligible after six years. The ranges presented are initial estimates using historical data and previous studies to inform what the water balance benefits could be for the Roosevelt project.

To calculate the water balance benefit, SRP took the total precipitation in the East Clear Creek watershed and total inflows in the C.C. Cragin Reservoir for each year from the years 1965 to 2004 and used the calculation of runoff efficiency and annual losses for each year. The years in the top 30% of annual precipitation were classified as “Wet” years and years in the bottom 30% of annual precipitation were classified as “Dry” years. SRP then found the average annual losses of “Wet” and “Dry” years and used those to define a typical “Wet” or “Dry” year for the C.C. Cragin Reservoir. From here, SRP turned to a literature review done by Sharon Masek Lopez anticipating water yield response due to ponderosa pine thinning treatments. Masek Lopez noted a multitude of factors that have an impact on water yield, including elevation, aspect, slope, watershed shape, soil type, seasonality, and interannual precipitation variability. Based on Masek Lopez’s literature review, SRP took a low estimate of ET savings of a 3% reduction of ET losses in year 1, 2% in year 2, and 1% in years 3-6. Using these numbers, SRP calculated the ET savings for the entire East Clear Creek watershed area to receive thinning treatments. To find the ET savings for Roosevelt, SRP divided the treatment acres of Roosevelt by the total treatment areas in the East Clear Creek watershed and multiplied by the ET savings for the total treatment area. The results of the calculations are found in the table below. (See Cragin ET 3% Savings in Appendix)

ET Savings Scenario					
Project	Area (acre)	Start Year	End Year	Total ET Savings (acre-feet)	
				Wet	Dry
Roosevelt	2,284	2024	2030	497	344
Roosevelt Phase 2	371	2024	2030	80.73	55.88

The water benefit associated with East Clear Creek watershed thinning treatments will be formally quantified using a Forest Hydrology Model in partnership between SRP and ASU, as specified in Section D.2.2.4.4. Performance Measures.

Finally, increased water in the local ecosystem is important to supporting the East Clear Creek's watershed 26 miles of streams, 47 springs, 986 acres of riparian land, and 4 wetlands, it also ensures that water is available to support wildlife and fisheries.

If the project will benefit multiple water uses (i.e., benefits to ecological values AND benefits to other water uses, e.g., municipal, agricultural, or tribal water uses), please explain how the project benefits other water uses.

The project will benefit a multitude of water users. Primarily, Payson and the surrounding communities will benefit from a more reliable water supply to the tune of 3,000 acre-feet per year through a SRP water delivery agreement, enough to supply more than half of the Town's water. The project will provide additional protection of the critical water infrastructure including BOR's C.C. Cragin Dam, the Cragin Reservoir and the Cragin pipeline that connects to the Town's water delivery pipeline. The Roosevelt project will reduce the risk of catastrophic wildfire, improve forest resiliency, and protect water supplies and infrastructure.

The next benefited water user is SRP; about 7,500 acre-feet of water from the C.C. Cragin Reservoir runs down the Verde River and into the SRP water delivery system, supplying a portion of the water to serve over 1 million residents in the Phoenix Metropolitan area. Again, reducing wildfire risk, restoring forest resiliency, and protecting water infrastructure ensures SRP can continue to deliver reliable and sustainable water supplies.

The next benefited downstream water users are agriculture and the Fort McDowell Tribe. The water that flows from the Cragin Reservoir to the Verde River supplies water to agricultural users along the Verde River and in the Phoenix Metropolitan area. Also, the Fort McDowell Tribe relies on the clean water flowing in the Verde River, and benefits from the water that flows from the C.C. Cragin Reservoir to the Verde River.

Finally, water that spills from the C.C. Cragin Reservoir when it is at capacity runs through East Clear Creek down to the Little Colorado River, and eventually the Colorado River. Colorado River water serves municipal, agricultural, industrial, and tribal water needs. Boosting Colorado River water supplies, especially in times of extreme drought, are important to the overall health of the Colorado River. There are many communities along East Clear Creek who benefit from water flowing through the creek among these communities is Winslow, AZ. With the implementation of the Roosevelt project, specifically phase 2, there will be less water lost to ET every year, meaning there is a greater likelihood that the Reservoir will reach capacity and spill more water every year.

E.1.1.2. Sub Criterion A.2--Quantification of Specific Project Benefits by Project Type

Project Benefits for Watershed Management Projects

The Roosevelt project proposal will address the project benefits for watershed management project section only.

If the project will result in long-term improvements to water quality (e.g., decrease sediment or nutrient pollution, improve water temperature, or mitigate impacts from floods or drought) please explain the extent of those benefits (i.e., magnitude and geographic extent). Please estimate expected project benefits to water quality and provide documentation and support for this estimate, including a detailed explanation of how the estimate was determined.

Water Quality and Sedimentation

The project will protect the quality of water stored in the C.C. Cragin Reservoir by decreasing the chance of toxic runoff being introduced to the water in large quantities. Small and frequent wildfires are healthy and natural for the land and have a minimal impact on water quality, but uncharacteristic wildfires can introduce large quantities of toxic sediment that makes the water in the Reservoir unfit for use for a portion of time, depending on the severity of the wildfire. Post-wildfire flooding events send ash, debris, and sedimentation into streams, rivers, and canyons creating an unhealthy environment for aquatic life, degrades water quality, and creates dangerous flash flood conditions. See the sediment and water quality examples provided in Sub-Criterion A.1.

If the entire East Clear Creek watershed were to burn due to a catastrophic wildfire, it is very likely the water in C.C. Cragin Reservoir would become unusable shortly after. Post-wildfire conditions are such that any precipitation will wash sediment, ash, and debris into the Reservoir at high quantities killing aquatic wildlife and making the water unfit for human use. Sediment deposits would result in loss of storage capacity in the Reservoir, which is already only 15,000 acre-ft of storage. The diminished water quality of the C.C. Cragin Reservoir would also harm the water quality and reliability of the East Verde River since water is pumped from Cragin to the East Verde. This will have a negative impact on SRP water reliability. The recovery from such an event would take years and significant investment. Most likely there would be a need for repairs to the water infrastructure in and around the East Clear Creek watershed, restoring the water quality in the Reservoir and reforesting the East Clear Creek watershed. In a 2018 study carried out by the Electric Power Research Institute (EPRI) it was determined that the cost of repairing the damage from an uncharacteristic wildfire on the East Clear Creek watershed would be \$293 million. In comparison, the estimated cost to treat the entire East Clear Creek watershed and reduce the risk of uncharacteristic wildfire is about to \$30 million. (EPRI, 2018)

The potential threat of wildfire to the C.C. Cragin Reservoir as a domestic and municipal water supply is exemplified by the 2003 Hayman Fire in Colorado. This wildfire burned over 137,000 acres, impacting watersheds that provide domestic and municipal water to several cities, including Denver, along Colorado's Front Range. Over a two-year period following the fire, water providers spent \$25 million removing sediment from a water storage reservoir. This post-fire erosion response is typical of wildfire-impacted watersheds with reports of increases in sediment yield of over 1,400 times pre-fire conditions (Smith et. al. 2011).

The Roosevelt project treatments would not increase sediment to downstream water sources. The greatest amount of erosion typically occurs in the first year following disturbance, and after several years, erosion declines to near zero. The rate of sediment yield in the first year following simulated thinning was predicted to be 0.03 Mg/hectare. The rate of sediment yield in the first year following simulated wildfire was predicted to be 8.1 Mg/hectare. (CWPP EA, 2018) The

sediment modeling calculations were calculated were not described in the EA or supporting documents. Overall post-project conditions indicate a reduction in sedimentation in streams and the C.C. Cragin Reservoir. Treatment activities would improve watershed condition and functioning, reduce risks to riparian areas, wetlands, and springs, decrease the potential for water quality impairment caused by increased sediments in the watersheds that supply the C.C. Cragin Reservoir. (CWPP EA, 2018)

Drought Resiliency

Climatic models for the southwestern U.S. predict continued warming, greater variability in precipitation, and increased drought. With climate change, warmer temperatures and more frequent and severe drought could result in increasing tree mortality. The cumulative impact of not treating the East Clear Creek watershed and climate change induced drought would result in a higher likelihood of high-intensity wildfire and widespread tree mortality triggered by drought and temperature stress.

In addition to drought causing tree mortality and wildfire, drought coupled with high tree densities, can lower tree resistance to beetle attacks. Bark beetle population dynamics suggests that homogenous, dense, even-aged stands are highly susceptible to beetle outbreaks. Susceptibility to western pine beetle would slowly increase over time. Areas with the greatest likelihood of infestation are those stands with densities greater than 120 sq. ft. basal area and average stand diameters greater than 12" dbh. Susceptibility to Ips beetle (would continue to increase with activity most likely occurring in response to a drought or a snow or ice event that creates fresh pine debris. (CWPP EA, 2018)

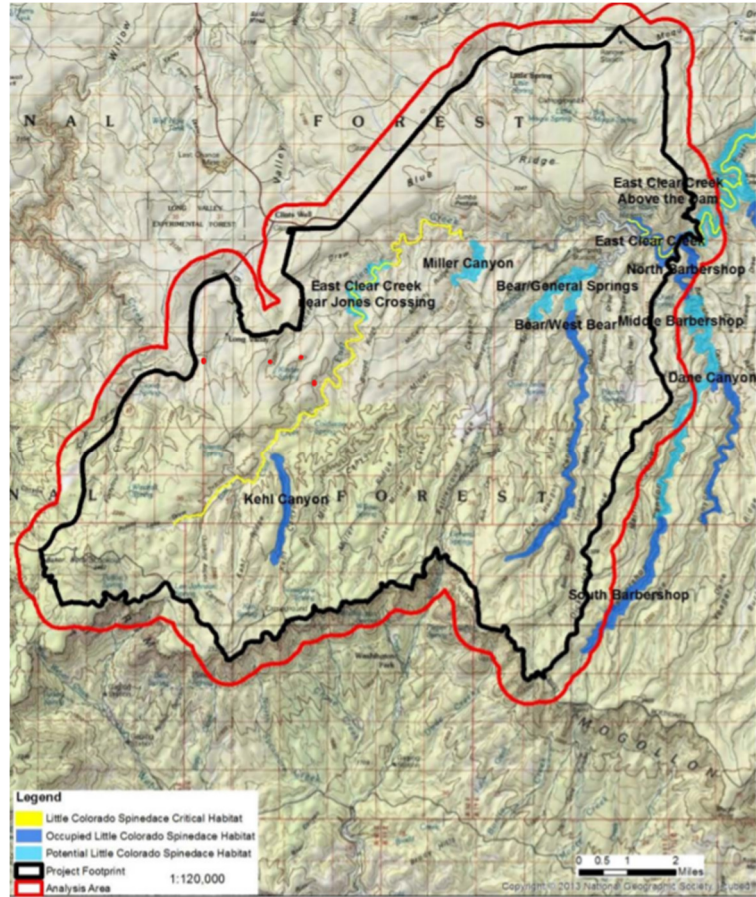
Without treatment, stands in the project area would be much less resilient to disturbances such as multi-year drought, pests, and disease such as bark beetle and mistletoe, and wildfire. Increased drought stress and insect attacks are often associated with increased tree density, altered tree spatial arrangement, and shifted forest composition that have resulted from fire exclusion, grazing, and past logging. These changes in forest structure may exacerbate tree mortality due to increased competition among trees (Kane, Kolb, & McMillin, 2014, p. 171). At the fine scale, these disturbances would likely result in a greater mortality rate for areas with dense forest, which include groups and clumps of large trees. (CWPP EA, 2018)

Erickson and Waring (2014) concluded that, "treatments removing small, neighboring trees may be critical in maintaining old ponderosa in the landscape, particularly under future climate change and increasing drought frequency in the western USA." Thinning treatments will reduce tree densities and will therefore reduce inter-tree competition for resources such as light, water, soil nutrients, growing space, resulting in increased diameter growth and improved vigor of the remaining trees. Thinning treatments would be effective in reducing drought- and insect-induced tree mortality. (CWPP EA, 2018)

The healthier forest that is left behind after project implementation is also a more drought- and flood-resistant forest. Larger trees are left in the forests, these trees are more resistant to all kinds of natural phenomena including drought, low-intensity wildfire, insects, and disease.

If the project will benefit aquatic or riparian ecosystems within the watershed (e.g., by reducing flood risk, reducing bank erosion, increasing biodiversity, or preserving native species), please explain the extent of those benefits (i.e., magnitude and geographic extent). Please estimate expected project benefits to ecosystems and provide documentation and support for this estimate, including a detailed explanation of how the estimate was determined.

There are two federally threatened species located in the East Clear Creek watershed: the Chiricahua leopard frog (CLF) and the Little Colorado spinedance. While the CLF has not been documented in the East Clear Creek watershed for the past 40 years, the Roosevelt project area does have potential CLF habitat. The CWPP EA determined that forest thinning treatments may affect but are not likely to adversely affect potential habitat for the CLF. (CWPP EA, 2018) As for the spinedance, there are multiple locations throughout the watershed where the fish currently occur and areas where reintroduction efforts will be initiated. The surface water from the Roosevelt project area does drain into spinedance critical habitat and does include occupied habitat.



Implementing thinning treatments would reduce the threat of uncharacteristic, stand replacing wildfire and improve forest resiliency in upland areas. This would reduce the potential for changes in aquatic habitats through the loss of upland and riparian vegetation, an increase in sediments and debris, and changes in stream channel morphology, temperature, water flow, and macroinvertebrate assemblages as a result of wildfire. Mechanical treatments also benefit forest health and watershed condition through an increase in understory vegetation within one to five years following treatment. Such increases improve soil stability and porosity in upland habitats, therefore reducing the potential movement of sediments and debris into aquatic habitats. In addition, thinning treatments would provide beneficial impacts to the Little Colorado Spinedance and its habitat. (CWPP EA, 2018, pg 259 – 66)

There are several aquatic or riparian sensitive or special status species that would benefit from the implementation of the project. These species are: Northern Leopard Frog, Little Colorado River Sucker, Roundtail Chub, and Bluehead Sucker. These species receive the same benefits as

the spindance from a more fire resilient habitat that represents more historic and natural conditions.

Unfortunately, it is difficult to estimate or quantify the benefits to aquatic and riparian species by avoiding a disaster. The best quantification is the avoidance of sedimentation and nutrient loading into streams that is quantified in Section E.1.1.1. Sub Criterion A.1 – Benefits to Ecological Values.

If the project will benefit specific species and habitats, please describe the species and/or type of habitat that will benefit and the status of the species or habitat (e.g., native species, game species, federally threatened or endangered, state listed, and whether critical habitat has been designated). Please describe the extent (i.e., magnitude and geographic extent) to which the project will benefit the species or habitat, including an estimate of expected project benefits and documentation and support for the estimate.

The Roosevelt project does provide 1356 acres of MSO habitat treatment, specifically phase 2 treats 371 acres of MSO habitat. Post-project conditions for MSOs would maintain key habitat components and would reduce the potential for crown fire to destroy owl habitat. MSO habitat would now mimic natural tree patterns and variation. Thinning would reduce the threat of catastrophic, stand-replacing wildfire and improve forest resiliency. A greater discussion of the benefits to MSO was included in the ecological benefits section. (CWPP EA, 2018)

There are several sensitive or special status species that would benefit from the implementation of the project. These species are the Bald Eagle, Northern Goshawk, American Peregrine Falcon, Navajo Mogollon Vole, Allen's Lappet-Browed Bat, Spotted Bat, Pale Townsend's Big-Eared Bat, and Western Red Bat. These species will all benefit from a more fire resilient habitat that represents more historic and natural conditions. In addition, there are a number of migratory birds that are located in the East Clear Creek watershed including: Band-tailed Pigeon, Cassin's Finch, Common Nighthawk, Cordilleran Flycatcher, Evening Grosbeak, Flammulated owl, Grace's warbler, Lewis's Woodpecker, MacGillivray's Warbler, Mexican Whip-poor-will, Olive-sided Flycatcher, Olive Warbler, Red-Faced Warbler, Virginia's Warbler. Finally, common wildlife in the East Clear Creek watershed area include: elk (*Cervus elaphus*), mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), ringtail (*Bassariscus astutus*), Nuttall's cottontail (*Sylvilagus nuttallii*), eastern cottontail (*Sylvilagus floridanus*), spotted skunk (*Spilogale putorius*), striped skunk (*Mephitis mephitis*), American black bear (*Ursus americanus*), big brown bat (*Eptesicus fuscus*), deer mouse (*Peromyscus maniculatus*), Merriam's Turkey (*M.g.merriami*) and Mexican woodrat (*Neotoma Mexicana*). Reptiles and amphibians that are likely to exist include western rattlesnake (*Crotalus viridis*), ringnecked snake (*Diadophis punctatus*), many-lined skink (*Plestiodon multivirgatus*), Plateau striped whiptail (*Aspidoscelis velox*), canyon treefrog (*Hyla arenicolor*), and Arizona treefrog (*Hyla wrightorum*). Again, these wildlife species will all benefit from a more fire resilient habitat that represent more historic and natural conditions

Are there project benefits not addressed in the preceding questions? If so, what are these benefits?

The Roosevelt project provides several social and economic benefits not addressed in previous questions including community protection and infrastructure protection discussed below.

Community Protection

According to DFFM, there are 16 Arizona Communities-At-Risk that are within 11 miles of the Roosevelt project area. Below is the complete list of Arizona communities at risk. (DFFM, n.d.)

Community	County	Risk	Miles from Roosevelt
Starlight Pines Ranch	Coconino	Moderate	10
Diamond Point Summer Homes	Gila	High	10
Camp Geronimo	Gila	High	10
Moqui Ranch	Coconino	Moderate	9
Tonto Creek Hatchery	Gila	High	9
Ellison Creek Summer Homes	Gila	High	9
Whispering Pines	Gila	High	8
Ellison Creek Estates	Gila	High	8
Clint's Well	Coconino	Moderate	7
Bonita Creek Estates	Gila	High	7
Verde Glen	Gila	High	6
Shadow Rim Camp	Gila	High	6
Rim Trail Estates	Gila	High	5
Washington Park	Gila	High	5
Washington Park North	Gila	High	4

Infrastructure Protection

Within the East Clear Creek watershed there is approximately 17,000 acres of WUI sites and values at risk. The three municipal water supply watersheds are considered as WUI in this project and amount to 45,485 acres. There are several physical assets that are also at risk if wildfire spreads throughout the East Clear Creek watershed.

1. National Resource Conservation Service Baker SNOTEL Site and weathering monitoring
2. Baker Butte Lookout Tower and associated facilities
3. Arizona Public Service (APS) power line
4. TDS Telecom buried fiber optic cable
5. Happy Jack Fire Services warehouse and storage yard
6. Coconino County Sheriff’s Office private mobile communication radio
7. Yavapai County Flood Control District weather station
8. Department of Commerce monitoring site
9. Blue Ridge Fire District PMRS communication site
10. Coconino County Public Works PMRS communication site
11. BOR and SRP C.C. Cragin Dam and Reservoir facilities including:
 - a. Reservoir water supply
 - b. Dam
 - c. Spillway
 - d. Water Pumps

- e. Powerlines
 - f. Pipelines
 - g. Priming tank
 - h. Precipitation and reservoir monitoring equipment
 - i. Other ancillary facilities
12. Five Campgrounds and ancillary facilities
 13. C.C. Cragin Reservoir boat ramp and ancillary facilities
 14. 30.6 miles of trails throughout CWPP, including the Arizona Trail
 15. 477 dispersed campsites

Finally, there are numerous important physical assets outside of the East Clear Creek watershed that have important values, but for SRP the most important is the BOR Generating Plant (within 7 miles) of the East Clear Creek watershed. This generating plant provides power to run the water pumps for the Cragin pipeline that provides Payson with their surface water supply from the C.C. Cragin Reservoir. (CWPP EA, pg 311)

Recreation Protection

The East Clear Creek Watershed and C.C. Cragin Reservoir contribute a substantial amount of water to Arizona’s waterways, which provide opportunities for a thriving economic sector. Based on estimates calculated by the National Audubon Society, \$2 billion is generated annually from recreation on or along rivers, lakes, and streams in Coconino County alone. Statewide, water-based recreation as an industry ranks above mining and golf in terms of total economic output to the state, contributing \$7.1 billion to Arizona’s GDP. Additionally, 329,000 Arizona residents participate in outdoor recreation on or along waterways in Coconino County which generates 17,000 jobs. These recreation activities include boating, hiking, fishing, skiing, swimming, and camping. Not only are these activities beneficial to Arizona’s economy, but they are also fulfilling activities for the individuals participating in them, making them happier and healthier. Investing in the Roosevelt Project provides the protection necessary to keep our waterways safe and continue attracting thousands of people to the area to enjoy recreational opportunities.

E.1.2. Evaluation Criterion B – Collaborative Project Planning

Reclamation will use the following criteria to prioritize proposals based on the extent to which the specific project proposed in your application was developed collaboratively. Please attach a copy of the applicable strategy or plan as an appendix to your application, or provide a link, and identify the sections relevant to the project. These pages will not be included in the total page count for the application.

Was the proposed project described in your application developed as part of a collaborative process by:

- **A watershed group, as defined in section 6001 of the Cooperative Watershed Management Act? Or**
- **A water user and one or more stakeholders with diverse interests (i.e., stakeholders representing different water use sectors such as agriculture, municipal, tribal, recreational, or environmental)?**

In 2014, the partners BOR, USFS, Payson, SRP, and the National Forest Foundation (NFF) teamed up to develop the Cragin Watershed Protection Project (CWPP). The CWPP launched under the Obama Administration’s Western Watershed Enhancement Partnership opportunity and led to a signed Proclamation. (CWPP Proclamation, 2014) Later that year, the same partners signed a Memorandum of Understanding that outlined the roles and responsibilities of parties to develop the CWPP EA. (CWPP MOU, 2014) The CWPP EA was approved in July 2018 and allowed USFS to offer up to 37,000 acres of forest thinning projects. The Roosevelt project is a critical area in the entire CWPP for all the reasons outlined in the project benefits section. In 2021, USFS announced that the CWPP was a high priority project under the new 4FRI Restoration Strategy. (USFS, 2021) this announcement ensures the commitment from USFS to work with DFFM and SRP on projects, like Roosevelt.

Today, USFS, SRP, Payson, and DFFM are working collaboratively to raise the necessary funding to implement the Roosevelt project. This group meets every quarter to discuss project updates, project funding, and other partnership support opportunities. Please find attached the partner Proclamation, the MOU, and the CWPP EA in the Appendix Section.

Describe the strategy or plan that supports your proposed project. When was the plan or strategy prepared and for what purpose?

The 2018 CWPP EA provides the strategy on what treatments are necessary to restore the East Clear Creek watershed. The EA does include the type of treatments that can be implemented. Then USFS develops specific project prescriptions for the project area, including phase 2. In addition, USFS developed an implementation strategy that planned and sequenced the treatments of all the project areas in the CWPP. Please see the attached Priority Treatment Area Map in the Appendix Section. Roosevelt was a priority project area. Mechanical thinning treatments have been slow to implement due in large part to the significant amount of costs and in turn funding that is needed to implement the treatments. Although the dates of implementation have been pushed out, the implementation strategy is still the planning document that USFS uses to sequence and plan work for the CWPP.

What types of issues are addressed in the plan? For example, does the plan address water quantity issues, water quality issues, and/or issues related to ecosystem health or the health of species and habitat within the watershed?

- The CWPP EA addressed the following topics in the environmental analysis, including watershed and water quality, wildlife, and fish and other aquatic resources. These topics were supported by the individual specialist reports and a FWS biological opinion. A more thorough discussion on water and other ecological values was included in the project benefits section and is supported by the citation of the following sections in the CWPP EA.
- Vegetation
- Fire and Fuels
- Soils
- Watershed and Water Quality
- Geology
- Wildlife
- Fish and Other Aquatic Resources
- Botany and Rare Plants
- Noxious and Invasive Weeds

- Recreation, Lands, and Wild and Scenic Rivers
- Scenery
- Range
- Heritage Resources
- Climate Change
- Air Quality
- Economics
- Environmental Justice

Is one of the purposes of the strategy or plan to increase the reliability of water supply for ecological values?

Yes, the purposes of the project are to restore forest resiliency, reduce wildfire risk, and protect the watershed therefore improving the reliability of water supply for ecological values. The application outlines the forest resiliency benefits in Section E.1.1.1. Sub Criterion A.1 – Benefits to Ecological Values and Section E.1.1.2. Sub Criterion A.2– Quantification of Specific Project Benefits by Project Type.

Was your strategy or plan developed collaboratively? Who was involved in preparing the plan? Was the plan prepared with input from stakeholders with diverse interests (e.g., water, land, or forest management interests; and agricultural, municipal, tribal, environmental, recreation uses)? What was the process used for interested stakeholders to provide input during the planning process?

The CWPP EA and the implementation strategy were both developed in a collaborative process including numerous stakeholder meetings and field trips and an opportunity for public comments. In the Appendix Section is the link to CWPP EA that outlines all the stakeholders that participated in the CWPP EA (page 382 – 384), including Tribal consultation. Specifically, on Roosevelt, SRP has engaged stakeholders on the project and its progress. These stakeholders include: DFFM, Campbell Global, Coconino County, Eastern Arizona Counties Organization, Gila County Supervisors, NFF, SRP, Payson, and Trout Unlimited. These stakeholders represent federal, state, and local government, conservation non-profit organizations, and private industry.

The smaller group of stakeholders supporting this application intends to continue holding stakeholders’ meetings to facilitate the support needed for the Roosevelt project.

If the plan was prepared by an entity other than the applicant, explain why it is applicable.

The USFS prepared the CWPP EA and the implementation strategy because they are the land management agency for the project. USFS engaged in public processes to develop the strategies. SRP, as the applicant, was involved in the preparation and funding of the strategy from the beginning through stakeholder meetings.

Describe how the plan or strategy provides support for your proposed project. Does the proposed project implement a goal or need identified in the plan? Describe how the proposed project is prioritized in the referenced plan or strategy.

The CWPP EA approval allows for up to 37,000 acres of thinning to occur on the CWPP, including the 2,284 acres in the Roosevelt project. Without the EA, no thinning treatments could proceed on CWPP or Roosevelt. The implementation strategy identifies Roosevelt as a priority project. In addition, USFS will provide significant cash and in-kind contributions to show its commitment to Roosevelt phase 1, although the contributions are not enough to complete phase 2.

E.1.3. Evaluation Criterion C – Stakeholder Support

Please describe the level of stakeholder support for the proposed project. Are letters of support from stakeholders provided? Are any stakeholders providing support for the project through cost-share contributions, or through other types of contributions to the project?

The Roosevelt project is a collaborative effort between SRP, USFS, DFFM, and Payson. Letters of support are provided by USFS and DFFM. As stated in the technical proposal, phase 1 is being supported by funding from USFS, DFFM, SRP and Payson. No phase 1 funding will be used for phase 2 or for any matching fund requirements. Phase 2 will be supported with funding from SRP and the BOR grant. For phase 2, SRP will be contributing a cash contribution of \$186,750 to meet the cost-share requirements of the BOR grant.

Please explain whether the project is supported by a diverse set of stakeholders (appropriate given the types of interested stakeholders within the project area and the scale, type, and complexity of the proposed project). For example, is the project supported by entities representing agricultural, municipal, tribal, environmental, or recreation uses?

The project is supported by local government including State Legislators, the Arizona Congressional Delegation, Coconino County, and Payson, one of the largest water users of C.C. Cragin Reservoir. The project is also supported by local utility companies like APS and SRP who serve millions of electric and water customers in the Phoenix Metropolitan area. The project is supported by conservation and recreation non-profits in the form of Trout Unlimited who are interested in ensuring the project has comprehensive environmental and recreational benefits. Other various supporters are USFS, Valley Cities, and Eastern Arizona Counties Organization. Individual agricultural users have not been involved in the planning of this project. In the planning process USFS did reach out to tribes in the surrounding areas of the CWPP for input or involvement in the project.

Is the project supported by entities responsible for the management of land, water, fish and wildlife, recreation, or forestry within the project area? Is the project consistent with the policies of those agencies?

The project is supported by the USFS who manages the multi-use land on the project area. The project is also supported by the USFS issued CWPP EA and FWS issued Biological Opinion. The EA was also supported by the State of Arizona Game & Fish Dept and U.S. FWS who are responsible for management of fish and wildlife. The project follows all the treatments and requirements outlined in the CWPP EA and the Biological Opinion. Other entities included in the CWPP EA are the Arizona Game and Fish agency and the Bureau of Reclamation, Phoenix Office. All these agencies/organizations are committed to the work proposed in this application.

Will the proposed project complement other ongoing water management activities by state, Federal, or local government entities, non-profits, or individual landowners within the project area? Please describe other relevant efforts, including who is undertaking these efforts and whether they support the proposed project. Explain how the proposed project will avoid duplication or complication of other ongoing efforts.

The CWPP was divided into 11 different sub-areas. Each sub-area will receive forest thinning treatments. The Roosevelt project is the third sub-area available to thin because it is a priority project. Completing the Roosevelt project complements all the other sub-area projects because all the sub-areas must receive the necessary treatments and will reduce the greatest risk to BOR-owned infrastructure assets. The General Springs and Baker projects will begin treatments in 2022. The Baker project is 1,010 acres in the Southwest portion of the CWPP. The Baker project was developed using the same partnership between SRP, DFFM, and USFS and with the same funding partners as Roosevelt phase 1. The General Springs project is a 3,519-acre project in the CWPP and is supported by the same partners and the National Wild Turkey Federation who is the implementing partner for General Springs. The Roosevelt project is adjacent to the General Springs project and farther east of the Baker project. The Roosevelt project is complimentary to General Springs and Baker projects, and not duplicative efforts.

Is the project completely or partially located on Federal land or at a Federal facility? If so, explain whether the agency supports the project, whether the agency will contribute toward the project, and why the Federal agency is not completing the project.

The project is located completely on National Forest System lands managed by USFS. USFS is supporting the project through a cash contribution for phase 1 and a Supplemental Project Agreement with DFFM to implement the work. USFS does not have the financial resources to complete the project alone. USFS utilizes agreements, like the one with DFFM, to bring in additional partner support for projects that are uneconomical. The project is also located near the BOR owned C.C. Cragin Dam and C.C. Cragin Reservoir. BOR has supported this project through the EA.

Is there opposition to the proposed project? If so, describe the opposition and explain how it will be addressed. Opposition will not necessarily result in fewer points.

There has been no opposition expressed to the stakeholders of this project.

E.1.4. Evaluation Criterion D – Readiness to Proceed

Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. This may include, but is not limited to, the following: design, environmental and cultural resources compliance, permitting, and construction/installation.

Project Milestones, Timeline and Tasks		
Milestone	Date	Tasks
Supplemental Agreement with DFFM	February – May 2022	Prepare and execute the supplemental project agreement between USFS and DFFM
Prepare Task Order and Bid	June 2022	Prepare the project work activities and requirements and input them into a bid
Bid Solicitation/ Contractor Selection	July 2022	Prepare/ issue solicitation Review/ evaluate submitted bids Notify bidders

Executed Contract Award	July 2022	Negotiate contract Execute contract
Finish BOR Environmental Compliance	Month 1	Work with BOR for any environmental compliance work before executing any work
Contractor Work Begins	Month 2	Receive USFS approval to begin work Implement any pre-work requirements Implement pre-haul road maintenance
Implement Phase 2 Treatments (371 acres)	Month 3 - 7	Implement timber harvesting work: cut, skid, deck, process, haul, Implement biomass/ slash work: cut, skid, pile or chip, haul Implement road maintenance Implement USFS quality control
Project Completion	Month 8	Implement post-haul road maintenance Close temporary roads Implement any project close out requirements

Describe any permits and agency approvals that will be required, along with the process and timeframe for obtaining such permits or approvals.

DFFM and USFS have already entered into a Master Good Neighbor Authority Agreement and will execute a Supplemental Project Agreement that allows work to proceed in May 2022. There are a few milestones where DFFM and USFS will work together and receive approval to move to a new cutting unit within Roosevelt and commence work. No additional permits or approvals are needed beyond the supplemental project agreement.

Identify and describe any engineering or design work performed specifically in support of the proposed project, or that will be performed as part of the project. Priority will be given to projects that are further along in the design process and ready for implementation.

There is no engineering or design work needed for this project.

Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project? If so, please provide documentation. If the applicant does not yet have permission to access the project location, please describe the process and timeframe for obtaining such permission.

Payson and the other stakeholders have access to the land where the project is located. The land is public and managed by the USFS and there are no requirements to obtain access to the project location. Near the project is the BOR owned C.C. Cragin Dam and C.C. Cragin Reservoir which are withdrawn lands associated with the Reclamation Project.

Identify whether the applicant has contacted the local Reclamation office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs. Has a line item been included in the budget for costs associated with

compliance? If a contractor will need to complete some of the compliance activities, separate line items should be included in the budget for Reclamation's costs and the contractor's costs. Describe any new policies or administrative actions required to implement the project.

After consulting the Phoenix Area Reclamation Office, the project budget has included \$5,000 earmarked for environmental and cultural resource compliance. The stakeholders are anticipating achieving BOR environmental compliance using the USFS issued CWPP EA and the FWS issued Biological Opinion that BOR partnered on. There are no new policies or administrative actions required to implement this project.

E.1.5. Evaluation Criterion E – Performance Measures

Please describe the performance measures that will be used to quantitatively or qualitatively define actual project benefits upon completion of the project. Include support for why the specific performance measures were chosen.

The first performance measure of the project is to treat at least 100 acres of forest every month. This will provide a performance measurement for project progress and to ensure the project reaches completion. However, this monthly number will vary throughout the year based on external factors that cannot be controlled by the project manager and operators including fires, weather, and forest closures. As acres are treated, DFFM will count the number of restored MSO habitat acres as a performance measure. The goal is to treat all 371 acres of MSO habitat.

For the water benefits, SRP has already provided a quantification of the estimated water benefits that will be confirmed using a Forest Hydrology model. For the carbon benefits, SRP is currently undertaking extensive carbon modeling and will provide update carbon benefit results. Water and carbon are important ecological values and benefits associated with the Roosevelt project.

All applicants are required to include information about plans to monitor improved streamflows, aquatic habit, or other expected project benefits. Please describe the plan to monitor the benefits over a five-year period once the project has been completed. Provide detail on the steps to be taken to carry out the plan.

SRP will be installing Flowtography® sites in the East Clear Creek watershed to aid monitoring of streamflow to the C.C. Cragin Reservoir. Each Flowtography® site consists of a solar-powered camera and a water flow event gauge, which are used to create accurate estimates of the water flowing through certain areas. These Flowtography® sites will provide for long-term monitoring to understand the effects of forest thinning on the overall water balance for the watershed. The benefits from the installation of Flowtography® provides increased knowledge of forest hydrology and daily data for this watershed. This data is then used to improve SRP's management of the watershed, water reservoir operations including pumping amounts, and long-term water supply planning. See attached Decision Memo in the Appendix Section from USFS for special use permits to install Flowtography® in East Clear Creek watershed.

E.1.6. Evaluation Criterion F – Presidential and Department of the Interior Priorities

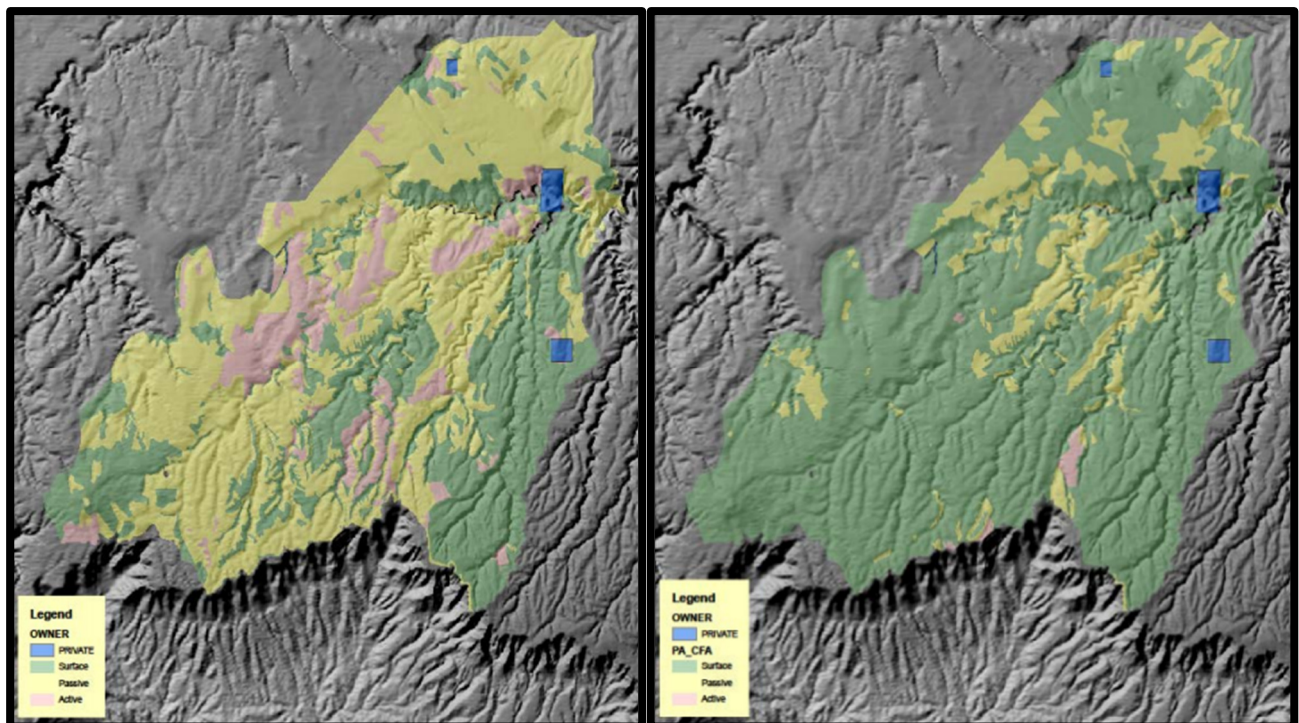
Climate Change: E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution; increase resilience to the impacts of climate change; protect public health;

and conserve our lands, waters, oceans, and biodiversity. In addition to drought resiliency measures, does the proposed project include other natural hazard risk reductions for hazards such as wildfires or floods?

Yes, the project directly reduces the chances of the risk of uncharacteristic wildfire in the East Clear Creek Watershed. Implementation of strategic forest thinning to remove dangerous fuels for crown fires in the East Clear Creek watershed will reduce the risk of wildfire. The table below was adapted from the CWPP EA that looks at the crown fire potential. Crown fire potential is the unit of measurement for existing forest condition and post-treatment condition. Surface Fire means a fire which spread with a flaming front and burn leaf litter, fallen branches and other fuels located at ground level. Passive Fire means fire encompasses a wide range of crown fire behavior, from occasional torching of isolated trees to nearly active crown fire. Active Fire means fire presents a solid wall of flame from the surface of the forest floor through the canopy fuel layers. Flames appear to emanate from the canopy as a whole rather than from individual trees within the canopy.

Existing Crown Fire Potential (2018)	
Fire Type	Crown Fire Potential
Surface	47%
Passive	36%
Active	17%
Crown Fire Potential After Treatments (2028)	
Fire Type	Crown Fire Potential
Surface	84%
Passive	15%
Active	1%

Below are images of the Crown Fire Potential in 2037 Without Treatments and the Crown Fire Potential After Treatments. The treatment scenario clearly provides reduced wildfire risk over a no treatment scenario. It is also evident that Roosevelt in the no treatment scenario would have a greater potential for an active fire and mostly a surface fire in the treatment scenario.



Does the proposed project have a conservation or management component that will promote healthy lands and soils or serve to protect water supplies and its associated uses?

This project is entirely focused on restoring the health of the forest that makes up the East Clear Creek Watershed. The project aims to bring forest conditions back to a more natural state to reduce the chances of uncharacteristic wildfire, reduce maintenance of the forest, increase water efficiency, increase water quality, and protect infrastructure near the project. The project aims to monitor project benefits for 40 years, embracing the lifecycle of the forest.

D.2.2.5. Project Budget

D.2.2.5.1. Funding Plan and Letters of Commitment

The monetary non-federal share of the project costs will be provided by SRP. Included in this application is the SRP's letter of support and commitment that outlines the following:

- The amount of funding commitment
- The date the funds will be donated to DFFM.
- Any time constraints on the availability of funds
- Any other contingencies associated with the funding commitment

The non-federal share of the project costs committed by SRP is secured and available starting on May 1, 2022. The only timing constraint is that the SRP's donation cannot be transferred to DFFM until DFFM has issued a contract(s) for contractual timber removal services. DFFM will send an invoice to SRP for the non-federal funding portion of phase 2 and SRP will provide the funding. If selected for BOR grant funding, SRP will request reimbursement from BOR once DFFM hired contractors have executed phase 2 and DFFM submits a report to SRP on final costs.

The sources of the non-Federal cost share contribution for the project, include:

- Monetary contributions: \$186,750 from SRP.
- Applicant Costs: SRP will not submit or have any cost contributions to the project, beyond the cost-share requirements.
- Third-party in-kind costs: No third parties will submit any in-kind contributions for Roosevelt project phase 2.
- Cash requested or received from other non-Federal entities: No cash has been requested or received from other non-Federal entities related to phase 2. As stated earlier, other non-federal entities are providing funding for phase 1 only.

Any pending funding requests (i.e., grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied: No pending funding requests were made for phase 2, except for BOR grant funding through this application. As stated earlier, other non-federal grant funding will be requested for phase 1. BOR WaterSMART grant funding is not being requested nor being used for phase 1.

In addition, please identify whether the budget application includes any project costs that have been or may be incurred prior to award. For each cost, describe:

- The project expenditure and amount: No project expenditures and amounts will be incurred prior to award and environmental compliance completion.
- The date of cost incurrence: N/A
- How the expenditure benefits the project: N/A

Phase 1 project costs will be incurred starting May 1. Again, no BOR grant funding will be used for phase 1.

D.2.2.5.2. Budget Proposal

Table 1: Total Project Cost Table	
Source	Amount
Costs to be reimbursed with the requested Federal Funding <ul style="list-style-type: none"> • Project Contracting Services • Environmental/ Regulatory Compliance 	\$ 560,250
Cost to be paid by the applicant <ul style="list-style-type: none"> • Project Contracting Services 	\$ 186,750
Total Project Cost	\$747,000

Table 2: Summary of Non Federal Funding Sources	
Funding Sources	Amount
Salt River Project (SRP)	\$ 186,750
Non-Federal Subtotal	\$ 186,750
REQUESTED RECLAMATION FUNDING	\$ 560,250

Table 3: Budget Proposal				
Budget Item Description	\$/Unit	Quantity	Quantity Type	TOTAL COST
Salaries and Wages	N/A	N/A	N/A	N/A
Fringe Benefits	N/A	N/A	N/A	N/A
Travel	N/A	N/A	N/A	N/A
Equipment	N/A	N/A	N/A	N/A
Supplies and Materials	N/A	N/A	N/A	N/A
Contracted Timber Services	\$2000/ Acre	371	Acres	\$742,000
BOR Environmental/ Regulatory Compliance	\$5,000	1	Compliance	\$5,000
Total Direct Costs	N/A	N/A	N/A	\$747,000
Indirect Costs	N/A	N/A	N/A	\$0
Total Estimated Project Costs				\$747,000

D.2.2.5.3. Budget Narrative

In order to provide a comprehensive view of the budget and project, the application will refer back to the partnership described in the Section D.2.2.4.3. Technical Project Description:

“USFS, DFFM and SRP have a unique partnership that allows the organizations to develop and implement forest restoration projects on National Forest System lands (NFS). This partnership utilizes two agreements. The first agreement is a Master Good Neighbor Authority agreement (GNA) between USFS and DFFM. This Master GNA allows USFS and DFFM to develop supplement project agreements (SPAs) to implement forest restoration projects for specific restoration projects. The second agreement, a Memorandum of Understanding (MOU) between SRP and DFFM, allows SRP to help fund forest restoration projects that are being implemented by DFFM under the Master GNA. As part of the MOU, SRP provides matching funds, applies for grant funding, and fundraises private and public funding. Then SRP pools the funding and provides a donation to DFFM to pay for the costs of implementing forest restoration projects. To date, this partnership has funded three projects that are in various stages of implementation. The proposed Roosevelt project will utilize these partnership arrangements.”

In addition, DFFM will also be the agency that hires, manages, and provides oversight of the hired contractors. Finally, as the land management agency, USFS will provide final administrative oversight and approval of the work and completion of phase 2 as required in the supplemental project agreement.

SRP is providing the cost-share requirement of \$186,750.

D.2.2.5.3.6. Contractual

For phase 2 (371 acres), DFFM will utilize the same contractual timber removal services that implemented phase 1. Contractual timber removal services are estimated to be \$2000 per acre for 371 acres for a total cost of \$742,000. This is an estimate at this time. This estimate will be updated once DFFM has received bids and awarded a contract.

D.2.2.5.3.8. Environmental and Regulatory Compliance Costs

Included in the budget was \$5,000 to cover BOR’s environmental compliance costs. This cost was determined in consultation with the BOR Phoenix Area Office.

All Other Budget Cost Items

No salaries and wages; fringe benefits; travel; equipment; materials and supplies; third party in-kind contributions; other expenses; indirect costs; were not included in the budget because SRP, as the applicant, will not incurring any of these expenses related to the project.

DFFM and USFS will not be submitting any third-party costs or in-kind donations/ values associated with phase 2. SRP will not providing any in-kind donations/ values associated with phase 2.

D.2.2.6./ H.1. Environmental and Cultural Resources Compliance

To allow Reclamation to assess the probable environmental and cultural resources impacts and costs associated with each application, all applicants must respond to the following list of

questions focusing on NEPA, ESA, and NHPA requirements. Please answer the following questions to the best of your knowledge. If any question is not applicable to the project, please explain why. The application should include the answers to:

- **Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.**

Yes, the project thinning activities will have environmental impacts. The first work activity that will impact the environment is the building and removal of temporary roads and maintenance of roads. This activity will cause dust, soil and vegetation disturbance, and short-term impacts to habitat and wildlife while in the area. The second work activity is the cutting, processing, and loading of timber. This will cause disturbances to the soil from the machines, create dust, impact remaining vegetation, and cause short-term impacts to habitat and wildlife while in the area. The last work activity will be hauling of timber out of project area, which will cause dust and short-term impacts to wildlife. All of these impacts were analyzed in the CWPP EA and a FWS biological opinion was issued with the implementation of a number of mitigation measures. These mitigation measures will be implemented for phase 2, including no work being conducted during owl breeding season. In addition, USFS requires any work activities to comply with resource protection measures to mitigate impacts of implementing projects. These protection measures were included in the CWPP EA (pg 431) and cover the following resources: Silviculture; Processing Sites; Soil and Watershed Protection; Transportation System, Road Use and Maintenance, Rock Pit Use; Heritage; Wildlife; Noxious and Invasive Weeds; Mogollon Rim Botanical Area; Sensitive Plants; Recreation; Scenery; Public Health and Safety; Air Quality; Cave and Karst Features; Lands and Special Uses; Range Resources.

- **Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?**

Yes, as stated earlier in the application there are three threatened species the Mexican Spotted owl (MSO), the Chiricahua Leopard Frog (CLF), the Little Colorado spinedace (LCS) and/or critical habitat located in the project area. The FWS issued biological opinion states that the project activities may affect the MSO and its designated critical habitat. It also states that the project activities are not likely to adversely affect the LCS and its habitat and the CLF. USFS and project implementors are required to follow conservation and mitigation measures to protect these species and their habitat while implementing the project.

- **Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States?” If so, please describe and estimate any impacts the proposed project may have.**

No “Waters of the United States” exist within the project boundary.

- **When was the water delivery system constructed?**

The C.C. Cragin Dam was constructed in 1965. The C.C. Cragin Pipeline was constructed in 1963.

• Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

No, the project will not result in any modification of or effect to, individual features of an irrigation system.

• Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

Not applicable. No buildings, structures or features of the irrigation district are located or impacted by the project.

• Are there any known archeological sites in the proposed project area?

There are 98 archaeological sites in the East Clear Creek watershed. Most of the sites are clustered along canyons and springs, ponds, and water catchments. The CWPP EA evaluated these sites and determined that thinning work activities will avoid these area and have little to no impact on the sites, but you be beneficial by reducing the risk of wildlife impacts to these sites.

• Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

No, this project is entirely on national forest system lands and does not affect low income or minority populations.

• Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

No, this project does not limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands. USFS did engage in tribal consultation to understand potential impacts to tribes. The CWPP EA states that the design features of the project mitigate any of the project's potential adverse effects to cultural resources.

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

The project would be beneficial for dealing with noxious or invasive weeds by providing for survey and treatment of weeds in the project area. The thinning actions will cause disturbance in the area. Disturbance has been shown to increase the risk of noxious or invasive weeds, but these effects can be mitigated through the use of best management practices for noxious or invasive weeds and treatment of some species.

D.2.2.7. Required Permits and Approvals

Once DFFM and USFS enter into a supplemental project agreement for the Roosevelt Project work on the project may commence. During the project USFS will provide approvals to commence work on specific areas within the project. In addition, USFS will provide approvals for work completion on specific areas within the project. These approvals are standard and usually are conducted by a USFS contracting officer or contracting officer representative. DFFM will work with USFS to seek these approval and work with the contractors to ensure proper approvals are received.

D.2.2.8. Letters of Project Support

The following letters of support are included in the Appendix:

- DFFM Letter of Support
- USFS Letter of Support

D.2.2.9. Official Resolution

The letter/ official resolution from SRP is included in the Appendix.

Appendix

Hyper-Linked Documents

- [Cragin Watershed Protection Project Environmental Assessment \(CWPP EA, 2018\)](#)
- [CWPP Biological Opinion](#)
- [USFS Decision Memo for Special Use Permit to install Flowtography®](#)
- [American Planning Association. Case Study: Hayman Fire, Hayman, Colorado](#)
- [McCauley et al. 2019. Large-scale forest restoration stabilizes carbon under climate change in Southwest United States.](#)
- [National Forest Foundation. 2019. Estimating Changes in Carbon Storage in the Cragin Watershed Protection Project with the Southwestern Forest Restoration Methodology.](#)
- [5-year update for the town of Payson: 91-000134.0000 SWP.pdf \(azwater.gov\)](#)
- [System Water Plan Guidance Document \(pg. 11-14\): Microsoft Word - System Water Plan Guidance final.doc \(azwater.gov\)](#)
- [Erickson, C. C., & Waring, K. M. \(2014\). Old Pinus ponderosa growth responses to restoration treatments, climate and drought in a southwestern US landscape. Applied Vegetation Science, 17\(1\), 97-108.](#)
- [Kane, J. M., Kolb, T. E., & McMillin, J. D. \(2014\). Stand-scale tree mortality factors differ by site and species following drought in southwestern mixed conifer forests. Forest Ecology and Management, 330, 171-182.](#)
- [Smith, H.G., Sheridan, G.J., Lane, P.N.J., Nyman, P. & Haydon, S. 2011. Wildfire effects on water quality in forest catchments: a review with implications for water supply. J. Hydrol. 396, 170–192.](#)
- [Teclé, A., Neary, D. 2015. Water Quality Impacts of Forest Fires. Journal of Pollution Effects and Control.](#)
- [2012 MSO Recovery Plan](#)
- [AZ DFFM Arizona At Risk Communities](#)
- [Audubon Arizona. 2019. The Economic Impact of Arizona’s Rivers, Lakes, and Streams.](#)

Attached Documents

- Letter/ official resolution from SRP
- DFFM Letter of Support
- USFS Letter of Support
- CWPP Proclamation
- CWPP MOU
- CWPP Priority Area Treatment Map
- Cragin ET 3 Percent Scenario
- Masek Lopez. 2019. Anticipating Water Yield Response to 4FRI Treatments Based on Historic Watershed Studies in Ponderosa Pine Forest.
- EPRI. 2018. Watershed Management and Economic Considerations: Cragin Case Study. Pg 57 - 86

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David C. Roberts
Associate General Manager, Water Resources
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P: (602) 236-2343 | C: (602) 818-7747
Email: Dave.Roberts@srpnet.com

December 6, 2021

Bureau of Reclamation
Financial Assistance Operations
Attn: NOFO Team
P.O. Box 25007, MS 84-27133
Denver, CO 80225

Dear NOFO Team,

I am writing this letter as an official authorized to commit the Salt River Project (SRP) to the financial and legal obligations associated with the receipt of an award under the Bureau of Reclamation's WaterSMART Environmental Water Resources Projects for Fiscal Year (FY) 2022 (R22AS00026) for the Roosevelt Phase 2 project.

The Roosevelt Phase 2 Project is a 371-acre forest thinning project that will greatly reduce the risk of catastrophic wildfire, restore forest resiliency, and protect the Bureau of Reclamation-owned C.C. Cragin Dam. In addition, the project will help ensure that SRP can continue to deliver renewable and sustainable water supplies to downstream water users like the Town of Payson and the Phoenix Metropolitan area.

As the Associate General Manager of Water Resources at SRP, I fully support SRP's application for the WaterSMART grant for \$556,250. In addition, please accept this letter as SRP's commitment to providing the required matching funds of \$186,750. SRP is capable and has planned, through our budget process, to provide the matching funds for the Roosevelt phase 2 project. The SRP provided matching funds will be available starting May 1, 2020. SRP provided matching funds will need to be obligated to the project within one year. There are no other contingencies with the SRP provided matching funds. Finally, SRP is committed to work with the Bureau of Reclamation to meet the established deadlines for entering into the grant and any additional environmental compliance work that may be necessary.

Please feel free to contact me should you have any questions or concerns regarding SRP's official statement/letter of commitment at dave.roberts@srpnet.com or 602-236-2343.

Dave Roberts

A handwritten signature in blue ink that reads "Dave Roberts". The signature is fluid and cursive, with the first name "Dave" being more prominent than the last name "Roberts".

Associate General Manger
Water Resources



Douglas A. Ducey
Governor

Office of the State Forester

Arizona Department of Forestry and Fire Management



David Tenney
State Forester

Bureau of Reclamation
Financial Assistance Operations - Attn: NOFO Team
P.O. Box 25007, MS 84-27133
Denver, CO 80225

December 1, 2021

To whom it may concern:

The Arizona Department of Forestry and Fire Management ("DFFM") is writing this letter to support the Salt River Project's ("SRP") WaterSMART Environmental Water Resources Projects Grant Application for the Roosevelt Project. DFFM has been a committed partner, along with SRP and the U.S. Forest Service ("USFS") to accelerate the restoration of National Forest System Lands ("NFS") within the Cragin Watershed Protection Project Area ("CWPP"), including the Roosevelt project.

The Roosevelt project is a mechanical thinning project to restore 2,284 acres of overgrown forest in the East Clear Creek watershed to a more natural state. The thinning treatments will be expensive to implement, but by partnering with the U.S. Bureau of Reclamation (BOR) the project can be completed. Overgrown and unhealthy NFS lands in the Roosevelt Project area fuel unnatural, high-severity wildfires that can devastate the CWPP area.

As DFFM rolls out and implements the Governor's Healthy Forest Initiative – an initiative to significantly increase hazardous fuel reduction efforts in Arizona for fire prevention, critical infrastructure protection, and forest and watershed restoration, the WaterSMART Environmental Water Resources Projects Grant Application for the Roosevelt Project pairs perfectly.

Restoration of NFS lands in the East Clear Creek watershed is integral to the protection of the federal reclamation infrastructure assets associated with the C.C. Cragin Reservoir and Dam. Implementation of the Roosevelt thinning project creates a more diverse and healthy forested landscape and reduces the risk of catastrophic wildfire events that create dangerous post-wildfire conditions on the watershed and surrounding communities. It is for these reasons that DFFM supports SRP's WaterSMART Environmental Water Resources Projects Gant Application to the U.S. Bureau of Reclamation for favorable review and award. Please feel free to contact us at (602) 771-1420 if you have any questions concerning this letter of support.

A handwritten signature in black ink, appearing to read "David Tenney".

David Tenney
Arizona State Forester

Duty **Respect** **Integrity**



File Code: 3510

Date: December 8, 2021

Attn: NOFO Team
Bureau of Reclamation
Financial Assistance Operations -Attn: NOFO Team
P.O. Box 25007, MS 84-27133
Denver, CO 80225

To Whom It May Concern:

The Coconino National Forest is writing this letter to support the Salt River Project's (SRP) WaterSMART Environmental Water Resources Projects Gant Application for the Roosevelt Project. Coconino National Forest has been a committed partner, along with SRP and the Arizona Dept. of Forestry and Fire Management (DFFM) to accelerate the restoration of National Forest System Lands (NFS) within the Cragin Watershed Protection Project Area (CWPP), including the Roosevelt project.

The Roosevelt Project is a mechanical thinning project designed to restore 2,284 acres of overgrown forest in the East Clear Creek watershed to a more natural and resilient state. The thinning treatments will be expensive to implement, but with partnership with the U.S. Bureau of Reclamation (BOR) the project can be completed.

Overall, NFS lands in the Roosevelt Project area are overgrown and unhealthy and over time have built up large amounts of fuel. These conditions can result in uncharacteristic, high-severity wildfires that can devastate the CWPP area. Large-scale, high-severity wildfires make average precipitation events extremely destructive; accelerating flood flows and toxic runoff, eroding soils, depositing sediment into water storage reservoirs, and ultimately causing hundreds of millions of dollars in increased treatment costs and reduced water storage capacity. In 2018, the Electric Power Research Institute estimated the costs of catastrophic wildfire in the CWPP will cost up to \$293 million in damages and post-wildfire restoration.

Restoration of NFS lands in the East Clear Creek watershed is integral to the protection of the federal reclamation infrastructure assets associated with the C.C. Cragin Reservoir and Dam. The Coconino National Forest, along with SRP, DFFM, and BOR have interests in ensuring that forest health is restored on this watershed. It is for this reason that USFS is partnering with SRP and DFFM to implement thinning projects to protect this watershed. Restoring NFS lands within the Roosevelt Project to a more natural condition through strategic thinning provides a multitude of benefits including:

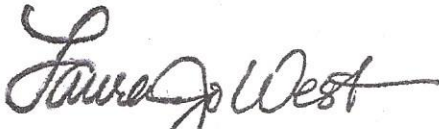
- Protecting lives, communities, property, and natural resources from uncharacteristic, high-severity wildfires.
- Reducing the probability of a large-scale, high-severity wildfire and conversion of forests to non-forest lands.



- Protecting existing and preventing degraded water quality in the watersheds around C.C. Cragin Reservoir, which provides sustainable and reliable water for the Town of Payson and others, along with the associated water infrastructure and long-term water storage.
- Protecting the Mexican spotted owl and Northern goshawk habitat.
- Protecting recreation, tourism, and economic opportunities in the CWPP.

Implementation of the Roosevelt thinning treatments creates a more resilient and healthy forested landscape and reduces the risk of catastrophic wildfire events that create dangerous post-wildfire conditions on the watershed and surrounding communities. It is for these reasons that Coconino National Forest supports SRP's WaterSMART Environmental Water Resources Projects Grant Application to BOR for favorable review and award. Please feel free to contact Michelle Paduani at michelle.paduani@usda.gov if you have any questions concerning this letter of support.

Sincerely,

A handwritten signature in cursive script that reads "Laura Jo West". The signature is written in black ink and is positioned above the printed name and title.

LAURA JO WEST
Forest Supervisor



PROCLAMATION

WHEREAS, in the spirit of the Western Watershed Enhancement Partnership, the following parties have collaborated to establish a joint program to proactively improve the health and resiliency of the Coconino National Forest, Upper East Clear Creek Priority Watersheds, and thereby to protect the water supply and key infrastructure of the C.C. Cragin Reservoir; and

WHEREAS, the health of National Forest System lands in northern Arizona affects municipal, agricultural, and industrial water supplies, public safety, recreation, natural resources, threatened and endangered species, and the economic vitality of the surrounding communities; and

WHEREAS, management of the Forest and watershed health is important for protecting reservoir storage capacity, minimizing sedimentation load, maintaining water quantity and quality, enhancing ecosystem health, reducing the threat of crown fires, flood volumes, and risk of future wildfires; and

WHEREAS, particular emphasis will be atop the Mogollon Rim within the watersheds of East Clear Creek-Blue Ridge, Bear Canyon and Miller Canyon, which drain into and surround C.C. Cragin Reservoir; and

WHEREAS, the relationships between all partners and participating agencies will be further enhanced through this collaborative project and will be integral to its success.

THEREFORE, by signing this proclamation on August 27, 2014, the Department of the Interior, U.S. Department of Agriculture, Town of Payson, Arizona, National Forest Foundation and Salt River Project, do hereby proclaim commitment to the success of the partnerships and projects that will improve the health and resiliency of said watersheds.

Michael L. Connor
Deputy Secretary
U.S. Department of the Interior

Robert Bonnie
Under Secretary
Department of Agriculture

Kenny Evans
Mayor
Town of Payson, Arizona

For
Bill Possiel
President
The National Forest Foundation

John Sullivan
Deputy General Manager
Salt River Project

Signing in support of this collaborative effort

Penny Pew
District Director
Representative Paul Gosar

Ron Lee
District Director
Representative Ann Kirkpatrick

Vivian Burdette
Chairwoman
Tonto-Apache Tribe

Scott Hunt
State Forester
State of Arizona

Tommie Martin
Supervisor
Gila Board of Supervisors

Mandy Metzger
Supervisor
Coconino Board of Supervisors