

**WaterSMART:
Environmental Water Resources Projects for FY 2022
Notice of Funding Opportunity No. R22AS00026**



Grant Proposal for

Marin Municipal Water District
Marin Watershed Recharge Study

Submitted by:
Marin Municipal Water District
220 Nellen Avenue
Corte Madera, California 94925-1169

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Technical Proposal

Date

December 9, 2021

Applicant

Marin Municipal Water District
220 Nellen Avenue
Corte Madera
Marin County
California 94925-1169

Executive summary

The Marin Municipal Water District (District), a Category A applicant, is responsible for supplying water to more than 191,000 community members in central and southern Marin County, California. After two successive dry winters with significantly below average rainfall, the District reservoir storage volumes are at historically low levels. Reservoir storage as of September 22, 2021 was 27,876 acre-feet (AF)¹, the lowest storage level in 38 years since Kent Dam was raised when the total capacity of the District's reservoir system was increased to 79,566 AF. Total rainfall from July 1, 2020 to July 1, 2021, as measured at the District's Lagunitas rain gauge, was 20.66 inches, approximately 40 percent (40%) of average rainfall. As a result of this drought, the District's reservoirs are at historically low levels, which highlights the water supply vulnerabilities that exist within Marin County. A situation that will be further complicated by the realities of climate change.

On April 20th, the District's Board approved Resolution 8630, attached as Exhibit B, declaring a Water Storage Emergency. Subsequently, on May 18, 2021, the County of Marin approved Resolution 21-27, attached as Exhibit C, declaring a local emergency regarding drought conditions throughout the County. On July 8, 2021, Governor Newsom included Marin County in his 2021 drought proclamation, which is attached as Exhibit D. Since that time the District has put in place strict water conservation measures and has reduced water demand by approximately 30%. The District's water supply consists of seven local municipal reservoirs that provide 75% of the supply, the remaining 25% comes from water imported from Sonoma County.

The District operates Kent Lake/Peters Dam in accordance with State Water Board Order WR 95-17 which sets minimum instream flow requirements for Lagunitas Creek. Lagunitas Creek provides critical habitat for three State and Federally listed species: Coho Salmon (*Oncorhynchus kisutch*), steelhead trout (*Oncorhynchus mykiss*) and fresh water shrimp (*Syncaris pacifica*). Per WR 95-17 the District conducts annual fisheries monitoring and restoration work in accordance with the Lagunitas Creek Stewardship Plan. In response to the historic drought, the State Water Resources Control Board approved a Temporary Urgency Change Petition (TUCP) submitted by the District to reduce winter time minimum flows from 20 cfs to 16 cfs to improve water supply conditions. In an effort to reduce the need for future TUCP applications and to stabilize local water supply conditions, the District is interested in evaluating options for watershed recharge that can be paired with instream restoration work. Stabilizing water supply will preserve instream flows is an essential for the protection of human health and safety, and the stewardship of endangered and threatened species. Habitat enhancement will work to restore physical process that support habitat formation for endangered and threatened species within Lagunitas Creek.

Combined these actions will enhance resiliency of aquatic wildlife and help establish water security for Marin County.

Completing a Watershed Recharge Study will help the District evaluate opportunities for enhancing watershed runoff to improve ecological conditions in Lagunitas Creek and stabilize water supply during periods of prolonged drought. Implementing stream channel restoration will restore riffle pool morphology and spawning habitat to mitigate the influence that upstream dams have on downstream fisheries. The District is currently advancing Lagunitas Creek restoration designs from the 30% stage to the 100% stage to support future channel restoration work. An urgent need for the Project exists because of the extremely low storage levels in the District's reservoirs resulting from below average rainfall for multiple years and the fact that without supplemental water supply, District customers are threatened with inadequate water resources.

The District is ready to proceed with the Project upon entering into a financial agreement, and can complete the Watershed Recharge Study within 24 months from the agreed upon start date and would complete restoration work within Lagunitas Creek by December of 2024. If awarded the District would start the project in September, 2022, and complete work by December, 2025. This Project is not located on a Federal facility.

Project location.

The District covers approximately 147 square miles and services customers through about 61,700 active service connections. Five of the District reservoirs (Alpine, Bon Tempe, Kent, Lagunitas, and Phoenix Lake) are located on the north slope of Mt. Tamalpais. The remaining two District reservoirs (Nicasio and Soulajule) are outside the District's service area in western Marin County. In total, the District owns and manages over 22,000 acres of watershed lands. The District has a Mediterranean coastal climate. Summers are mild and dry, and winters are cool and wet, with an annual average of 47 inches of precipitation in the service area. The District's potable and raw water distribution system includes approximately 886 miles of water mains, 94 pump stations, and 121 treated water storage tanks with a total storage capacity of 74.9 million gallons (MG). The District treats water at its three treatment plants, Bon Tempe Treatment Plant, San Geronimo Treatment Plant, and the Ignacio treatment facility. Together, these facilities have a combined design capacity of 71 million gallons per day (MGD). The District's reservoirs provide 75% of annual supply, this is supplemented by water imported from the Russian River and purchased from Sonoma County Water Agency (Sonoma Water). The District also provides raw water for environmental releases from Kent and Soulajule Lakes to meet environmental flow requirements that benefit coho salmon, steelhead and freshwater shrimp.

Lagunitas Creek watershed is located in west Marin County. Lagunitas Creek drains an 83 square mile watershed to the Pacific Ocean through Tomales Bay. Significant portion of the watershed are dammed. Seeger Dam cuts off 36 square miles of Nicasio Creek. Peters Dam impounds the 22 square miles of the Lagunitas Creek headwaters. Just 25 square miles of the Lagunitas Creek remains undammed, including the downstream most 12 miles of Lagunitas Creek and all of San Geronimo Creek, the largest undammed tributary to Lagunitas Creek. The Lagunitas Creek Watershed is listed by the California Department of Fish and Wildlife (CDFW) as one of four high priority watershed for recovery of Coho salmon. Overall populations of California Central Coast Coho salmon has dropped from 40,000-125,000 spawning adult coho (historical estimate) to less than 5,000.

The proposed Watershed Recharge Study would evaluate recharge opportunities of lands owned by the District that drain into water supply reservoirs. Restoration work would be implemented within Lagunitas Creek immediately downstream of Kent Lake/Peters Dam on California State Parks Property in the Samuel P. Taylor Park. State Parks has a long history of providing the District with construction access for the purpose of stream restoration work within Lagunitas Creek. Over the past 20 years, the District has successfully installed

approximately 60 Large Woody Debris Structures along Lagunitas Creek to enhance instream habitat as part of the Lagunitas Creek Stewardship Plan.

D.2.2.4.3 Technical Project Description

Watershed Recharge Study

The goal of the Watershed Recharge Study is to optimize water management to mitigate drought related impacts on fisheries, the broader watershed ecosystem and water supply. Marin County is struggling to meet residential water demands due to changes in precipitation and prolonged drought, which is also impacting the District's ability to meet instream flow requirements that are need to protect and sustain threatened and endangered species. As part of the District's recent application for the TUCP the District completed a habitat suitability study within Lagunitas Creek to evaluate how changes in flow would influence habitat conditions. As part of this effort a Watershed Hydrological Model was developed to better understand how changes in rainfall will influence runoff, water supply, and storage. The Watershed Recharge Study would build off of these previous studies to identify strategies for sustaining instream flows and improving local water supply through active watershed recharge.

The Watershed Recharge Study would evaluate options for the beneficial reuse of highly treated waste water to support watershed recharge that augments natural runoff patterns into municipal reservoirs. The Project would entail building off of previously completed studies to better understand water quality conditions and enhanced treatment options for waste water from local sanitation Districts. As part of the project the District would evaluate various opportunities for recharging sub-watershed on its Mt. Tamalpais Watershed lands. The study would analyze water transport routes, infrastructure needs and energy demands. To off-set the energy needs associated with transporting the water the study would investigate opportunities for the use of renewable energy such as solar arrays or micro hydro power facilities. The study would investigate geological condition, existing seeps and springs, and tributaries that feed drinking water reservoirs. Potential discharge points would be identified on the watershed and discharge quantities would be analyzed to understand how much water would need to be discharged into the upper watershed to influence runoff into District reservoirs. A detailed biological analysis would be conducted to understand the benefits of watershed recharge on local ecosystems and how to enhance and protect sensitive biological resources. A regulatory review would be conducted to track changing regulations that are coming forward in 2023 around indirect potable reuse in California. The study would shed light on infrastructure and operational changes needed to support watershed recharge to stabilize water supply and augment stream-flow to ensure that adequate water is available to support environmental flows within Lagunitas Creek, and long-term water supply for Marin community members.

The District is interested in advancing a Watershed Recharge Study to understand how future operations could be coupled with local sanitation districts to reduce the discharge of waste water into the San Francisco Bay and used to support beneficial reuse. This circular water management approach would advance local sustainability goals and reduce the need for future reduction in environmental flows within Lagunitas Creek. Prolonged drought and climate change is severely straining the District's existing water portfolio and communities are at risk of running out of water during multi-year droughts. In the absence of local water supply improvements the District will need to rely on additional water imports from Sonoma County or other areas of the state, which are uncertain and further strain Sonoma and other areas water availability. Furthermore, ongoing drought and changes in precipitation are influencing runoff patterns and the availability of water to support releases into Lagunitas Creek for the protection of threatened and endangered species. Coupling Watershed Recharge with downstream restoration will stabilize water supply for drinking water and for environmental flows, while also enhancing habitat for downstream fisheries. Collectively, this will greatly improve the water security of Marin County and resiliency of biodiversity within Lagunitas Creek.

Lagunitas Creek Restoration

The stream restoration goal is to improve adult spawning and juvenile rearing habitat for coho salmon, in a manner that is as self-sustaining as possible. Actions that improve spawning and rearing for coho salmon are expected to also provide benefits for steelhead spawning and rearing, and other life stages and species. The District is currently advancing restoration designs from the 30% stage to the 100% stage to support future implementation. Stream habitat enhancement actions entail the placement of large wood in a configuration that increases trapping, sorting, and storage of gravel in a manner that increases the quantity and quality of spawning and rearing habitat. This is being proposed because Lagunitas Creek is observed to have very low wood loading in the project reaches. The lack of wood is due to a combination of factors including Peters Dam trapping wood from the headwaters, and a history of removing in channel wood that only ended in the last few decades. The Regional Water Quality Control Board's TMDL recommended that Lagunitas Creek should have a large wood load of around 330m³/ha based on reference conditions in less disturbed watershed with comparable ecosystems. The District's own large woody debris surveys completed in 2012 and 2017 found that between a third and half of the Water Board target load was present.

Similarly, upstream impoundments reduce coarse sediment. Channel incision has eroded the former alluvial channel down to bedrock in some places, and to shallow gravel bed in others, with several repercussions for aquatic habitat. Erosion to bedrock removed spawning gravel in many areas, directly reducing salmonid habitat as well as substrate that supports benthic macro invertebrates. Erosion of alluvial gravel overtime also removed or simplified riffle and pool forms that support several life stages for salmonids and other species. A lack of coarse sediment supply and highly confined conditions in some of the proposed restoration reaches may impeded the development of prominent alternate bars and associated free formed riffle-pool morphology as evidenced by the extensive glides with shallow gravel and bare bedrock beds. However, several previously constructed large wood structures in the proposed restoration reach demonstrate the ability of local forcing agents to induce riffle pool morphology in spite of the valley topography by creating zones of flow acceleration and deceleration that scour and deposit sediment, respectively, but large wood density is overall low in the proposed project reach and is partially responsible for the scarcity of riffle pool units. As such, the proposed restoration project would entail installation of a series of large wood structures combined with adding sufficient gravel of suitable size for coho and steelhead spawning to overcome a bed load deficit of around 1,700 tons per year caused by upstream impoundments.

As part of this grant proposal the District would implement two of the seven restoration sites that are currently being designed. Two restoration sites would be implemented during the 2023 construction season. The habitat enhancement actions would convert poor quality glide habitat into high quality self-sustaining riffle-pool habitat through the addition of large wood and coarse sediment (gravel).

The design approach for the Riffle-Pool-Wood Structure is to use the following combination of large wood and gravel structures to create complex self-maintaining riffle pool habitat:

- *Riffle Forcing Wood Structure*: a series of two logs with rootwads that extend laterally from opposing banks to trap coarse bedload and force the formation of a riffle.
- *Riffle Gravel*: Spawning sized gravel placed upstream of the Riffle Forcing Wood Structure to "jump start" riffle formation.
- *Pool Habitat Wood Structure*: alternating series of three logs add in the pool created upstream of the Riffle Forcing Wood Structure to provide cover and promote complexity through local scour and

downstream sediment sorting and storage (includes gravel placed downstream to “jump start” bar formation).

D.2.2.4.4 Performance Measures

E.1.1 A-Project Benefits

Water managers throughout California are beginning to see the effects of a changing climate. In Marin and Sonoma County, changes in precipitation patterns are impacting water supply, which necessitates the expansion of the District’s water portfolio to stabilize water supply and enhance regional resiliency. These changes are also impacting the timing and availability of water in local streams and the District’s ability to meet downstream environmental flows which support habitat for threatened and endangered species within Lagunitas Creek. As such the District sees a need to explore novel watershed management strategies to improve water reliability, security and resiliency. Currently 75% of the District’s water comes from local water supply which makes Marin County vulnerable to prolonged droughts. Stabilizing water supply through watershed recharge would help ensure environmental releases continue uninterrupted to support fisheries and reduce the need for future TUCP’s that reduce instream flows. Reducing the need for future TUCP would address a water conflict issue that arise during periods of drought. Finally, implementation of stream restoration would offset some of the impacts that the upstream dams have had on natural large wood loading and sediment supply which are essential for the formation of instream habitat.

E.1.1. A.1 Benefits to Ecological Values

The Watershed Recharge Study will identify water management changes and infrastructure improvements that could be made to improve long-term water supply reliability and preserve instream flows during periods of prolonged drought. The District will utilize a recently completed watershed model to evaluate how highly treated waste water can be discharged in strategic locations to offset the impacts of drought on ecosystems and enhance runoff to improve water storage in downstream reservoirs. Through stabilizing water supplies for human health and safety, the District will be able to maintain release into Lagunitas Creek to support fisheries. This would reduce the need for instream flow reductions to save water during times of extreme drought. This is a critical improvement because California is expected to see ongoing changes in precipitation patterns associated with climate change, which will threaten aquatic habitats. Furthermore, long-term droughts increase the risk for catastrophic wildfire which has the potential to severely impact water supplies, watershed processes, and biodiversity. As such the District is looking to develop foundational studies to inform long-term sustainable water management strategies such as multi-benefit watershed recharge.

Stabilizing water supplies in Marin County will support species recovery through ensuring that sufficient water is available to maintain instream flows. Within Lagunitas Creek stream flows are essential for protecting threatened and endangered species such as Coho Salmon (*Oncorhynchus kisutch*), steelhead trout (*Oncorhynchus mykiss*) and fresh water shrimp (*Syncaris pacifica*). Habitat downstream of Peters Dam has been degraded due to the dam trapping large wood and sediment, which has fundamentally altered the geomorphology of the creek. The District’s Riffle-Pool-Wood structure designs will convert long reach of homogenous glide or pools into short, more numerous, riffles and pools. Riffle Forcing Wood Structures would be installed to trap coarse bedload and force the formation of a riffle. Riffle Gravels would be placed within the stream channel to jumpstart the riffle formation. Pool Habitat Wood Structures would be installed upstream of the Riffle Forcing Wood Structures to provide cover and promote complexity through local scour and downstream sediment sorting and storage.

Previous studies within Lagunitas Creek showed that 90% of coho redds are located on pool or glide tails located within 25 feet upstream of a riffle crest, so creating additional riffles should increase the available salmonid spawning area. Creating shorter but more heterogeneous and deeper pools with greater cover is expected to create high value summer and winter salmonid rearing habitat than currently exists in the long glides and pools.

Fieldwork in Lagunitas creek has shown that large, channel-spanning wood structures and their natural analogues can trap bedload and create riffles upstream, creating salmonid spawning habitat, and fry rearing habitat. Furthermore, partially reversing incision by depositing coarse sediment increases the connectivity of the bankfull channel to surrounding floodplain areas, alcoves and velocity refugia at high flows. Furthermore, creating a thicker gravel bed over areas of bedrock or shallow gravel will allow for deeper pools to be scoured locally within those deposits, creating better winter and summer rearing habitat. Several studies have shown that spawning is more likely where there is cover near to the potential spawning site, and that Lagunitas Creek has much less wood than reference conditions. Large wood structures in pools and near spawning riffles should provide additional shelter and should create local scour pools that support salmonid rearing, including deeper pools that provide winter velocity refugia and summer thermal refugia.

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

Multi-Benefit Project

The Watershed Recharge Study will help to inform operational changes that could be made to enhance drought resiliency within Marin County and increase water supply reliability for ecological values. Stabilizing water supplies through active watershed recharge will ensure that 10,000-12,000 acres feet of water continues to be available to support environmental flows within Lagunitas Creek. Furthermore, maintaining this level of release support downstream water users such as North Marin Water District who depends on flows within Lagunitas Creek and surrounding sub-watersheds to recharge local groundwater supplies to support municipal wells that provide drinking water to parts of West Marin.

The Project would also result in long-term improvements to habitat conditions within Lagunitas Creek through restoration actions that convert poor quality glide habitat into high quality self-sustaining riffle-pool habitat through the addition of large wood and coarse sediment (gravel). This type of active restoration helps to mitigate the impacts that upstream water supply infrastructure has on downstream habitat for state and federally threatened and endangered species. The restoration project would result in two sites being restored using series of integrated large woody debris structures and placement of coarse gravel.

Restoration Site 2 will consist of three Pool Habitat Wood Structures being installed along the channel edge to provide cover and promote complexity through local scour and downstream sediment sorting and storage. The large wood structures would work to increase channel complexity and gravel trapping. Restoration work would include placement of approximately 387 cubic yards of gravel placed downstream. Site 2 would increase spawning and rearing habitat for coho and steelhead through creation of riffles, pools and cover habitat. Restoration Site 3 will entail installing a series of Riffle-Pool-Wood structure designs to convert long reach of homogenous glide or pools into short, more numerous, riffles and pools. Enhancement benefits include installation of approximately 15 large woody debris structures to increase spawning and rearing habitat for coho and steelhead through creation of riffles, pools, and cover. This will also increase channel complexity and gravel trapping through restoring instream physical processes to the reach.

E.1.2 Evaluation Criterion B-Collaborative Project Planning

Watershed Collaboration

The District coordinates and works closely with the [Lagunitas Technical Advisory Group](#) (Lag TAC). The Lag TAC is made up of state and federal resources agencies, local government and special districts, and a number of local non-governmental organizations who have a direct linkage to natural resources within Lagunitas creek. The LAG TAC has a long history of providing collaborative leadership and input on

restoration actions and fisheries monitoring activities within the watershed. The Lag TAC provided early input on the direction of the District's restoration design work, assisted with site selection and formed a sub-committee to provide ongoing review of design advancements. On December 1, 2021 the Lag TAC conducted a field site visit to better understand the restoration project plans and the 30% design documents were provided to the full Lag TAC for input, which has been incorporated into the project. As the District continues to advance restoration designs to the 100% stage the Lag TAC subcommittee will continue to review the designs to provide additional technical input.

Supporting Plans

The District's ongoing fisheries monitoring and restoration work is guided by the District's [Lagunitas Creek Stewardship Plan](#) (LCSP). The LCSP was developed in collaboration with resource agencies and the Lag TAC, and outlines the District responsibilities under Order 95-17 which was issued as a result of the District's raising of Peters Dam at Kent Lake. The LCSP addresses actions to be taken by the District to manage the habitat of Lagunitas Creek for the benefit of the aquatic resource populations of coho salmon, steelhead, and California freshwater shrimp. Under the LCSP the District secured funding from the California Department of Fish and Wildlife for the development of instream restoration designs for Lagunitas Creek. The Restoration Plan is currently at the 30% stage, sites were selected based on field assessments with the Lag TAC and through analyzing over 20 years of fisheries monitoring data that has been collected by the District. The District is currently working to advance the 30% design to the 100% stage to support implementation.

The District controls releases from Kent Lake to implement the minimum instream flow schedules in Lagunitas Creek in accordance with its water rights permits and Order 95-17. Order 95-17 specifies minimum flows in Lagunitas Creek, measured at a USGS located approximately three miles downstream of Peters Dam. Due to the current drought in California, the District water supply is being significantly strained. As of September 1, 2021, the water supply storage level in the reservoirs was 29,636 acre-feet. This storage level was approximately 37% of total storage capacity and 50% of historical average for this date. The low storage level is the result of severely low rainfall in the region since January 1, 2020. On April 20, the District's Board approved Resolution 8630, declaring a Water Storage Emergency. Subsequently, on May 18, 2021, the County of Marin approved Resolution 21-27, declaring a local emergency regarding drought conditions throughout the County. On July 8, 2021, Governor Newsom included Marin County in his 2021 drought proclamation.

The District operates its water system in accordance with its Urban Water Management Plan. The Plan outlines a Water Shortage Contingency Plan based on rainfall and storage conditions. The first step entails mandatory water restrictions on end users. In response to the current drought water use restrictions have been put in place by the District which has reduced demand by 25-30% over the past six months. However, demand reduction alone is not sufficient to stabilize water supplies during times of prolonged drought. As such, the District is taking additional actions to improve water supply conditions. One action the District pursued was the Temporary Urgency Change Petition (TUCP) to reduce instream flows. To inform the reductions, the District conducted a habitat suitability model to understand how changes in flow could be made without adversely impacting fisheries downstream. As a result of the study the District submitted a Temporary Urgency Change Petition to the State Water Board who approved reduction in flows for 180 day period. The

need to pursue a TUCP highlighted the District water supply vulnerability and need to expand its water supply portfolio. As such the District is interested in pursuing a Watershed Recharge Study to evaluate opportunities for increasing reliability for water supply for ecological values and human use. This Watershed Recharge Study would be part of an adaption strategy that aims to mitigate the impacts of water shortages resulting from climate change and pro-longed periods of drought.

The LCSP provides guidelines for restoration actions within Lagunitas Creek and supports the implementation of the restoration projects being proposed. While the Urban Water Management Plan outlines steps the District will take during periods of water supply shortages. One of those actions includes pursuing District actions that could improve water supply conditions which would be the purpose of the proposed Watershed Recharge Study. The Study would provide the District with a preliminary plan for watershed recharge, which could inform future operational changes and infrastructure upgrades designed to stabilize water supplies during periods of prolonged drought for human use and the benefit of sensitive wildlife.

E.1.3 Evaluation Criterion C-Stakeholder Support

The project is support by a diverse range of stakeholders who are well represented on the Lagunitas TAC. This includes state and federal resource agencies, and local NGO's with an interest in the Lagunitas Creek watershed. State Parks has identified the Lagunitas Creek Restoration project as their highest priority natural resources project at Samuel P. Taylor State Park and is willing to provide the District with construction access as they have done many times before. The 30% restoration design was funded by the California Department of Fish and Wildlife and restoration priorities have been developed with technical input from their staff. The Regional Water Quality Control Board participates in the Lag TAC and works with the District on restoration planning and fully supports the project. National Oceanic and Atmospheric Administration/National Marin Fisheries participates in the Lag TAC and has been engaged in the restoration planning work. Similarly, North Marin Water District participates in the Lag TAC and supports the District's ongoing restoration work and evaluation of watershed recharge approaches. The Lag TAC is also made up of local NGO's who have all been engaged in the design advancement and support the goals of the restoration project.

The Watershed Recharge Study would be a new project and the District would engage a variety of local stakeholders in the planning effort. The study would also engage local sanitation districts and communities who depend on water from the Mt. Tamalpais Watershed for their water supply. There is an interest within Marin to see the local water portfolio diversified and the community has voiced support for projects that enhance local water supply. The Watershed Recharge Study and Lagunitas Creek Restoration work would complement other water management activities within Marin County. Stabilizing local water supplies through active recharge will reduce the need for future TUCP during periods of drought and improve instream flows and downstream ground water conditions. Improving downstream ground water will help improve water supply conditions for North Marin Water District who operates municipal wells to supply communities of west Marin with water. Active stream restoration helps to off-set the impacts that dams have on downstream aquatic resources and will help the District meet its stewardship objectives.

Lagunitas Creek restoration work will enhance critical habitat for three State and Federally listed species: Coho Salmon (*Oncorhynchus kisutch*), steelhead trout (*Oncorhynchus mykiss*) and fresh water shrimp (*Syncaris*

pacifica). Restoration at Site 2 would increase spawning and rearing habitat for coho and steelhead through creation of riffles, pools and cover habitat. Restoration at Site 3 will entail installing a series of Riffle-Pool-Wood structure designs to convert long reach of homogenous glide or pools into short, more numerous, riffles and pools. Collectively these efforts increase channel complexity and gravel trapping through restoring instream physical processes to the reach, which will result in higher quality spawning habitat within Lagunitas Creek. Restoration actions will result in 15-20 large woody debris structures being installed in the creek and 850 tons of gravel being placed in the channel through gravel augmentation.

Evaluation Criterion E. 1.4 Evaluation Criterion D-Readiness to Proceed

The District is ready to proceed with the Project upon entering into a financial agreement, and can complete the Watershed Recharge Study within 24 months from the agreed upon start date and would complete restoration work within Lagunitas Creek by December of 2024. If awarded the District would start the project in September, 2022, and complete all work by November, 2025.

For the Water Recharge Study the District would issue a Request for Proposals to bring on an environmental planning firm with expertise in water supply and recharge projects. The consultant would be allotted a 24 month project scheduled to complete the scope of work as described above in the proposal. The consultant would be provided all previous watershed models and water supply studies to inform the planning process. This data hand off would be completed immediately after the notice to proceed is issued. The District would assign the Watershed Resources Manager to oversee the project and the consultant contract would be in place 3-4 months after final award of the grant.

The District's Lagunitas Creek Restoration Project is currently at the 30% design stage. The District is working to secure a final design grant from the California Department of Fish and Wildlife (CDFW) and is optimistic that this grant will be in place in 2022. Design advancement would cover development of final construction plans and specifications. It would also support all environmental analysis, CEQA compliance, and associated environmental permitting. Permits required for the project will include CDFW 1600 permit, Regional Water Quality Control Board, U.S. Army Corps of Engineers, and a construction access agreement with State Parks. All design work would be completed by spring of 2024. Environmental compliance and construction permits would be completed by spring of 2024 to support implementation in the summer of 2024.

The District owns the watershed lands that would be the subject of the Watershed Recharge Study. As part of the study the District would be evaluating water transmission line routes that extend beyond the District's landownership but align with existing water infrastructure easements. For the Lagunitas Creek Restoration Work the District would work with the California State Parks Samuel P. Taylor staff to secure construction access permits. The District has a long history of collaborating with State Parks on stream restoration within Samuel P. Taylor and Lagunitas Creek.

E.1.5 Evaluation Criterion E—Performance Measures

Lagunitas Creek Restoration Project Implementation Sites 2 & 3

Performance Measures: Persistence of 5 Large Woody Debris Structures at Site 2. Persistence of 15 Large Woody Debris Structures at Site 3. Transformation of current un-suitable spawning conditions to suitable spawning conditions. Annual fisheries monitoring will be completed by District to assess

frequency of riffles and scour pools and quantify number of redds within each project site through direct counts to determine if suitable spawning conditions are persisting.

Watershed Recharge Study

Performance Measures: Completion of conceptual watershed recharge plan to inform future operations and infrastructure improvements. Analysis of alternatives and feasibility assessment outlining how Watershed Recharge could be implemented on the Mt. Tamalpais Watershed.

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

Climate Change

The Project is being developed to enhance regional water supply resiliency, which aligns with the Biden Administrations Executive Order 14008 sec. 201. Marin Water is currently facing an unprecedented water shortage: Water Years 2020 and 2021 are the third driest and driest years within a 90-year period of record, and water supplies are at their lowest since Kent Lake was expanded in 1983. The District's water supply comes from local runoff and the Russian River located in Sonoma County, both areas are dependent on local rainfall. The District owns 21,800 acres of watershed lands and seven municipal water supply reservoirs. The Mount Tamalpais Watershed lies within the Mediterranean climate region of California that consists of wet, mild winters and warm, dry summers. Topography is characterized by "V"-shaped valleys located between narrow ridge crests with an elevation range from 80 feet to 2,571 feet.

As climate change continues to influence precipitation patterns the timing of runoff is expected to shift to earlier in the year, affecting reservoir storage, especially in the spring and summer months. Active Watershed Recharge will help to provide supplemental water supplies during periods of prolonged drought. The District's watershed lands are located within a State Responsibility Area and has a California Department of Forestry and Fire Protection (CAL FIRE) rating of "High" to "Very High" (CAL FIRE 2007). The last fire on the watershed was in 1945 and since that time Sudden Oak Death has impacted over 10,000 acres of land, which is increasing fuel loads and hazards associated with wildfire. The District is actively managing its watershed lands to reduce fuel loads, restore forests, and enhance biodiversity through invasive management. However, the combination of prolonged drought and forest disease is increasing the risk of a wildfire on the watershed and potential impacts to water supply infrastructure.

Furthermore, during periods of drought the District's ability to meet instream flow requirement is strained. The District has instream flow requirements in Lagunitas Creek downstream of Kent Lake, which are regulated by State Board Water Rights Order (WR) 95-17. The creek supports three species that are federally or state listed as threatened or endangered: coho salmon, steelhead, and California freshwater shrimp. As a result of the ongoing drought, Marin Water petitioned the State Water Board for a Temporary Urgency Change Petition (TUCP) to conserve water supply to meet customer needs and to meet environmental flow releases in the summer and fall of 2022. The Project being proposed would ensure that the District has an alternative water supply to ensure that it can continue to meet instream flow requirements and protect downstream threatened and endangered species.

Lastly, the North Marin Water District is located downstream of Kent Lake and depends on releases into Lagunitas Creek to recharge its groundwater supply. Downstream wells along Lagunitas Creek supply water to West Marin communities and as a result of the ongoing drought runoff from un-regulated tributaries has been

reduced, which is impacting groundwater conditions in West Marin. As such the proposed Project would improve local water supply conditions for community members outside of the District's service area through ensuring that the District has adequate water to continue to release water into Lagunitas Creek. As part of the Watershed Recharge Study, the District will evaluate opportunities for expanding renewable energy sources to offset energy emissions associated with pumping water.

Disadvantaged Communities

The District's service area contains three Disadvantaged Communities (DACs), serving a combined Census-identified population of 20,079: San Rafael's Canal District (14,321), Marin City (2,940), and San Quentin Prison (2,818). The project would benefit these three communities by ensuring the health and safety and access to drinking water for their populations, which are formally recognized as DACs by the State of California, and included in its online inventory at <https://gis.water.ca.gov/app/dacs/>. The population in Marin's DACs represents slightly more than 10% of the total population of the District's service area.

Tribal Benefits

The Project would support restoration of Lagunitas Creek for the benefit of coho salmon and steelhead which are of stewarded by the Federated Indians of Graton Rancheria, specifically Coast Miwok and Southern Pomo tribes.

Ecological Value

The proposed Project will enhance ecological resiliency through ensuring adequate water supply is available to continue water releases into Lagunitas Creek. In this way the Project improves ecological climate change resiliency of a stream for the benefit of aquatic habitat, fisheries and riparian forests. These release are essential to protecting downstream aquatic species including Federally or State listed as threatened or endangered: coho salmon, steelhead, and California freshwater shrimp. As climate change pressure increases and fluctuations in weather patterns influence precipitation and drought conditions an alternative water supply is essential to ensuring water is available to release into Lagunitas creek. The water release sustain downstream aquatic habitat for threatened and endangered species. The ability for these species to persist and recover from other climate change stressors is dependent on adequate water being available for water releases as instream flow.

Other Benefits

The Project will help improve regional water supply resiliency within the greater Bay Area by reducing Marin County's reliance on water from the Russian River system in Sonoma County. Currently, 25% of the District's water supply comes from the Russian River. Due to ongoing drought conditions within the Russian River Watershed, Sonoma Water has reduced water allotments to its customers such as Marin Water. The proposed Project will establish an alternative water supply system that reduce the District's dependency on water imported from Sonoma County. This will improve water supply conditions for other customers of Sonoma Water who don't have access to alternative water supplies. Locally, the Project will ensure adequate water supply is available to continue water releases into Lagunitas Creek, which ensures that North Marin Water has adequate water to recharge ground water supplies in West Marin.

Project Schedule

Major schedule milestones and tasks are as follows:

Milestone	Date
Lagunitas Creek 30% Design	December 2021 (Completed)
Watershed Hydrological Model	November 2021 (Completed)
Watershed Recharge RFP	September 1, 2022
Lagunitas Creek 100% Design	December 31, 2023
Complete CEQA/NEPA documentation	July 1, 2024
Watershed Recharge Study	December 2022 – November 2024
Lagunitas Creek Restoration Site 2 & 3 Construction	June 2024-December 2024

PROJECT BUDGET

D.2.2.5.1. Funding Plan

For the Lagunitas Creek Restoration Project the District completed the 30% design work using funding from the California Department of Fish and Wildlife Watershed Grant Program. The grant award was in the amount of \$300,000 and the scope of work is complete. To advance the 30% design to the 100% stage and to complete the CEQA analysis and permitting, the District is submitting a grant in the amount of \$870,000 to the California Department of Fish and Wildlife Coho Recovery Program on December 17, 2021. The District submitted a preliminary proposal for the Design advancement and was invited to submit a full proposal. The District has also conducted a field site review and assessment with staff from the funding agency and other resource agencies. The restoration design advancement work is very likely to be funded and a grant agreement is expected to be in place by winter of 2022. The Lagunitas Creek Restoration Project has been designed to allow for individual sites to be implemented independently and Sites 2 & 3 could be completed with the funding budgeted in this grant proposal.

For the Watershed Recharge Study the District has been developing a watershed model to help inform watershed and water supply planning efforts. This would be leveraged and built off of to inform the Watershed Recharge Study. Similarly, the District has budgeted funding in FY 2022 to complete a seeps and springs inventory on the watershed, which is expected to be completed in 2022 and will feed into the Watershed Recharge Study. Completing a Watershed Recharge Study would position the District for future grant funding from the State of California for drought response and infrastructure improvements. Upon completion of the Watershed Recharge Study the District would evaluate funding opportunities to advance the planning effort towards and implementation plan.

D.2.2.5.2. Budget Proposal

Table 1. Total Project Cost Summary	
Source	Amount
WaterSmart Drought Funding	\$1,450,000
Marin Water Project Funding	\$650,000
Other Grants (CDFW Coho Recovery/un-secured)	\$870,000
Project Costs	Total
	\$2,970,000

Table 2. Non-Federal and Federal Funding Sources Summary

Non-Federal Entities	Amount
1. Marin Water	\$650,000
2. California Department of Fish and Wildlife (Un-secured for Lagunitas Creek Restoration Design advancement from 30% to 100% stage)	\$870,000
Non-Federal Subtotal	\$1,520,000
Requested Reclamation Funding	\$1,450,000

Table 3. Project Implementation Budget

Budget Item Description	Unit	Quantity	Quantity Type	Costs
Salaries and Wage	NA	NA	NA	NA
Fringe Benefits	NA	NA	NA	NA
Travel				
Equipment	NA	NA	NA	NA
Lagunitas Creek Restoration Design				
Restoraiton Design and Compliance	NA	NA	Lump Sum	\$ 870,000
Lagunitas Creek Restoration Site 2				
Mobilization/Demobilizaiton	NA	NA	Lump Sum	\$ 40,000
SWPP & Compliance	NA	NA	Lump Sum	\$ 5,000
Construction Access, Clearing, Staging, Facility Protection, and Restoration of Access Routes	NA	NA	Lump Sum	\$ 121,000
Riffle Gravel Structure	\$220	400	Cubic Yards	\$ 88,000
Riffle Forcing Wood Structure	\$ 35,000	2	Each	\$ 70,000
Pool Habitat Wood Structure	\$ 20,000	6	Each	\$ 120,000
Construction Contingency (+35%)				\$ 140,000
<u>Subtotal Site 2 Construction</u>				\$ 584,000
Lagunitas Creek Restoration Site 3				
Mobilization/Demobilizaiton	NA	NA	Lump Sum	\$ 60,000
SWPP & Compliance	NA	NA	Lump Sum	\$ 3,000
Construction Access, Clearing, Staging, Facility Protection, and Restoration of Access Routes	NA	NA	Lump Sum	\$ 175,000
Riffle Gravel Structure	\$ 220	539	Cubic Yards	\$ 118,580
Riffle Forcing Wood Structure	\$ 35,000	3	Each	\$ 105,000
Pool Habitat Wood Structure	\$ 20,000	9	Each	\$ 180,000
Construction Contingency (+35%)				\$ 224,420
<u>Subtotal Site 3 Construction</u>				\$ 866,000
Watershed Recharge Study				
Water Quality Analysis	Lump Sum	1	contract	\$ 75,000
Waste Water Trement Alternatives	Lump Sum	1	contract	\$ 200,000
Infrastructue Assessment	Lump Sum	1	contract	\$ 125,000
Watershed Hydrolgoical Study	Lump Sum	1	contract	\$ 100,000
Biological Assessment	Lump Sum	1	contract	\$ 75,000
Policy and Permit Review	Lump Sum	1	contract	\$ 75,000
<u>Subtotal study</u>				\$ 650,000
Project Total				\$ 2,970,000

D.2.2.5.3. Budget Narrative

Salaries and Wages

Shaun Horne, Watershed Resources Manager is the Project Director for the Proposed Project and will be the Project Manager for the Watershed Recharge Study. For the Lagunitas Creek Restoration component Jonathan Koehler, Fisheries Program Manager will be the Project Manager. No District labor will be charged to the grant or used to match the grant funds.

Fringe Benefits

Since no District labor will be charged to the grant or used as match there will be no fringe benefits.

Travel

Since no District labor will be charged to the grant or used as match there will be no travel related costs.

Equipment

No equipment is being purchased as part of the grant or match.

Materials and Supplies

No equipment is being purchased as part of the grant or match.

Contractual Contracts

All construction related contracts will be let using the District's contracting procedures and will comply with Federal contracting procedures.

Third Party In-Kind Contributions

No third-party contributions are being used as match to the grant.

Environmental and Regulatory Compliance Costs

The Districts funds and grant funds from the California Department of Fish and Wildlife will cover all environmental review. No compliance costs will be charged to the grant.

Other Expense

All other expense will be covered by the District using internal funds.

Indirect Costs

No staff time is being charged to the grant. As such there will be no indirect costs charged to the grant or used as match.

D.2.2.6. Environmental and Cultural Resources Compliance

- **Impacts to surrounding environment.**

Watershed Recharge Study will not result in impacts to the environment.

Lagunitas Creek Restoration work will entail minor temporary impacts to the environment to facilitate construction access, installation of large woody debris structures, and placement of gravel in the stream. All

project impacts will be identified and analyzed during the design advancement process and built into the projects CEQA/NEPA compliance.

- **Federally Threatened or Endangered Species.** The Lagunitas Creek Restoration work will occur in areas with Federally or State listed as threatened or endangered: coho salmon, steelhead, and California freshwater shrimp. Construction work will include dewatering and channel isolation. Prior to construction surveys would be done to clear the construction area and ensure that no impacts occur during construction.
- **Wetlands or Surface Waters.** The Lagunitas Creek Restoration Work will occur in areas with surface water and wetlands. However, all actions will result in benefits to habitat conditions to support threatened and endangered species. Large wood will be placed in the channel to influence physical processes. The Watershed Recharge Study would not result in any physical work in areas with wetlands or surface waters.
- **Water Delivery System.** No new water delivery infrastructure will be constructed.
- **Irrigation System.** The Project will not result in any modifications or effects to irrigation systems.
- **Historical Structures.** No historical structures will be affected by the Project.
- **Cultural Resources.** The Project has been designed and to avoid known archaeological resources.
- **Community Impacts.** The Project would help to inform how watershed recharge could be completed to help stabilize water supply for all community members within the District services area for all community members equally. The Lagunitas Creek Restoration work would not result in any impacts to the community.
- **Cultural Sites.** The Project will not limit access to and ceremonial use of Indian sacred sites or result in other impacts to tribal lands.
- **Non-native and Invasive Plants.** The Project will not contribute to the introduction or spread of non-native or invasive plants. Construction best management practices would be utilized to ensure no invasive plants are introduced during construction.

National Environmental Policy Act

The Lagunitas Creek Restoration Project will comply with NEPA through an Environmental Assessment/Finding of No Significant Impact. The Watershed Recharge Study would be covered by a recognized Categorical Exclusion (CE) to NEPA because it would not have a significant effect on the environment.

National Historic Preservation Act

The Project is being designed to avoid historical structures. The District will work with Reclamation to make a determination that the Project has avoided historical structures and complies the NHPA.

Endangered Species Act

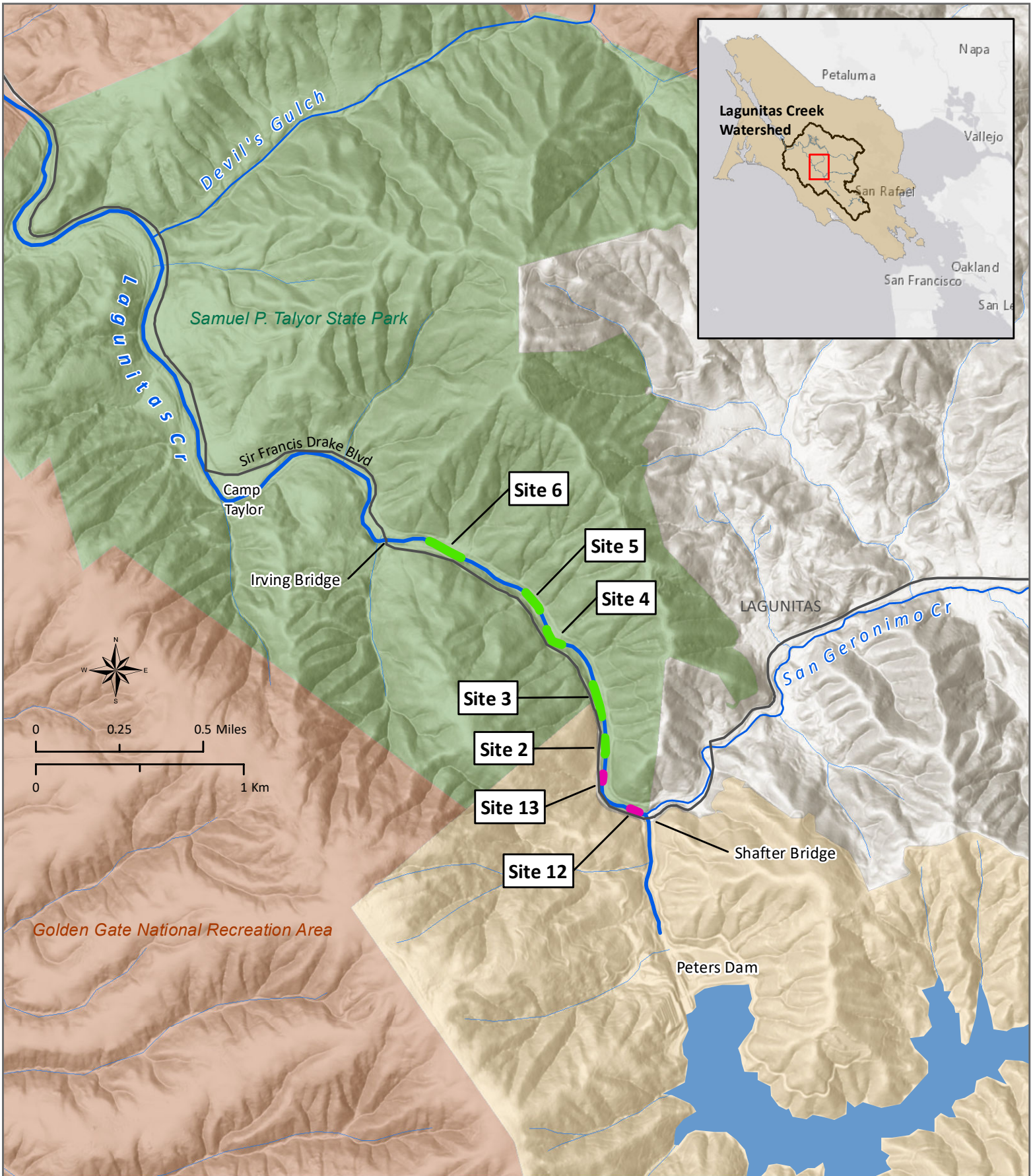
The Lagunitas Creek Restoration Project is being designed to avoid sensitive biological resources and will not jeopardize the continued existence of any endangered or threatened species or destroy or adversely modify any designated critical habitat. A Biological Assessment for the Lagunitas Creek Restoration work would need to be prepared to make a determination that the proposed action is not likely to adversely affect a listed species or it's designated critical habitat.

D.2.2.7. Required Permits or Approvals

The Project may require permits and approvals from the following agencies:

- California Department of Fish and Wildlife 1600 Permit
- U.S. Army Corps of Engineers Nation Wide Permit
- Regional Water Quality Control Board Permit

- State Parks Construction Access Agreement



Lagunitas Creek Coho Habitat Enhancement Final Design Plan



Project Sites

- █ Habitat Structure Installation
- █ Gravel Augmentation

Land Ownership

- █ California State Parks
- █ National Park Service
- █ Marin Water

MARIN MUNICIPAL WATER DISTRICT

RESOLUTION NO. 8630

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE MARIN MUNICIPAL WATER DISTRICT
DECLARING A WATER SHORTAGE EMERGENCY AND CALLING FOR THE IMPLEMENTATION OF
MANDATORY WATER CONSERVATION MEASURES**

WHEREAS, the Board of Directors (Board) of the Marin Municipal Water District (District) acknowledges that water is a limited and essential resource; and

WHEREAS, Article X, Section 2 of the California Constitution mandates that the water resources of the State be put to beneficial use to the fullest extent and that waste or unreasonable use or method of use of water be prevented; and

WHEREAS, the District's potable water supply is limited to water captured in its seven reservoirs and water conveyed from the Russian River, both dependent on annual rainfall, and further depends on conservation and the use of recycled water where available; and

WHEREAS, the District has experienced two successive dry winters in 2020 and 2021 with historically low rainfall and runoff; and

WHEREAS, in response to historically low rainfall over the past two winters and subsequent low reservoir storage levels, the Board adopted Resolution 8624 on February 16th, 2021 calling for initial drought voluntary water conservation actions; and

WHEREAS, the District has continued to receive below average rainfall throughout the spring months in 2021 since adoption of initial voluntary water conservation actions; and

WHEREAS, as of April 1, 2021, District reservoir storage was 43,385 acre feet (AF), 54.5% of total capacity, and nearly 41% below the District average of 73,543 AF; and

WHEREAS, District reservoir storage of 43,385 AF is the lowest storage level at the end of the normally wet weather season in the 38 years since Kent Dam was raised in 1983; and

WHEREAS, the District's analysis based on historical hydrological data indicates that in the absence of above average rainfall and runoff, reservoir storage levels are projected to be between 24,000 to 28,000 AF on December 1, 2021 if potable water demand is not further reduced; and

WHEREAS, with projected reservoir levels to be below 30,000 AF as of December 1, 2021, preservation of the District's water supply is essential to District customers and conservation actions taken now by District customers are essential to minimize the reduction in reservoir storage levels to conserve water for future use; and

WHEREAS, the District is targeting an overall 40% reduction in total water use; and

WHEREAS, in recent years, overall summer peak water demand has averaged nearly twice winter period water demand due to outdoor water use; and

WHEREAS, typically 15-30% of water used for irrigation and outdoor uses is wasted, most often due to excessive irrigation; and

WHEREAS, although the District's Water Conservation Program has made significant strides, additional water use reduction is required to conserve for beneficial use and preserve the District's limited water supply and thus staff is recommending the implementation of mandatory water conservation measures and adoption of water use restrictions set forth in proposed Ordinance No. 449 to be considered by the Board in conjunction with this resolution; and

WHEREAS, on March 22, 2021, the California State Water Resources Control Board mailed early warning notices to all water rights holders in California urging them to plan for potential shortages by reducing water use, adopting practical conservation measures, and reducing irrigated acreage; and

WHEREAS, pursuant to District Code section 13.02.015, "Declaration of Water Shortage Emergency," when the District's reservoir storage on December 1st is projected to be in the vicinity of, or less than, 30,000 AF, the Board may declare by resolution a Water Shortage Emergency as defined in the Water Code; and

WHEREAS, California Water Code sections 350 and 71640 authorize the governing body of a municipal water district to find the existence or threat of a drought emergency or other threatened or existing water shortage, and that finding is prima facie evidence of the fact or matter so found, and such fact or matter shall be presumed to continue unchanged unless and until a contrary finding is made by the board by resolution or ordinance; and

WHEREAS, pursuant to Water Code sections 353 and 71641, the District may restrict the use of district water during the drought emergency or other water shortage condition and may prohibit the wastage of district water or the use of district water during such periods for any purpose other than household uses or other restricted uses as the District determines to be necessary; and

WHEREAS, pursuant to Water Code sections 376 and 71641 and Government Code section 6061, the District must publish in a newspaper of general circulation any ordinance setting forth the restrictions, prohibitions, and exclusions determined to be necessary under Water Code sections 353 and 71640 within 10 days after its adoption; and

WHEREAS, the District has caused a notice of public hearing on this water shortage emergency declaration, as well as the other measures to be considered by the Board in

conjunction therewith, including the adoption of proposed Ordinance No. 449 implementing mandatory water conservation measures necessary to preserve the District's water supply for future use, to be published on April 13, 2021 in the Marin Independent Journal duly noticing the public hearing to be held on this day, April 20, 2021 at or following 7:30 p.m.

NOW, THEREFORE, BASED ON THE FINDINGS SET FORTH ABOVE WHICH ARE HEREBY ADOPTED BY THE BOARD, THE BOARD OF DIRECTORS RESOLVES AS FOLLOWS:

1. Pursuant to Water Code sections 350 and 71640, and for the reasons set forth herein, the Board finds the existence or threat of a drought emergency or other water shortage condition; and
2. The Board may adopt mandatory restriction and prohibitions on the consumption and use of water within the service area so that the water supply can be conserved for the greater public benefit; and
3. Pursuant to Water Code sections 376 and 71641 and Government Code section 6061, the Board hereby directs staff to publish in a newspaper of general circulation any ordinance, or a summary thereof, adopted by the Board setting forth the restrictions, prohibitions, and exclusions determined to be necessary under Water Code sections 353 and 71640 within 10 days of adoption; and
4. This emergency or water shortage condition shall be presumed to continue unchanged unless and until a contrary finding is made by the Board; and
5. The District requests that federal and state agencies provide financial and other assistance to residents, water suppliers, water rights holders, ranchers, farmers, business owners and any local governments who are harmed by the drought emergency in its territorial limits to help them mitigate the effects of the persistent drought conditions.

PASSED AND ADOPTED this 20th day of April, 2021, by the following vote of the Board of Directors.

AYES: Directors Larry Bragman, John Gibson, Larry Russell, Monty Schmitt, and Cynthia Koehler

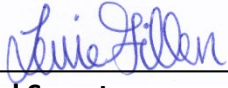
NOES: None

ABSENT: None

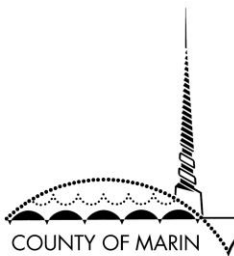


President, Board of Directors

ATTEST:



Board Secretary



May 18, 2021

Matthew H. Hymel
COUNTY ADMINISTRATOR

Daniel Eilerman
ASSISTANT COUNTY
ADMINISTRATOR

Angela Nicholson
ASSISTANT COUNTY
ADMINISTRATOR

Marin County Civic Center
3501 Civic Center Drive
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San Rafael, CA 94903
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Honorable Board of Supervisors
Marin County Civic Center
San Rafael, CA 94903

RE: Presentation from Marin Water Agencies Regarding Drought Conditions, and Consideration of Declaration of Emergency

Dear Board Members:

RECOMMENDATION: Accept report and consider adopting resolution declaring a local emergency and imminent threat of disaster due to drought conditions.

Background

Much of California is in a second consecutive year of extremely dry conditions due to historically low rainfall totals, causing drought conditions resulting in degraded water quality; fallowing of productive farmland; setbacks to vulnerable and rural communities through job losses and longer-lasting recoveries; significant impacts to commercial and recreational salmon fisheries; constraints on access to traditional lifeways; loss of aquatic and terrestrial biodiversity; and ecosystem impacts.

Marin's two largest water suppliers, the Marin Municipal Water District and the North Marin Water District, have declared water shortage emergencies within their respective service areas and enacted mandatory water conservation measures. Representatives from each agency will be updating your Board on their efforts.

On April 21, 2021, Governor Newsom proclaimed a state of emergency in Sonoma County and Mendocino County due to extreme drought conditions, and on May 10 significantly expanded this drought emergency proclamation to add 39 additional counties where accelerated action is needed to protect public health, safety and the environment.

On behalf of President Rodoni, we recommend that your Board consider adopting the attached resolution declaring a local emergency and imminent threat of disaster due to drought conditions. In Marin, the situation for ranchers, especially dairies, is grim and deteriorating, with several dairies importing water by truck for many months to keep their animals alive. With far less grass on the ground, many ranchers have also resorted to importing feed from other states at extremely high cost.

Staff will plan further updates in June on County departmental conservation efforts. Today's item is focused on water supply issues and consideration of the attached resolution.

Equity Impact

Water is essential to prosperity and progress; however water challenges can disproportionately affect some of our most vulnerable residents. A policy goal of the County will be to conserve outdoor water use to foster and ensure opportunity for all people and communities.

Fiscal Impact

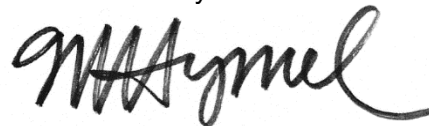
None as a result of accepting the report. Declaring a local emergency will provide increased opportunity for potential state and federal aid as drought conditions are expected to deteriorate in coming months, and will provide additional authorities to manage the deteriorating conditions.

Submitted by:



Daniel Eilerman
Assistant County Administrator

Reviewed by:



Matthew Hymel
County Administrator

Attachments: Resolution declaring a local emergency

RESOLUTION NO. 2021-27
RESOLUTION OF THE MARIN COUNTY BOARD OF SUPERVISORS
DECLARING A LOCAL EMERGENCY AND IMMINENT THREAT OF DISASTER
DUE TO DROUGHT CONDITIONS

WHEREAS, California Government Code Section 8630, Article 14 of the California Emergency Services Act and Section 2.99, et seq., of the Marin County Code empower the Board of Supervisors of the County of Marin, or the County's Director of Emergency Services or Assistant Director of Emergency Services, to proclaim the existence of a local emergency when said County is affected or likely to be affected by a public calamity; and

WHEREAS, climate change is intensifying the impacts of droughts on our communities, environment and economy, and we must all therefore improve drought resiliency and prepare to respond to more frequent, prolonged, and intense dry periods; and

WHEREAS, much of the West is experiencing severe to exceptional drought and California is in a second consecutive year of extremely dry conditions due to historically low rainfall totals, resulting in extreme drought conditions in the entire Bay Area, including in Marin County; and

WHEREAS, these drought conditions result in degraded water quality, fallowing of productive farmland, setbacks to vulnerable and rural communities through job losses and longer-lasting recoveries, significant impacts to commercial and recreational salmon fisheries, constraints on access to traditional lifeways, loss of aquatic and terrestrial biodiversity, and ecosystem impacts; and

WHEREAS, to date in the region, rainfall totals for the current water year are approximately 40% percent of average for Marin County; and

WHEREAS, due to the current drought conditions in the County, the County's two largest water suppliers, the Marin Municipal Water District and the North Marin Water District, have declared Water Shortage Emergencies within their respective service areas pursuant to Water Code Section 350 et seq. and enacted mandatory water conservation measures; and

WHEREAS, on March 5, 2021, the Secretary of the United States Department of Agriculture designated 50 California counties, including Marin County, as primary natural disaster areas due to drought; and

WHEREAS, on April 21, 2021, the Governor of the State of California proclaimed a state of emergency in Sonoma County and Mendocino County due to extreme drought conditions, and on May 10, 2021 significantly expanded this drought emergency proclamation to add 39 additional counties where accelerated action is needed to protect public health, safety and the environment; and

WHEREAS, the Russian River in Sonoma County provides Marin County's largest water supplier, the Marin Municipal Water District, nearly 25% of its water supply and the County's second largest water supplier, the North Marin Water District, approximately 75% of its Novato Service Area water supply; and

WHEREAS, given the current drought conditions, both Marin Municipal Water District and the North Marin Water District are facing curtailments in their water supply allotments provided by the Sonoma County Water Agency, which is further limiting available water supplies within the County; and

WHEREAS, in Marin County drought impacts are disproportionately impacting farming and dairy communities in West Marin, with little to no water or feed for livestock; and

WHEREAS, the situation for ranchers and dairies in Marin County is grim and deteriorating, with several dairies importing water by truck for many months to keep their animals alive, and with far less grass on the ground, ranchers are required to import feed from other states at extremely high cost; and

WHEREAS, due to the current drought conditions, the Marin Municipal Water District, the North Marin Water District, and several local municipal and private water systems that depend on rainfall for their yearly supply, must seek out additional and more costly sources of water, including increased investment in water conservation measures, to ensure sufficient future water supply for essential uses; and

WHEREAS, the adverse environmental, economic, health, welfare and social impacts of the drought pose an imminent threat of disaster and threaten to cause widespread potential harm to people, businesses, agriculture, property, communities, the environment, wildlife and recreation in the County of Marin.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Supervisors of the County of Marin declares as follows:

1. Conditions of extreme peril to the safety of persons and property have arisen within Marin County due to drought conditions; and
2. All water suppliers in the County are facing water supply shortages, with the two largest water suppliers within the County already declaring water shortage emergencies within their respective service areas, and are seeking out additional sources of water supply and conservation measures necessitating significant additional resources, which may be beyond what is currently available; and
3. As a consequence of said conditions, and pursuant to Government Code section 8630, a local emergency now exists throughout Marin County as a result of the drought conditions; and
4. During this local emergency the powers, functions and duties of the Marin County Administrator and the emergency organization of Marin County shall be those prescribed by State law, and the ordinances, resolutions and approved emergency services plans of the County of Marin; and
5. This resolution shall be submitted to the Director of the California Governor's Office of Emergency Services requesting a Director's Concurrence and to the Governor requesting a State declaration of emergency that extends the Governor's April 21st, 2021 State of Emergency Proclamation for Sonoma and Mendocino Counties to include Marin County due to the given impacts as well as making California Disaster Assistance and all applicable state funding and resources, including waiver of regulations which may hinder response and recovery efforts, available to the County, water suppliers, farmers, impacted businesses and the citizens of Marin County; and
6. Furthermore, the County of Marin requests that the Governor request a Presidential Declaration of Emergency and/or Major Disaster.

PASSED AND ADOPTED at a regular meeting of the Board of Supervisors of the County of Marin held on this 18th day of May 2021, by the following vote:

AYES: SUPERVISORS Damon Connolly, Katie Rice, Stephanie Moulton-Peters,
Judy Arnold, Dennis Rodoni

NOES: NONE

ABSENT: NONE



PRESIDENT, BOARD OF SUPERVISORS

ATTEST:



CLERK

EXECUTIVE DEPARTMENT
STATE OF CALIFORNIA

State of Emergency Proclamation

WHEREAS climate change is intensifying the impacts of droughts on our communities, environment and economy, and California must therefore improve drought resiliency and prepare to respond to more frequent, prolonged, and intense dry periods; and

WHEREAS much of the West is experiencing severe to exceptional drought and California is in a second consecutive year of dry conditions, resulting in drought or near-drought throughout many portions of the State; and

WHEREAS these drought conditions can result in degraded water quality, fallowing of productive farmland, setbacks to vulnerable and rural communities through job losses and longer-lasting recoveries, significant impacts to tribal, commercial, and recreational salmon fisheries, constraints on access to traditional lifeways, loss of aquatic and terrestrial biodiversity, and ecosystem impacts; and

WHEREAS drought conditions vary across the State and some watersheds, including the Russian River and Klamath Basin, are extremely dry and are facing substantial water supply and ecosystem challenges; and

WHEREAS it is necessary to expeditiously mitigate the effects of the drought conditions within the Russian River Watershed, located within Mendocino and Sonoma counties, to ensure the protection of health, safety, and the environment; and

WHEREAS experience in the last drought has demonstrated the value of preparing earlier for potential sustained dry conditions, the need to improve our monitoring and forecasting capabilities, and many other lessons that are captured in the Administration's *Report to the Legislature on the 2012-2016 Drought*; and

WHEREAS the State and its many partners have strengthened drought resilience since the last drought including state investments in water management systems, implementation of the Sustainable Groundwater Management Act, establishment of the Safe and Affordable Fund for Equity and Resilience Program, development of the Administration's *Water Resilience Portfolio*, and continued water conservation by Californians whose current statewide urban water use is 16% lower than at the beginning of the last drought; and

WHEREAS state agencies have been actively responding to current drought conditions and preparing for the possibility of a third dry year including through convenings of the interagency drought team, which was established at my direction, to organize, focus, and track changing conditions, coordinate state agency responses, and work closely with partners across the State; and

WHEREAS under the provisions of Government Code section 8558(b), I find that the conditions caused by the drought conditions, by reason of their magnitude, are or are likely to be beyond the control of the services, personnel, equipment, and facilities of any single local government and require the combined forces of a mutual aid region or regions to appropriately respond; and

WHEREAS under the provisions of Government Code section 8625(c), I find that local authority is inadequate to cope with the drought conditions; and

WHEREAS to protect public health and safety, it is critical the State take certain immediate actions without undue delay to prepare for and mitigate the effects of, the drought conditions within the Russian River Watershed, and under the provisions of Government Code section 8571, I find that strict compliance with various statutes and regulations specified in this Proclamation would prevent, hinder, or delay the mitigation of the effects of the drought conditions of the Russian River Watershed, located within Mendocino and Sonoma counties.

NOW THEREFORE, I, GAVIN NEWSOM, Governor of the State of California, in accordance with the authority vested in me by the State Constitution and statutes, including the California Emergency Services Act, and in particular, section 8625, **HEREBY PROCLAIM A STATE OF EMERGENCY** to exist in Mendocino and Sonoma counties due to drought conditions in the Russian River Watershed.

IT IS HEREBY ORDERED THAT:

1. To further the success of California's water conservation efforts and increase our drought preparedness, state agencies shall partner with local water districts and utilities to make all Californians aware of drought, and encourage actions to reduce water usage by promoting the Department of Water Resources' Save Our Water campaign (<https://saveourwater.com>) and other water conservation programs.
2. To continue coordination with partners across the State for the potential of prolonged drought impacts, the Department of Water Resources, the State Water Resources Control Board (Water Board), the Department of Fish and Wildlife, and the Department of Food and Agriculture shall work with regional and local governments, including groundwater sustainability agencies, to identify watersheds, communities, public water systems, and ecosystems that may require coordinated state and local actions to address issues stemming from continued dry conditions, to ensure that we can respond to water shortages and protect people, natural resources and economic activity.
3. To continue partnership and coordination with Californian Native American tribes, state agencies shall engage in consultation, collaboration, and communication with California Native American tribes to assist them in necessary preparation and response to drought conditions on tribal lands and potential impacts to cultural and traditional resources within ancestral lands.
4. To prioritize drought response and preparedness resources, the Department of Water Resources, the Water Board, the Department of Fish and Wildlife and the Department of Food and Agriculture, in consultation with the Department of Finance, shall:
 - a. Accelerate funding for water supply enhancement, water conservation, or species conservation projects.
 - b. Identify unspent funds that can be repurposed to enable projects to address drought impacts to people, ecosystems, and economic activities.
 - c. Recommend additional financial support for water resilience infrastructure projects and actions for potential inclusion in the upcoming May Revision.

5. To increase resilience of our water supplies during drought conditions, the Department of Water Resources shall:
 - a. Work with counties to encourage reporting of household water shortages, such as dry residential wells, on the website the Department maintains for that purpose, to enable tracking of drought impacts.
 - b. Work with counties, and groundwater sustainability agencies as appropriate, to help ensure that well drillers submit required groundwater well logs for newly constructed and deepened wells in a timely manner.
 - c. Work with agricultural water suppliers and agricultural water users to provide technical assistance, including implementation of efficient water management practices and use of technology such as the California Irrigation Management Information System.
 - d. Work with urban and agricultural water suppliers to encourage timely submittal by water districts and public posting of urban water management and water shortage contingency plans and agricultural water management and drought plans.
 - e. Accelerate updating the land subsidence data it is providing to support implementation of the Sustainable Groundwater Management Act.

6. To increase resilience of our water systems during drought conditions, the Water Board shall:
 - a. Use its authority, provide technical assistance, and where feasible provide financial assistance, to support regular reporting of drinking water supply well levels and reservoir water levels where the Water Board determines that there is risk of supply failure because of lowering groundwater levels or reservoir levels that may fall below public water system intakes.
 - b. Prioritize the permitting of public water systems that anticipate the need to activate additional supply wells where water quality is a concern and treatment installation needs to proceed to relieve a system's potential supply concerns.
 - c. Provide annual water demand data, information on water right priority, and other communications on water availability on its website.
 - d. Identify watersheds where current diversion data is insufficient to evaluate supply impacts caused by dry conditions, and take actions to ensure prompt submittal of missing data in those watersheds.

7. To address the acutely dry conditions in the Russian River Watershed, the Water Board shall consider:
 - a. Modifying requirements for reservoir releases or diversion limitations in that watershed to ensure adequate, minimal water supplies for critical purposes.
 - b. Adopting emergency regulations to curtail water diversions when water is not available at water rights holders' priority of right or to protect releases of stored water.

For purposes of carrying out this directive, Public Resources Code, Division 13 (commencing with section 21000) and regulations adopted pursuant to that Division are suspended in the counties of Mendocino and Sonoma to the extent necessary to address the impacts of the drought in the Russian River Watershed. The Water Board shall identify the projects

eligible for the suspensions pursuant to this paragraph and maintain on its websites a list of the activities or approvals for which these provisions are suspended.

8. To ensure that equipment and services necessary for drought response in the Russian River Watershed can be procured quickly, the provisions of the Government Code and the Public Contract Code applicable to procurement, state contracts, and fleet assets, including, but not limited to, advertising and competitive bidding requirements, are hereby suspended to the extent necessary to address the effects of the drought in the Russian River Watershed, located within Mendocino and Sonoma counties. Approval of the Department of Finance is required prior to the execution of any contract entered into pursuant to this provision.
9. To increase the resilience of our natural habitats to protect vulnerable species during drought conditions, the Department of Fish and Wildlife shall:
 - a. Evaluate and take actions to protect terrestrial and aquatic species and, wherever possible, work with water users and other parties on voluntary measures to protect species.
 - b. Work to improve State hatcheries and increase water use efficiency on State wildlife areas and ecological reserves to maintain habitat for vulnerable species.
 - c. Respond to human-wildlife interactions related to ongoing dry conditions and increase public messaging and awareness.
 - d. Work with commercial and recreational salmon fishing and tribal representatives to anticipate and develop strategies to mitigate and respond to salmon fishery impacts, with particular emphasis on addressing impacts to salmon fisheries in the Klamath Basin.
10. To support our agricultural economy and food security during drought conditions, the Department of Food and Agriculture shall:
 - a. Provide technical assistance to support conservation planning, on-farm water and energy conservation practices and technologies, including augmenting the State Water Efficiency and Enhancement Program.
 - b. Conduct an economic analysis of drought impacts to agriculture, including land use, jobs, and rural food economies, expanding on existing research done in the last drought to include thorough regional analysis especially in the Central Valley, and in the implementation of the Sustainable Groundwater Management Act and alternative land uses for fallowed land.
 - c. Maintain a web page with drought resources for farmers and ranchers, including the United States Department of Agriculture and other federal and state resources.
 - d. Work with federal agencies to assist Klamath Basin farmers and ranchers contending with reduced water supplies.
11. To ensure the potential impacts of drought on communities are anticipated and proactively addressed, the Department of Water Resources, in coordination with the Water Board, shall develop groundwater management principles and strategies to monitor, analyze, and minimize impacts to drinking water wells.
12. To provide critical information on the different drought conditions across the State, the Department of Water Resources, in consultation with the Department of Fish and Wildlife, the Department of Food and Agriculture,

and the Water Board, shall develop a California Drought Monitor by December 31, 2021, as recommended in the Administration's Report to the Legislature on the 2012-2016 Drought.

13. To prepare for potential salinity issues in the Delta, the Department of Water Resources, in consultation with the Water Board, the Department of Fish and Wildlife, the Delta Stewardship Council, and the Central Valley Flood Protection Board, shall initiate actions necessary to prepare for and address potential Delta salinity issues during prolonged drought conditions.

14. To prepare for potential impacts of drought conditions on species, the Water Board and the Department of Fish and Wildlife shall work with federal agency partners to manage temperature conditions for the preservation of fish in the Sacramento River downstream of Shasta Dam while balancing water supply needs.

This Proclamation is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

I FURTHER DIRECT that as soon as hereafter possible, this Proclamation be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this Proclamation.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 21st day of April 2021



GAVIN NEWSOM
Governor of California

ATTEST:

DR. SHIRLEY WEBER
Secretary of State



DEPARTMENT OF PARKS AND RECREATION

Armando Quintero, Director

Bay Area District
845 Casa Grande Road
Petaluma, CA 94954

Department of Water Resources
Attn: Ms. Chelsea Spier
Section Manager & Regional Coordinator
P.O. Box 942836
Sacramento, California 94236-0001

RE: Support for Marin Water's Lagunitas Creek Coho Habitat Enhancement Final Design Plan

Dear Ms. Spier,

I am writing to express our strong support for Marin Water's proposal to the US Bureau of Reclamation's WaterSMART 2021 solicitation for Environmental Water Resources Projects. Marin Water has worked closely with local staff from The California Department of Parks and Recreation (State Parks) for the past decade to collaboratively improve habitat conditions in Marin County. This proposal builds on that previous restoration work by developing design plans for some of the highest priority sites in Samuel P. Taylor State Park.

The restoration sites in Marin Water's proposal encompass a significant amount of habitat - approximately 1,750 feet - all within Samuel P. Taylor State Park, where the majority of coho salmon spawning occurs. State Parks has been an integral partner in the initial phase of this project, and our local staff have assisted with site selection, prioritization, and initial planning efforts. The proposed restoration methods include installation of log and boulder habitat structures, creating off-channel habitat at tributary junctions, and conducting targeted gravel augmentation to offset the current deficit created by upstream dams. State Parks is supportive of these techniques, and we look forward to implementing them in collaboration with experts from Marin Water and other agencies.

We believe this project will significantly increase the potential for protection and restoration of habitat for endangered coho salmon and threatened steelhead trout. Habitat restoration within the Lagunitas Creek watershed has been identified by the National Marine Fisheries Service in action LaC-CCC-12.2.2.1 of the Central California Coast Coho Recovery Plan as a high priority for the recovery of regional populations.

We strongly support this opportunity to advance habitat restoration in Lagunitas Creek and appreciate your favorable consideration of Marin Water's proposal.

Sincerely,
DocuSigned by:

A handwritten signature in cursive script that reads "Cyndy Shafer".

0BA2508083974DD...

Cyndy Shafer
Natural Resource Program Manager
Cyndy.Shafer@parks.ca.gov

RESOLUTION NO. XXXX

**RESOLUTION OF THE BOARD OF DIRECTORS OF
THE MARIN MUNICIPAL WATER DISTRICT
AUTHORIZING ENTERING INTO AN AGREEMENT WITH THE
UNITED STATES BUREAU OF RECLAMATION FOR THE
MARIN WATERSHED RECHARGE PROJECT**

WHEREAS, the District will submit a Grant Application to the United States Bureau of Reclamation under the “WaterSMART Environmental Water Resources Projects for FY 2022” program, seeking grant funding to implement the *Marin Watershed Recharge Project*; and

WHEREAS, the Board of Directors approves and supports this grant application; and

WHEREAS, the District is able to provide matching funds and in-kind contributions in the amount and at the times necessary to complete the Project and as specified in the funding plan; and

NOW, THEREFORE, BE IT RESOLVED that the Marin Municipal Water District Board of Directors hereby authorizes and directs the General Manager to sign and file, for and on behalf of the Marin Municipal Water District, a Grant Application for a grant from the United States Bureau of Reclamation under the “WaterSMART Environmental Water Resources Projects for FY 2022” program in the amount of \$1,450,000, for planning, design, and implementation of the *Marin Watershed Recharge Project*, and

BE IT RESOLVED that the General Manager of the Marin Municipal Water District or his/her designee is hereby authorized to conduct all negotiations and work with the United States Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

PASSED AND ADOPTED this 18th day of January 2022 by the following vote of the Board.

AYES:

NOES:

ABSENT:

President, Board of Directors

ATTEST:

Secretary