Grant Application

Pechanga Indian Reservation Drought Contingency Plan

Submitted to:

U.S. Department of the Interior
Bureau of Reclamation
Policy and Administration
Denver, Colorado

WaterSMART
Drought Response Program:
Drought Contingency Planning for Fiscal Year 2020
Funding Opportunity Announcement No. BOR-DO-20-F003

APPLICANT
Pechanga Band of Luiseño Indians
12705 Pechanga Road
Temecula, California 92592
http://www.pechanga-nsn.gov/

PROJECT MANAGER:

Lead
Kelcey Stricker, Director
Environmental Department
kstricker@pechanga-nsn.gov
(951) 770-6153
12705 Pechanga Road.
Temecula, California 92592

Co-Lead
Eagle Jones, Director
Water Department
ejones@pechanga-nsn.gov
(951) 770-6223

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Executive Summary

Applicant Information:

Date:	February 4nd, 2020
Applicant name:	Pechanga Band of Luiseño Indians
City, County and State	Temecula, County of Riverside, California 92592
Project name:	Pechanga Indian Reservation Drought Contingency Plan
Project length:	24 months
Estimated completion date:	September 30, 2022. Including the 30-day review by BOR. Assuming the project will start on October 2020.
Reclamation project in the geographic area:	No
Funding Request:	Phase 1 Project Cost: $36,329.20 Phase 1 Reclamation Funding Request: $17,711.20 Phase 2 Project Cost: $187,995.60 Phase 2 Reclamation Funding Request: $93,060.00 Estimated Total Project Cost, Phases 1 and 2: $224,324.80 Total Reclamation Funding Request: $110,771.20

The Pechanga Band of Luiseño Indians (Tribe) of the Pechanga Indian Reservation is pleased to submit this application to the United States Bureau of Reclamation (BOR) WaterSMART Drought Response Program, Drought Contingency Planning for Fiscal Year 2020. The Tribe will prepare a Drought Contingency Plan (DCP) for their community. BOR funds will be used to develop a new comprehensive Drought Contingency Plan (a new Plan, Task A) that will build long-term resilience to drought, and to be valid and useful for at least five years before an update is required. Phase 1 funds will be used for the establishment of the Task Force and to develop a detailed work plan including a Communication and Outreach Plan. Phase 2 funds will be used for the plan development. The DCP will address the six required elements of the Drought Response Framework and Directives, and Standards: Drought Monitoring, Vulnerability Assessment, Mitigation Actions, Response Actions, Operational and Administrative Framework, Plan Development and Update Process. The Tribe understands increasing their drought planning efforts will help to enhance their water supply reliability, improve water conservation efforts, and to reduce the negative effects of droughts through preparedness and mitigation actions. A critical challenge to the community is planning and designing for resilience from the impact of droughts with regards to sustainable management of water resources. The recent California drought revealed substantial risks to water availability in addition to the fact this region is prone to periods of extremely dry conditions. Records of historical and prolonged droughts, climate variability and demands on the groundwater systems are the main reasons to implement a drought contingency plan. In addition, dry conditions threaten public health, water and air quality, and increase the risk for wildfires. It is vital for the Tribe to secure their water resources, prepare for and reduce water shortages, and provide alternatives to build short- and long-term resilience to drought.

Background Data

Since its early history, California has recurrently faced multi-year drought conditions. The most recent multi-year drought (2012-2016) has impacted groundwater availability and water supply, and also resulted in record low precipitation. Communities in the State have been seeking alternative water sources and aggressively promoting water conservation, water resources planning, as well as implementing sustainable approaches to water supplies as part of solutions for building resilience to drought. In addition, coping with climate change under extreme events, such as droughts, is challenging and groundwater is becoming the most prevailing reserve. As a result, communities in southern California have been proactive in planning and building resilience to droughts. The Tribe has been committed to enhance water resources planning and management efforts to secure water supply and improve water reliability. Similarly, the Tribe recognizes the importance of better managing short- and long- term drought conditions considering climate variability. In this region, future climate change impacts threaten the success and longevity of planning and management actions that trigger a broad range of effects to water resources resulting in increasing runoff, pollutant loads, more frequent multi-year/seasonal droughts and pressure on existing systems. Moreover, southwestern Riverside County has faced multi-year drought conditions for approximately seven years. Dry conditions are also recorded for the beginning of the 2019-2020 water year according to the U.S. Drought Monitor.

Source of Water Supply

The main source of water supply on the Reservation and for the Tribe is groundwater. The Pechanga Water System (PWS) utilizes four active groundwater wells and one back up well with a total volume extraction of 1000 gallons per minute (gpm). See Table 1.

Table 1. Water volumes withdrawn from active groundwater wells.

Eduardo Well	Eagle III Well	Kelsey Well	Great Oak Rock Well 2	Ball Park Well (Backup)
350 gpm	250 gpm	140 gpm	220 gpm	40 gpm

Water Rights

In 2016, Congress passed the Pechanga Band of Luiseño Mission Indians Water Settlement Act (“Settlement Act”), settling the Tribe’s water rights claims to the Santa Margarita Watershed. There will be significant negotiations and work with the Federal Implementation Team to implement the terms of the Settlement Act to achieve full enforceability of the Settlement Act prior to the enforceability date of April 30, 2021 and to fulfill the terms of the Settlement Act after enforceability is achieved. The Tribe is participating with the Santa Margarita River Watershed Steering Committee to assist in the continuing jurisdiction of the United States District Court in the Fallbrook case and, on a safe yield technical committee to determine the long-term safe yield of the Wolf Valley Aquifer in accordance with an agreement with Rancho California Water District. A water supply and use database is also being revised to account for additional metering locations to enable the Tribe to better track its Reservation water supply to meet prudent water use goals established by the Tribe.

Water Users

Current water use breakdown consists of 55% commercial, 20% agricultural, and 25% residential. Major irrigation includes 156 acres of golf course. Remaining areas consist of 119 commercial acreage and approximately 5,052 reservation acreage that is classified as residential usage and outdoor irrigation. There are 49 commercial connections and 235 residential connections for a total of 284 connections that serve a transient population of approximately 20,000 and a residential population of approximately 500 inhabitants.

Current and projected water demand

The volume of water delivered in 2018 was 876.42 acre-feet as recorded by the Tribe's well head metering system. Water demand scenarios are currently outdated as they were developed in 2007 as part of the Pechanga's Water System Master Plan. Updated long-range projections of water use on the Reservation are being developed.

Relationships with Bureau of Reclamation

BOR has been working to address water supply challenges in Southern California. Basin studies include the San Diego Watershed Basin, Los Angeles Basin, and Santa Ana Watershed Basin. Additional studies have been done with BOR funds on the Santa Margarita Watershed with impacts to the Tribe. In 2003, BOR funded the Santa Margarita Watershed Supply Augmentation, Water Quality Protection, and Environmental Enhancement Program, where the Pechanga Creek was part of the analysis. In addition, the BOR has provided funding to the Elsinore Valley Municipal Water District to develop a DCP. Thus, the region for the proposed project lies in southwest California and would be part of these western region drought projects. If the proposed project is approved, this would be the first project directly between the Tribe and BOR.

Project Location

The Tribe, 33.462760° north latitude and 117.111712° west longitude, is in the semiarid southwestern portion of County of Riverside in California. The region is characterized by a Mediterranean climate with hot, dry summers, and cool, wet winters. The Tribe lies within the Santa Margarita Watershed south of the City of Temecula and State Highway 79, and approximately 25 miles north of the City of Escondido via I-15. Figure 1 shows the Reservation boundary and the immediate vicinity. Figure 2 shows the Pechanga Creek sub-watershed. It extends approximately seven miles from its confluence at Temecula Creek to its headwaters near the eastern limit of the Reservation. The majority of the Pechanga Creek Watershed lies within the Reservation property. Upstream and

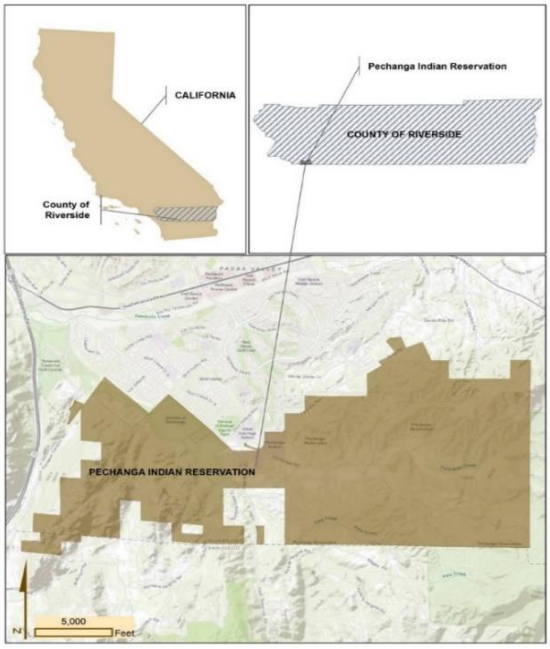


Figure 1. Geographic Location of the Pechanga Indian Reservation.

downstream portions of the watershed lie within the Cleveland National Forest and the City of Temecula, respectively. The watershed topography comprises relatively steep foothills in the headwaters, broad floodplains in the upper reaches, and incised channel banks as it traverses through the Reservation and down to Temecula Creek. Yearly precipitation amounts vary from 15 to 18 inches in the eastern portion of the watershed and less than 12 inches in the lower basin areas.

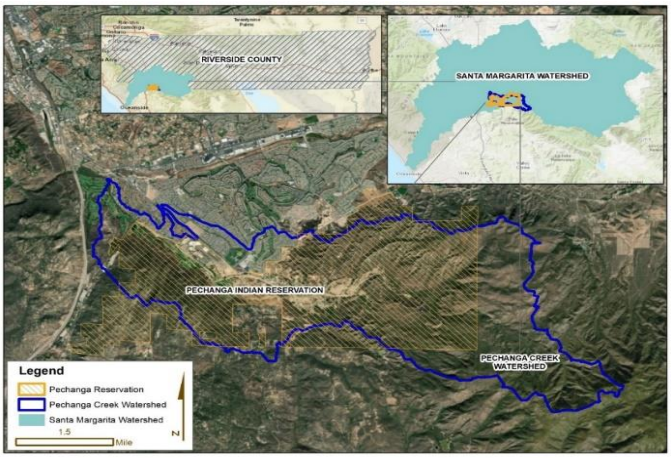


Figure 2. Pechanga Creek sub-watershed and tributaries.

Project Description

This proposal follows objectives under Task A for developing a New DCP. The proposal has been structured to accomplish eight milestones. In addition, milestones have been divided into two phases following the cooperative agreement structure for this project. The first milestone is to be completed under Phase 1, including all the steps to be established in the financial assistance agreement the Tribe will enter with BOR if the proposal is selected for award. Phase 2 of this project incorporates milestones 2 through 8 with several tasks that undertake the six required elements to develop a DCP.

Phase 1:

Milestone 1: Establish the financial assistance agreement following the required DCP steps, previous to the planning activities, to clearly coordinate funds and timeframes with BOR.

- Task 1: Establish the Pechanga Tribe DCP Task Force with diverse membership and inclusion of stakeholders within the planning area.
- Task 2: Develop a detailed work plan in consultation with Task Force members and BOR to describe in detail how the six required elements of a complete DCP will be accomplished.
- Task 3: Develop a communication and outreach plan in consultation with Task Force members to execute the detailed work plan explaining how stakeholders and members of the public will be involved.

Phase 2:

Milestone 2: **REQUIRED ELEMENT** Establish a process for drought monitoring identifying the onset of a drought period, assessment of its severity, and water availability early warning system for predicting future droughts.

- Task 1: Gather data to select and estimate the appropriate drought index. Review of such indexes includes Standardized Precipitation Index (SPI), Palmer Drought Severity Index (PDSI), Normalized Difference Vegetation Index (NDVI).

- Task 2: Monitor a combination of the applicable indexes using the National Climatic Data Center and the National Drought Mitigation Center. Produce estimates of selected drought index locally at different time scales to determine the onset, severity and duration of drought periods.
- Task 3: Establish triggers based on water availability in conjunction with drought indexes to classify drought in stages and to determine when to initiate specific response or mitigation actions.

Milestone 3: **REQUIRED ELEMENT** Develop a vulnerability assessment to identify potential drought related risks to various sectors including human health, economic and environmental fields.

- Task 1: Identify and evaluate recent and historic drought periods and their possible impacts to the community.
- Task 2: Perform an analysis of historical water supply and consumption using available information to evaluate tendencies over time.
- Task 3: Analyze and evaluate future climate change scenarios and drought impacts, including precipitation and temperature patterns, wildfire threat, and how they exacerbate drought conditions within the Pechanga Reservation.
- Task 4: Develop drought magnitude-frequency estimates to obtain scenarios of expected drought and its return period at a regional/local scale using a reliable and proven probabilistic approach.

Milestone 4: **REQUIRED ELEMENT** Identify, evaluate and prioritize mitigation actions in coordination with Task Force members within the Pechanga Tribe community to build long-term resilience to droughts and mitigate the risks posed by drought.

- Task 1: Identify mitigation measures to be implemented in advance to address potential risks and impacts of drought conditions.
- Task 2: Evaluate and prioritize actions by sector (e.g. environmental, education, tourism, health) that will mitigate the risks posed by droughts exacerbated by climate change scenarios.
- Task 3: Develop a list of actions and potential projects that would increase water reliability and help to build long-term resilience to drought.

Milestone 5: **REQUIRED ELEMENT** Identify, prioritize and evaluate response actions and activities in coordination with Task Force members, that can be quickly implemented to address and decrease the severity of impacts of an emerging or ongoing drought.

- Task 1: Detect, classify and prioritize response actions to be taken under the different stages of drought.
- Task 2: Evaluate response actions to be implemented during a drought to mitigate its impacts.
- Task 3: Develop well-established communication avenues that can be employed through outreach campaigns during an emerging or ongoing drought.

Milestone 6: **REQUIRED ELEMENT** Develop an operational and administrative framework responsible for undertaking the actions necessary to implement the DCP.

- Task 1: Define roles and responsibilities to conduct drought monitoring and DCP development and updates.
- Task 2: Define roles and responsibilities to initiate mitigation and response actions.

Milestone 7: **REQUIRED ELEMENT** Describe the process undertaken to develop the DCP including schedule for monitoring, evaluating and updating the DCP.

- Task 1: Submit DCP document (Draft) to Task Force members (30-day review period).
- Task 2: Submit DCP document (Draft) to the BOR (30-day review period).
- Task 3: Prepare the final version considering comments from the BOR, Task Force members, and Stakeholders including schedule for monitoring, evaluating and updating the DCP.

Milestone 8: Project and BOR Agreement Management

- Task 1: Coordinate Pechanga Tribe DCP Task Force, stakeholders and outreach meetings throughout the project duration. Develop graphics and materials for meetings and website.
- Task 2: Manage BOR agreement ensuring project tasks comply with federal funding.

Evaluation Criteria

Evaluation Criterion A: Need for a Drought Contingency Plan

Describe the severity of the risks to water supplies that will be addressed in the Drought Contingency Plan. The most recent multi-year drought faced by California impacted groundwater availability, surface water, reservoir and lake levels. It caused water availability stress throughout the region, and communities became concerned about water resources reliability. The Tribe depends of groundwater, and water depth levels have varied seasonally with consecutive years of decreasing records. Figure 3 (a) presents historic records of depth to groundwater levels of one USGS well located northeast of the Pechanga Watershed, north of the Reservation (latitude 33°27'47.53" and west longitude 117°06'15.58"). Figure 3 (b) shows historic streamflow records at Pechanga Creek, near the City of Temecula, Hydrologic Unit (18070302). These historic records show a decline in groundwater levels and multiple years with zero flows within Pechanga Creek. This scenario poses a severe risk to Tribal water supplies and having a DCP in place will help to alleviate drought impacts. The Pechanga DCP becomes crucial to accurately forecast,

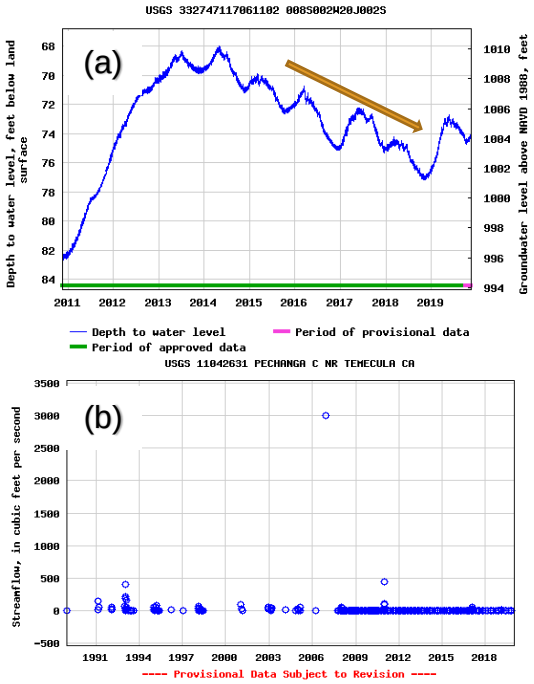
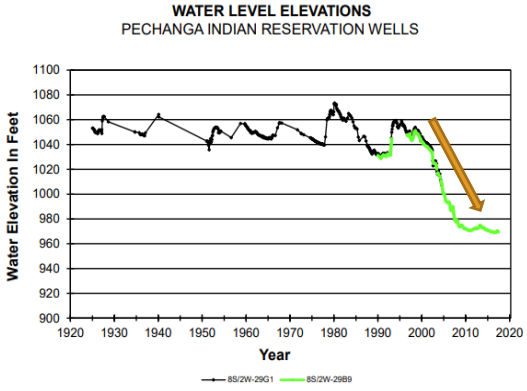


Figure 3. Historic groundwater and streamflow records. (a) Historic groundwater level USGS well 332747117061102 (b) Streamflow records from USGS station 11042631, Pechanga Creek. https://nwis.waterdata.usgs.gov/usa/nwis/uv/?cb_62611=on&cb_72019=on&format=gif_default&site_no=332747117061102&period=&begin_date=2010-11-20&end_date=2019-11-18

mitigate, and respond to the severe impacts of drought.

What are the risks to water supplies within the applicable geographic area that will be addressed in the plan or plan update, and how severe are those risks? Describe the existing or potential drought risks to specific sectors in the planning area (e.g., impacts to agriculture, environment, hydropower, recreation and tourism, forestry). Risks should be quantified and documented to the extent possible.



8S/2W-29G1: Ground El. 1,091.1 Feet; Depth 159.1 Feet
8S/2W-29B9: Ground El. 1,075.93 Feet; Depth 113.0 Feet
U.S. Geological Survey Records

Figure 4. Pechanga Tribe water level elevations in wells.

The Tribe depends only on groundwater sources. Historically, groundwater levels have fluctuated in response to wet and dry years. However, according to the Santa Margarita River Watershed Watermaster for Water Year 2016-2017, the monitored well on the Reservation went dry due to preceding dry hydrologic conditions and continued pumping of other nearby wells. As shown on Figure 4, water levels for Well No. 8S/2W-29B9 coincide with water levels for the common period of record for Well No. 8S/2W-29G1. Water levels in Well 8S/2W-29B9 increased by only 0.4 feet 2016-17. The risks to water supplies can be severe without drought planning. The Tribe recognizes the importance of water reliability and conservation. The DCP will address monitoring and mitigation actions to minimize risks on water supply availability. The existing and potential drought risks on the Reservation include impacts to residents, tourism and the environment. Water availability and conservation are vital for the Tribe. Potential drought risks could generate water shortages and public health issues within the Reservation. This will impact local tourism. The Reservation has undeveloped area that can be impacted by wildfires because of drought conditions. Additionally, it is important to note the Reservation is a homeland and is intended to provide for the Tribe and its members in perpetuity; securing water resources is crucial. Drought risks will be quantified and included in the vulnerability analysis. Estimates of drought frequency and severity associated to hydrologic conditions will be developed. Methodologies to be used are proven and previously implemented by the BOR and the by the National Oceanic and Atmospheric Administration (NOAA). Drought frequency estimates are important when designing water resources infrastructure and for drought planning. In addition, climate change projections would be considered in the DCP for the near- and long-term future.

- **Whether there are public health concerns or social concerns associated with existing or potential drought conditions. For example, are there water quality concerns including past or potential violations of drinking water standards, increased risks of wildfire, or past or potential shortages of drinking water supplies? Does the community have another water source available to them if their water service is interrupted?** The Tribe is concerned about public health, increased risk of wildfire and potential shortages of drinking water. Climate change projections indicate that wildfire outbreaks and extreme hot temperatures may increase in the region by the

mid-21st century. These scenarios impact a series of multiple factors such as spatial distribution of vegetation, human activities, and water quality. The Tribe depends exclusively on groundwater.

- **Whether there are environmental concerns, such as existing or potential impacts to endangered, threatened or candidate species**. According to the Santa Margarita River Watershed Watermaster Plan, there have been years where the Pechanga Creek presented zero surface water flow for a total water year. This situation impacts the environment, as no ecological flow exists for consecutive months.
- **Whether there are local economic losses (past, ongoing, or potential) associated with drought conditions (e.g., business, agriculture, reduced real estate values)**. Drought conditions could potentially cause economic losses because of its impacts to tribal enterprises and tourism. Water reliability is important to maintain a strong tribal economy. Tribal economy is the single most critical element in a tribal government's ability to fund and provide the kinds of services its people need. With revenue from the tribal enterprises, the Tribe is upgrading substandard roads, housing, the domestic water system, and installing lines to connect with the regional wastewater treatment system to which its proportion has been paid off.
- **Whether there are other drought-related risks not identified above**. No other risks have been identified. The DCP will evaluate other potential drought-related risks.

Describe existing or potential drought conditions to be addressed in the Drought Contingency Plan.

- **Will the proposed plan address a geographic area that is currently suffering from drought or which has recently suffered from drought? Please describe existing or recent drought conditions, including when and how long the area has experienced drought conditions. Please provide supporting documentation**. Yes, the Tribe is in southwestern Riverside County in southern California. This region has been historically impacted by drought conditions. Drought intensity in this region has been classified as abnormally dry, severe drought, and extreme drought. Figure *5* shows drought intensity category for the period 2014-2019. Spatial distribution of drought conditions can be observed for the month of November. Maps have been obtained from the U.S. Drought Monitor and selected for a month during the rainy season. The Tribe has faced extreme drought conditions for consecutive years. U.S. drought monitor shows the southwest portion presents abnormally dry conditions during the start of the rainy season, including the Pechanga Reservation region. In addition, it can be seen in Figure 5 that during three consecutive years the Reservation region was under extreme drought conditions.

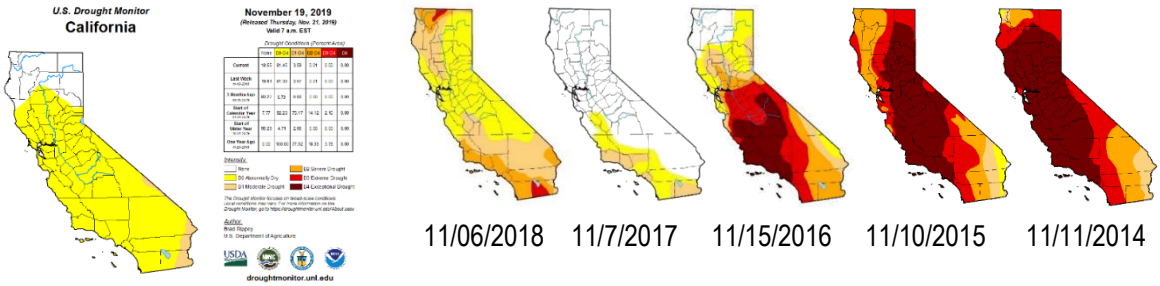


Figure 5. U.S. Drought Monitor maps. Historic map records represent drought conditions in California during the month of November for the period of time 2014-2018. Beginning of 2019-2020 water year conditions are shown for the month of November.

- **Describe any projected increases to the frequency, severity, or duration of drought in the geographic area resulting from changing hydrologic conditions. Please provide support for this response (e.g., reference a recent analysis, if available)**.

Figure 6 shows projected changes in annual average daily maximum temperature. It displays the annual averages for 1960-2005 using historical observations and model simulations, alongside 2006-2100 annual averages based on 10 downscaled Global Climate Models (GCMs) projections generated under RCP4.5 and RCP8.5 scenarios (RCP, Representative Concentration Pathways). Extremely dry years are also projected to increase over southern California, potentially doubling or more in frequency by the late-21st century. Warming is expected to increase across this area in the coming decades. The top five warmest years in terms of annual average temperature have all occurred since 2012, 2014 was the warmest, followed by 2015, 2017, 2016, and 2012 (https://www.ncdc.noaa.gov/temp-and-precip/climatologicalrankings/). GCMs project significantly drier soils in the future over the California region, with approximately 80% chance of a multidecadal drought during 2050–2099 under scenario RCP8.5. In addition, the North American Multi-Model Ensemble has been consistent with several other long-range models which are indicating drier than normal weather for January through March 2020. There is a near-unanimous agreement in long range models that this winter and early spring will be warmer than normal. Thus, there is a strong likelihood of below normal precipitation and above normal temperatures during the "winter rainy season" of 2019-2020. The greatest precipitation deficits this winter may occur during the normal peak of the rainy season in January - February. A lack of precipitation during those months may lead to a worsening of the drought and below normal snowpack across important watersheds in Central California. Should the 2019-2020 winter end on a dry note as forecasted by several long-range models, there may be an early start to the spring grassfire season.

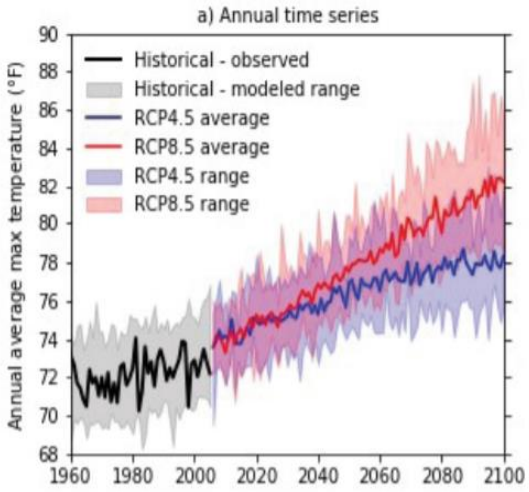


Figure 6. Annual temperature observed and future projections under RCP4.5 (blue) and RCP8.5 (red) scenarios.

Describe the status of any existing planning efforts. Please explain how this Project relates to other planning efforts ongoing or recently completed in the planning area and how this effort will complement, not duplicate ongoing or completed planning efforts. For plan updates, please explain how the update builds on and adds value to the existing plan. The Tribe does not have an existing DCP. Planning efforts include the Water System Master Plan developed in 2007. This effort lacked comprehensive drought monitoring, mitigation and response actions, and has not been updated since 2007. The Tribe is currently developing a Pechanga Creek Watershed Assessment. This effort includes a partial climate adaption strategy to evaluate flood impacts on the Reservation. This project will complement the DCP, as new hydrologic data is being

generated during the assessment. New hydrologic data will potentially be used during the DCP implementation.

Evaluation Criterion B: Inclusion of Stakeholders

Describe the stakeholders to be involved in the planning process:
Identify stakeholders in the planning area who have *committed to be* involved in the planning process. The Tribe recognizes the importance of contribution and participation of multiple stakeholders and tribal community in the drought contingency planning process. The Tribe will appoint a Task Force including representatives from Tribal government, tourism and recreation, environment, and public health. The Task Force will meet regularly to discuss drought vulnerability and develop mitigation and response actions. The first group is made up of a selection of Pechanga Tribal Government's Departments to assist in further developing and implementing effective drought monitoring, mitigation, and response actions. This group consists of representatives from the following: Tribal Council, Development Corporation, Education, Public Works, Environmental Department. In addition, the current plan proposes coordination with regional partners for the purpose of effective and efficient planning and coordination of resources for drought emergency response. Identified representatives include: Bureau of Indian Affairs (BIA) and Rancho California Water District (RCWD). While the Task Force members are expected to meet every three months, stakeholder meetings are planned to occur once every four months.

- **Describe their commitment, e.g., will they participate on the Task Force, contribute funding or in-kind services, or otherwise engage in the planning process?** Stakeholders will be encouraged to participate in the DCP Task Force. Stakeholders are primarily representatives of diverse tribal interests. Identified non-tribal stakeholders will be encouraged to collaborate and become part of the Task Force. The DCP Task Force will be mainly composed of representatives of Tribal entities. If the proposed project is selected, the need of additional Task Force members will be addressed.
- **Do these stakeholders represent diverse interests (e.g., agricultural, municipal, environmental, industrial, recreation, tribal)?** Yes. Stakeholders represent diverse interests such as education, public health, economy, environment, tourism, and recreation. Regional partners represent environmental interests.

Table 2. Proposed stakeholders representing diverse interests in the Reservation.

Proposed Stakeholders	Tourism & Recreation	Environment	Public Health
Tribal Council	✓	✓	✓
Tribal Economic Development	✓		✓
Tribal Education		✓	✓
Tribal Water Operations		✓	✓
Tribal Environmental Dept.	✓	✓	✓
Tribal Fire Dept.	✓	✓	✓
RCWD		✓	✓
Golf Course	✓	✓	
BIA – local office	✓	✓	✓

- **Describe stakeholders in the planning area who have expressed their support for the planning process, whether or not they have committed to participate. Support can include letters of support from stakeholders or a description of feedback from interested stakeholders; such letters should identify the stakeholder's specific interest.** Letters of support of proposed stakeholders have been included in Appendix A. Other stakeholders will be identified and encouraged to participate in the development of the DCP.
- **Describe what efforts that *you will undertake* to ensure participation by a diverse array of stakeholders in the development of a plan or plan update. If specific stakeholders have not yet been identified, or if some sectors are not yet represented, explain how you will accomplish this in the first few months after an award. Support could include a description of key stakeholder interests in the planning area and what efforts that you will undertake to engage them in the planning process, including outreach to stakeholders or collaborating with other groups or partners.** During Phase 1 of the cooperative agreement, the Task Force will be established, and a communication and outreach plan will be developed. The communication of the outreach plan will include a combination of stakeholder group meetings and online media. The Tribe and its consultant team have communication and outreach experts that will facilitate the required collaboration among stakeholders. Each collaboration activity will be aligned with the appropriate DCP required element. Once a draft version of the DCP is available, a public hearing will be held to gather feedback from tribal members to be incorporated into the final DCP.

Evaluation Criterion C: Project Implementation

Describe the approach for addressing the six required elements of a Drought Contingency Plan within the two-year timeframe.

- **Describe how each of the six required elements of a Drought Contingency Plan, as applicable, will be addressed within the two-year time frame. Please include a preliminary project schedule that shows the stages and duration of the proposed work including major tasks, milestones, and dates.** The following actions are a summary of the milestones and tasks to be addressed by the Tribe to develop the DCP. Description is provided under section Project Description. Figure 7 provides a preliminary project schedule for a 24-month duration. It is proposed to have eight Task Force planning meetings of approximately 4 hours per meeting over the 24-month project period. In addition, it is proposed to have six outreach group workshops. Milestones will be developed with assistance of a qualified consultant.

Phase 1 will initially be developed as part of the cooperative agreement with assistance of the BOR. It includes executing Milestone 1 consisting of establishing the Pechanga Tribe DCP Task Force, developing a detailed work plan and a detailed communication and outreach plan. These three tasks have a proposed duration of six months.

Phase 2 consists of implementing Milestones 2 through 8. Task Force meetings, stakeholder workshops and public hearings will be held to gather insights and information to incorporate in the different milestones to be accomplish during the DCP development.

- M.2: Drought monitoring plan and early warning system will be addressed by establishing a process for monitoring near and long-term water availability and a

process for detecting the onset and duration of drought conditions. The appropriate drought indexes to be implemented for the early warning system and monitoring at the Tribe will be selected and estimated. Drought triggers levels will be established to classify drought conditions stages.

- M.3: Vulnerability assessment: This milestone will be addressed by evaluating the risks and impacts of drought to critical resources within the Reservation and the factors contributing to those risks based on a range drought magnitude-frequency including the effects of climate change.
- M.4: Mitigation actions: This milestone will be addressed by identifying, evaluating, and prioritizing mitigation actions and activities that will build long-term resiliency to drought and will mitigate the risks posed by drought. The mitigation actions will be intended to decrease vulnerabilities and reduce the need for response actions and will be mainly focused on infrastructure improvements, education, and communication.
- M.5: Response actions: This milestone will be addressed by identifying and prioritizing response actions and activities that can be quickly implemented during a drought to reduce its impacts. These response actions are triggered during different drought stages to manage the limited supply and decrease the severity of immediate impacts.
- M.6: Setup an operational and administrative framework: This milestone will be addressed by developing an operational and administrative framework identifying roles and responsibilities to implement each element of the DCP.
- M.7: The process undertaken to develop the drought contingency plan will be addressed by developing the DCP in coordination with task force members and stakeholders. Coordination meetings will be held according to the proposed project implementation schedule. In addition, the DCP will include a section describing the process and schedule for monitoring, evaluating and updating the DCP.
- M.8: Coordinating project stakeholders and outreach meetings will be addressed following a communication and outreach plan, having task force, stakeholders and outreach meetings, developing materials and graphics for website and meetings. The BOR agreement will be managed by Pechanga staff and approved consultant.

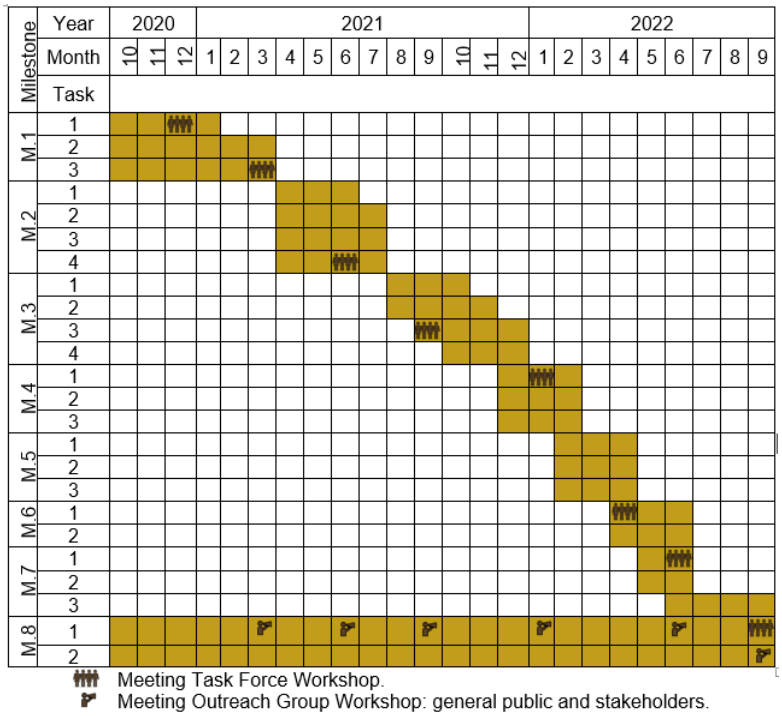


Figure 7. Project implementation schedule for 24-month duration.

- **Describe the availability and quality of existing data and models[3] applicable to the proposed plan or plan update. Your response to this subcriterion should demonstrate your understanding of the tasks required to address the required elements of a Drought Contingency Plan under this program.** The Pechanga Tribe have available historic water depth levels, temperature and precipitation records. In addition, hydrologic and climatic USGS data of the southwestern portion of County of Riverside are available. Climate change projections for the Riverside region by the California Climate Assessment to include in the mitigation and response actions to build resilience to drought as exacerbated by climate change. The existing plans, studies and resources will be reviewed, and data will be screened to verify accuracy. The main data sources and existing models applicable to the DCP are listed in Table 3.

Table 3. Data sources and models applicable to the Pechanga Tribe DCP.

Milestone	Data/Model Name	Data Source/Geography
M.2., M.3.	Precipitation, Temperature, Water depth levels at Wells.	Pechanga Tribe climatic station and water depth levels. County of Riverside database. USGS California database. Local, County of Riverside, California
M.2., M.3.	Drought Indexes: SPI PDSI, NDVI	Pechanga Tribe climatic station, U.S. Drought Monitor California, Data.gov, GIS, Modis Imagery (NASA). California.
M.2, M.3.	Drought frequency-magnitude analysis.	Pechanga Tribe climatic station, USGS California database. Local, County of Riverside, California
M.2, M.3.	Climate change projections	Scenarios RCP4.5 and RCP8.5. California
M.4, M.5	Mitigation and Response actions.	Review of previous studies and projects: Pechanga Tribe, Santa Margarita Watershed Reports, Drought in California Reports, Regional Climate Change Assessment. Local, County of Riverside.

References Evaluation Criteria A and C:

1. Drought in California. California Department of Water Resources. https://water.ca.gov/-/media/DWR-Website/Web-Pages/What-We-Do/Drought-Mitigation/Files/Publications-And-Reports/Drought-in-California.pdf
2. Hall, Alex, Neil Berg, Katharine Reich. (University of California, Los Angeles). 2018. Los Angeles Summary Report. California's Fourth Climate Change Assessment. Publication number: SUM-CCCA4-2018-007 http://www.climateassessment.ca.gov/
3. Precipitation-Frequency Atlas of the United States developed by the National and Oceanic and Atmospheric Administration (NOAA) Revised 2019. https://hdsc.nws.noaa.gov/hdsc/pfds/docs/NA14Vol1.pdf
4. Upper Santa Margarita Watershed Integrated Regional Water Management Plan. Updated on 2014.
5. United States Drought Monitor: droughtmonitor.unl.edu
6. Southern and Central CA Monthly/Seasonal Outlook. Predictive Services. Issued: 12/01/19. Valid for: 12/19-03/2020. gacc.nifc.gov/oscc/predictive/weather/index.htm

7. Swain, D.L., Langenbrunner, B., Neelin, J.D. and Hall, A., 2018. Increasing precipitation volatility in 21st-century California. *Nature Climate Change*, *8*(5), p.427
8. Watermaster Santa Margarita River Watershed 2016-2017. Fallbrook Public Utility District et al. CIVIL No. 51-CV-1247-GPC-RBB. Published in December 2018

Identify staff with appropriate technical expertise and describe their qualifications. Describe any plans to request additional technical assistance from Reclamation, or by contract. The Pechanga Tribe Environmental Department in collaboration with the Water Operations Department will manage the proposed project and will contract with a highly skilled and experienced team of consultants, scientists, licensed professional engineers, and communications experts to assist in developing the Drought Contingency Plan. The following Pechanga Tribe team members will work with a selected consultant to lead the project.

- **Project Lead and Manager, Kelcey Stricker.** Ms. Stricker has served for five years as the Environmental Director for Pechanga. Previously, Ms. Stricker worked as environmental scientist for ten years. Ms. Stricker holds a Bachelor of Science degree in Biology, and a Master's of Science degree in Ecology. She brings her expertise in the environmental sciences/public health interface. She manages the air, water, solid waste, and natural resources programs for the Tribe.
- **Project Co-Lead, Eagle Jones**. Mr. Jones has served as the Director of Water Operations for the Tribe for the past two years. He is responsible for planning, coordinating, managing, evaluating and participating in all potable water distribution facility operations, maintenance, and customer service activities. Mr. Jones ensures the adequate storage, supply, quality and pressure of water comply with federal, state and local regulations. Eagle Jones has served as the Instructor of Water Treatment course at Palomar College since 2008. He is a Certified Drinking Water Operator.
- **Environmental Specialist, Eddie Hernandez**. Mr. Hernandez has been employed with the Pechanga Tribal Government for five years as the Pechanga Environmental Technician. Mr. Hernandez holds a B.S. in Environmental Sciences. He is responsible for implementation of Pechanga's water programs.
- **Water Operations Supervisor, Raul Esparza**. Mr. Esparza has been employed with the Pechanga Tribal Government for eleven years. Mr. Esparza performs basic supervisory, administrative and professional work in planning, organizing, directing, implementing and supervising the day-to-day operation of the Tribe's potable and reclaimed water distribution system.
- **Administrative Assistant II, Lynette Stewart.** Ms. Stewart has been employed by the Pechanga Tribal Government for six years. Ms. Stewart assists the Pechanga Water Board of Directors and Director of Water Operations.

Evaluation Criterion D: Nexus to Reclamation

Is there a Reclamation project, facility, or activity within the planning area?
Yes, the Pechanga Reservation is located in the Santa Margarita Watershed. BOR has funded other projects located within the Santa Margarita Watershed such as the Feasibility Design Report – Santa Margarita Conjunctive Use Project.

Is the planning area in the same basin as a Reclamation project, facility, or activity?
Yes. In 2013, the Santa Margarita River Conjunctive Use Project was proposed to improve water supply reliability for both Marine Corps Base Camp Pendleton and Fallbrook Public Utility District by better managing the yields of the lower Santa Margarita River. This feasibility design report was prepared by Reclamation on behalf of Marine Corps Base Camp Pendleton and Fallbrook Public Utility District. Additionally, BOR has funded other planning projects within the Riverside County. For instance, BOR funded the Drought Contingency Plan developed by Elsinore Valley Municipal Water District (EVMWD) located southwest of the Riverside County in the Jacinto River watershed. The Pechanga Tribe has recently worked with the City of Lake Elsinore to conserve and protect natural resources such as Lake Elsinore, which is part of Pechanga's ancestral territory. In addition, wastewater flow in the southern part of EVMWD's service area is treated at the Santa Rosa WRF operated by the Rancho California Water District (RCWD), who has been proposed as Stakeholder in this project.

In what way will the proposed project benefit a basin where a Reclamation project, facility, or activity is located?
The proposed Pechanga DCP benefits water resources planning and management in the Santa Margarita Watershed, southwest of Riverside County.

Does the proposed project support implementation of a relevant Department of the Interior initiative?
Yes, the proposed project provides support for the Department's priorities, including creating a legacy of conservation stewardship, modernizing our infrastructure through public-private partnerships, and restoring trust with local communities by improving relationships and communication with states, tribes, local governments, communities, landowners and water users.

Evaluation Criterion E: Department of the Interior Priorities

The applicable Department of the Interior Priorities are addressed below:

Creating a conservation stewardship legacy second only to Teddy Roosevelt
The DCP project incorporates research and science needed to cope with climate change under extreme events. It incorporates best practices to manage water resources previous and during drought conditions.

Restoring trust with local communities
The Pechanga Tribe has been environmentally conscious working towards a sustainable and long-term management of their water by actively collaborating with neighbor municipalities and water managers. The Tribal Chairman recently declared their support to the City of Lake Elsinore and local partner to help better manage public safety for the thousands of visitors enjoying the hillsides in Lake Elsinore. Conservation and protection of our natural resources are important values to the Tribe.

Section 2: Project Budget

Funding Plan and Letters of Commitment

The non-federal share of the proposed project cost will be covered by the Tribe. The Tribe will contribute costs based on the salaries of personnel (in-kind contributions) assigned to the process and completion of this project.

The funding plan proposed by the Tribe is shown below:

The Tribe's staff salaries (hourly rate) for their support during the execution of all aspects during Phase 1 of the project is $18,618.00, and during Phase 2 $93,060. The cost contributed by the Pechanga Tribe is $113,553.60.

The cost to be contributed by the BOR includes:

Contractual work. The cost to be contributed by the BOR during Phase 1 is $17,711.20, and during Phase 2 is $93,060.00. The total cost to be contributed by the BOR is $110,771.20

No letters of commitment are required as no other funding source has been requested or included. No other project costs will be incurred prior the award.

Budget Proposal

The total project cost, is the sum of all allowable items of costs, including all required cost sharing and voluntary committed cost sharing, including third-party contributions, that are necessary to complete the project.

The total project cost including Phase 1 and Phase 2 is shown in the following table.

Table 4. Total Project Cost including Phases 1 and 2.

SOURCE	AMOUNT
Requested Reclamation funding	**$ 110,771.20**
Costs to be paid by the applicant	**$ 113,553.60**
TOTAL PROJECT COST (Phases 1 and 2)	**$ 224,324.80**

Table 5. Summary of Non-Federal and Federal Funding Sources.

FUNDING SOURCES		AMOUNT
Non-Federal Entities		
Cost Contributed by Pechanga Tribe	$	113,553.60
Non-Federal Subtotal	$	00,000.00
Other Federal Subtotal	None	
REQUESTED RECLAMATION FUNDING	**$**	**110,771.20**

Table 6 shows the detailed budget proposal corresponding to Phase 1 of the proposed project. The total Phase 1 of the proposed project cost is $36,329.20, with $18,618.00 being defrayed by the Pechanga Tribe, and $17,711.20 to be covered by Reclamation.

Table 6. Budget Proposal. Includes applicable costs associated with Phase 1 of the proposed project with an approximate duration of 6 months.

Budget Item Description	Computation		Quantity Type	Total Cost
	$/Unit	Quantity		
Salaries and Wages				
Kelcey Stricker, Director Environmental Department	$ 48.00	128	Hour	$6,144.00
Eagle Jones, Director Water Operations Department	$ 48.00	128	Hour	$6,144.00
Eddie Hernandez, Water Resources Specialist	$ 25.00	60	Hour	$1,500.00
Raul Esparza, Water Operations Specialist	$ 39.90	60	Hour	$2,394.00
Lynette Stewart, Administrative Assistant	$ 29.00	84	Hour	$2,436.00
			SUBTOTAL	**$18,618.00**
Contractual				
Consultant Team:				
Project Manager Staff	$160.00	46	Hour	$7,360.00
Senior Consultant	$175.00	8	Hour	$1,400.00
Community Relations Manager	$175.00	20	Hour	$3,500.00
Community Relations Specialist	$135.00	38	Hour	$5,130.00
Administrative	$ 80.00	3	Hour	$240.00
Mileage to and from site	$0.58	140	Mile	$81.20
			SUBTOTAL	**$17,711.20**
			TOTAL COST	**$36,329.20**

Budget Narrative

Description of the applicable budget items in Phase 1 of the proposed project is provided below.

Salaries and Wages:

Kelcey Stricker, Director of the Environmental Department. Ms. Stricker is the project manager and lead of the proposed project. She will contribute with an average of 5.3 hours per week for the Phase 1 duration of approximately 24 weeks at an hourly rate of $48.00 for a total of $6,144.00. Ms. Stricker's work includes contributing to the development of the detailed work plan and communication and outreach plan, selecting and coordinating with Stakeholders and Task Force members. Communication with BOR and consultants.

Eagle Jones, Director of the Water Operations Department and co-lead of the proposed project will contribute with an average of 5.3 hours per week for Phase 1 duration of approximately 24 weeks at an hourly rate of $48.00 for a total of $6,144.00. Mr. Jones's work includes contribution to the development of a detailed work plan and communication and outreach plan, selecting and coordinating with Stakeholders and Task Force members.

Eddie Hernandez, Water Resources Specialist, will contribute with 2.5 hours per week at an hourly rate of $25.00 for a total of $1,500.00. Mr. Hernandez work during Phase 1 includes support on establishment of a Task Force and contribution to the development of the detailed work plan.

Raul Esparza, Water Operations Specialist, will contribute with 2.5 hours per week at an hourly rate of $39.90 for a total of $2,394.00. Mr. Esparza's work during Phase 1 includes support on establishment of a Task Force and contribution to the development of the detailed work plan.

Lynette Stewart, Assistant to the Water Operations Department, will contribute with 3.5 hours per week at an hourly rate of $29.00 for a total of $2,436.00. Ms. Stewart's work includes edits documents, meeting minutes, and coordinating with the Task Force.

Fringe Benefits: Not Applicable.

Travel: Not Applicable.

Equipment: Not Applicable.

Materials and Supplies: Not Applicable.

Contractual:

The Tribe has identified the work that will be accomplished by consultants. Procurement methods for all activities have not been identified at this time. The Tribe understands that if the proposed project is selected procurement methods indicated by the BOR will be followed. Identified consultants include a team of scientists, licensed professional engineers, and communications experts that will be assisting the Pechanga Tribe to accomplish Phase 1 of the proposed project at cost estimate of $17,711.20.

- Development of a detail DCP work plan.
  - Develop a detailed work plan that will meet program requirements. Activities include creating a framework and establishing methods to be implemented to address each of the required elements of a complete DCP. It includes draft version and final DCP detail work plan, assuming round of comments and BOR review.

- Development of a Communication and Outreach Plan.
  - Create a Public Involvement Plan to include project goals, communication objectives, key messages, strategies, target stakeholders, scope of public input and tactics that best support goals. It includes draft version and final

Communication and Outreach plan, assuming round of comments and BOR review.

- Establishment of a Task Force.
  - Form and Facilitate Stakeholder Task Force: Identify contacts and secure participation in meetings.
  - Create a stakeholder and task force contact database, conduct outreach, prepare material explaining task force scope/participation purpose.

Costs shown in the table below are on a time and materials basis in accordance with the specified rates.

Table 7. Phase 1 contractual work budget proposal.

Task	Description	Units		Rate	Cost	Total
			CONSULTANT TOTAL COST PHASE 1			**$ 17,711.20**
1	**Development of a detail DCP work plan**					**$ 6,920.00**
	Senior I	8	hr	$ 175.00	$ 1,400.00	
	Project Manager	34	hr	$ 160.00	$ 5,440.00	
	Administrative	1	hr	$ 80.00	$ 80.00	
2	**Development of a Communication and Outreach Plan**					**$ 6,110.00**
	Project Manager	8	hr	$ 160.00	$ 960.00	
	Senior Community Relations Manager	12	hr	$ 175.00	$ 2,100.00	
	Specialist Community Relations	22	hr	$ 135.00	$ 2,970.00	
	Administrative	1	hr	$ 80.00	$ 80.00	
3	**Establishment of a Task Force**					**$ 4,681.20**
	Project Manager	6	hr	$ 160.00	$ 960.00	
	Senior Community Relations Manager	8	hr	$ 175.00	$ 1,400.00	
	Specialist Community Relations	16	hr	$ 135.00	$ 2,160.00	
	Administrative	1	hr	$ 80.00	$ 80.00	
	Mileage to and from Site	140	miles	*$ 0.58*	*$ 81.20*	

Environmental and Regulatory Compliance Costs: Not Applicable for Phase 1 as indicated by BOR Grant Coordinator.

Other Expenses:

Not Applicable.

Indirect Costs:

Not Applicable.

Budget Form:

The completed SF-424A, Budget Information for Non-construction Programs is included in this application.

Section 3: Required permits or approvals

There are no required permits or approvals for the implementation of the proposed project.

Section 4: Letters of project support

Letters of support from the Bureau of Indian Affairs (BIA), and the Native American Environmental Protection Coalition (NAEPC) are included in Appendix A.

Section 5: Official resolution

The Chairman and Council have verbally approved to proceed with this Grant Application. Because of the timing of Tribal Council meetings, the official resolution will be submitted to the BOR by February 28th, 2020.

Section 6: Request for Cost Share Reduction

Not Applicable.

Section 7: Unique Entity Identifier and System for Award Number

The Pechanga Tribe's Unique Entity Identifier and System for Award Management (SAM) mandatory requirements are listed below:

- Pechanga Tribe Unique Entity Identifier: EIN 95-3859-626; DUNS: 1557161780000

The Pechanga Tribe will continue to maintain an active SAM registration, with current information at all times during which it has an active application, plan under consideration by a federal awarding agency, or an active federal award.

Section 8: Appendices

Appendix A. Letters of Support.

Native American
Environmental Protection Coalition

www.naepc.com

Jill Sherman-Warne, Executive Director
John D. Beresford, President
Miguel Hernandez, Vice President
Shasta Gaughen, Secretary
Sam Elliot, Treasurer
Open seat, At Large Rep
Kelcey Strickler, At-Large Rep
Melody Sees, At-Large Rep

41185 Golden Gate Circle Suite 209
Murrieta CA 92562
Phone: (951) 296-5595 • Fax: (951) 894-5202
naepc@naepc.com

January 30, 2020

Darion Mayhorn, Grant Manager
Bureau of Reclamation
Policy and Administration
Mail Code: 84-51000
P.O. Box 25007
Denver, CO 80225

Re: Support for Pechanga Band of Luiseno Indians WaterSMART Drought Contingency Planning Grant FY2020 Application.

Dear Darion,

I am writing to express our unconditional support for Pechanga Band of Luiseno Indians WaterSMART Drought Contingency Planning Grant FY2020 Application. The Native American Environmental Protection Coalition(NAEPC) deeply understands the need for tribes to plan the best uses of water and to preserve the resource for the next generation.

NAEPC is a non-profit 501(c)(3) tribal organization formed, directed and guided by tribes devoted to strengthening tribal sovereignty and building tribal capacity for managing and directing their tribal environmental resources and programs. The mission of NAEPC is to provide technical assistance, environmental education, professional training, information networking and inter-tribal coordination to its members tribes and when possible to non-member tribes. We are proud that the leadership of the Pechanga Band were founding members of NAEPC. Pechanga has always recognized the need to prepare for the future and founding NAEPC is one of the resources tribe can utilize.

Historically Pechanga has been a disadvantage community lacking the necessary resources for strategic planning. In the past few years, Pechanga developed a crucial plan for climate preparedness and resilience. Now, Pechanga seeks to build a specific plan to address drought by monitoring drought, assessing drought vulnerability, mitigating risks posed by droughts, and responding to drought at different stages. Pechanga understands that by preparing and taking action early, the tribal community will minimize risks to their individuals, business and overall

public health. The project intends to identify existing gaps in drought preparedness so that they may withstand the impacts of climate change within their community by assisting the tribal leadership in making timely and informed decisions.

In closing NAEPC fully supports the Pechanga Band of Luiseno Indians WaterSMART Drought Contingency Planning Grant FY2020 Application.

In Gratitude,

Jill Sherman-Warne
Executive Director