Salinas River Arundo Eradication Project Phase V

Proposal for the US Bureau of Reclamation WaterSMART Environmental Resources Projects Grants for Fiscal Year 2022

Prepared by the Resource Conservation District of Monterey County

December 2021



Applicant:

Resource Conservation District of Monterey County 744 La Guardia Street, STE A Salinas, CA 93905

Project Manager:

Emily Zefferman Phone: (831) 975-7761 or (850) 443-3103 Email: emily.zefferman@rcdmonterey.org

Contents

Execu	utive Summary	3			
Proje	ct Location	4			
Techr	Technical Project Description				
Perfo	Performance Measures				
Evalu	ation Criteria	. 10			
Α.	Project Benefits	. 10			
В.	Collaborative Project Planning	. 21			
C.	Stakeholder Support	. 24			
D.	Readiness to Proceed	. 27			
E.	Performance Measures	. 30			
F.	Presidential and Department of the Interior Priorities	. 32			
Ref	References				

Attachment 2 – Project Budget

Attachment 3 – Environmental and Cultural Resources Compliance and Required Permits or Approvals

- Attachment 4 Letters of Support and Partnership
- Attachment 5 Official Resolution
- Attachment 6 Unique Entity Identifier and System for Award Management
- Attachment 7 Monterey County Weed Management Area Strategic Plan, 2000

Technical Proposal and Evaluation Criteria

Executive Summary

Date: 12/9/2021

Applicant: Resource Conservation District of Monterey County

City, County, State: Salinas, Monterey County, California

Applicant Type: RCDMC is eligible as a **Category A** applicant in accordance with California Public Resources Code, Division 9, Chapter 3, 9151: "A resource conservation district may be formed pursuant to this division for the control of runoff, the prevention or control of soil erosion, <u>the development and distribution of water</u>, and the improvement of land capabilities."

Project Summary: The Resource Conservation District of Monterey County (RCDMC) proposes to implement Phase V of the Salinas River Arundo Eradication Project in partnership with the Salinas Valley Basin Groundwater Sustainability Agency, the Monterey County Agricultural Commissioner's Office, the California Wildlife Conservation Board, and multiple private landowners along the Salinas River. Phase V is the next phase in the successful and ongoing program led by RCDMC. The project addresses the impacts of a 1500+ acre infestation of Arundo donax (arundo) within the Salinas River floodplain, which include degradation of habitat for fish and wildlife, alteration of hydrologic processes, decreased water availability in the riparian zone, increased fire risk, and increased flood risk to neighboring lands. Reclamation funds would cover three years of treatment on 150 net acres of arundo downstream of current project activities, within a five-mile stretch of river between the cities of Soledad and Gonzales. Project activities will include one year of mowing beginning in fall 2022, and two subsequent years of herbicide application. Native riparian plants will be seeded into control areas. With matching funds, we will also spot treat approximately 1500 gross riparian acres in other areas of the Salinas River. Arundo control has been identified as a priority project in all of the Groundwater Sustainability Plans developed by the Salinas Valley Basin Groundwater Sustainability Agency and the stakeholders it represents and is broadly supported by both the environmental conservation and agricultural communities.

Timeframe: The anticipated construction start date is late September 2022 (09/22), with cost share activities occurring no sooner than July 1, 2021. The project is to be completed by August 2025 (08/25).

Project Location

The Salinas River Arundo Eradication Project Phase V primary project location is in Monterey County, CA on a five-mile stretch of the Salinas River approximately two miles south of the city of Gonzales and three miles west of the city of Soledad. The approximate coordinates for the center of the project are 36.448151 latitude and -121.424075 longitude. Spot treatments will occur upstream of Phase V (with cost share funds) along a 7.5 mile stretch of river.



Map 1. Map shows target arundo stands as green polygons on a five-mile stretch of the Salinas River between the cities of Soledad and Gonzales. The inset map shows the project location within the state of California.



Map 2. Spot treatments of arundo and tamarisk will be completed using matching state funds upstream (southeast) of Phase V. This area is shown between the yellow dashed lines on the map. Black polygons indicate former arundo stands treated under prior funding.



Map 3. Overview of the work proposed in this proposal in the context of the overall Salinas River Arundo Eradication Program.

Technical Project Description

This project will include control of 150 acres of previously-untreated arundo over three work seasons, expanding RCDMC's Salinas River Arundo Eradication Project downstream as we continue to spot treat arundo and tamarisk upstream. We are employing an overall upstream-to-downstream approach to prevent reinfestation of treatment areas from upstream sources. We are actively engaged with partners along the Salinas River in San Luis Obispo County, CA, who are controlling the (less abundant) arundo upstream of Monterey County. Because arundo does not produce viable seed in the watershed, eradication is possible when this approach is applied.

The project will use best management practices developed over eight years of prior work in the Salinas River and from other arundo control programs throughout California. Other woody invasive plants, such as tamarisk (*Tamarix spp.*) and tree tobacco (*Nicotiana glauca*) will be targeted along with the arundo, as they are present within the riparian area (although not nearly as abundant) and could become dominant after arundo is removed. With matching funds, we will spot treat arundo and tamarisk over ~1500 riparian acres upstream of the primary project site.

Step 1: Mowing

Arundo control will be initiated by mowing stands with large tractors with masticating heads in fall of the first year. Arundo is ground down to non-viable pieces by running over the canes multiple times. Mowing does not kill the arundo but functions to reduce standing biomass to facilitate access and treatment by herbicide applicators.

Mowing is done only in large, dense stands and not on steep slopes, in small patches interspersed with native vegetation, or within 15 feet of the main stem of the river. Within the 150 total net acres of arundo targeted for this project, we expect approximately 70% (105 acres) to be "mowable".

Step 2: Initial Herbicide Treatment

In the spring following fall mowing, arundo will resprout from the underground rhizomes, and, based on past experience, canes will reach 6-8 ft tall by the summer with 50-75% total cover, when the first herbicide application will take place. Contractors with teams of 12-16 workers will apply an aquatic-approved formulation of glyphosate herbicide to arundo re-sprouts by hand with power sprayers (hoses attached to a pressurized tank mounted on an ATV) and backpack sprayers. Glyphosate is translocated through the leaves to the rhizomes and is a very effective control method, typically reducing live arundo cane density by 98% (based on previous monitoring).

Any arundo within the project footprint that was not mowed (an estimated ~45 acres of patches in locations inaccessible to mowing equipment or those within 15' of the river

mainstem) will also be treated concurrently with the arundo resprouts. Treating this arundo is often labor-intensive as it is typically quite tall (10-20 feet) and requires separating arundo canes from native vegetation by bending canes down, pulling them together with ropes, and/or trimming branches of native vegetation, to avoid incidental spray onto non-target plants. Any woody invasive plants that are encountered, such as tamarisk and tree tobacco, will also be treated.

Step 3: Herbicide Re-treatment

Any arundo that resprouts after the initial herbicide treatment will be treated again with an aquatic-formulated glyphosate/imazapyr herbicide mix by contractors in the third year of the project. Imazapyr is included in the herbicide mix to more effectively control remaining plants in this stage of treatment. (Imazapyr is not included the first year of spraying due to its greater potential to spread to and harm nearby plants through soil activity, but lower arundo density – typically 1-5% cover- during the retreatment phase reduces this risk significantly). Herbicide crews of 10-12 workers will walk transects through the project area to ensure all resprouts are detected. Biological monitors also assist with resprout detections.

Step 4: Revegetation

Select areas of treated arundo stands will be planted with seed and propagules of plant species native to the Salinas River riparian area. The goal of the revegetation step will be to establish patches of native plants that can spread throughout treated arundo areas over time. Seed will be collected by RCDMC staff from within the Salinas River riparian zone and supplemented with purchased seed if needed. Cuttings will be taken from woody plants within the Salinas River riparian area in accordance with best management practices.

Species chosen will be native low-growing annual and perennial herbaceous forbs and grasses and flexible woody plants like mulefat (*Baccharis salicifolia*) that will allow high flows to pass easily (i.e., we will not select species that have dense growth forms, as flood risk mitigation is a goal of the project). We will prioritize species that have particular benefits to pollinators and other wildlife (e.g., milkweed, lupine, sage, buckwheat).

Sites will be selected opportunistically throughout the treatment areas based on conditions deemed most conducive to plant establishment. For example, this may include areas where there's greater available moisture or water holding capacity in the soil. Seeds may be planted into areas where arundo mulch is thin or where bare soil is present, because seeding into thick arundo mulch is unlikely to be successful. Cuttings may be planted into mulch.

All revegetation sites will be mapped and monitored for establishment success during and beyond the grant term.

Spot treatment

Using matching funding from the California Wildlife Conservation Board, RCDMC will oversee spot treatment of arundo, tamarisk, and tree tobacco upstream of the primary project area. These treatments will help ensure there is no reinvasion of these woody invasive species into the primary project location. Spot treatments will be conducted by contracted backpack sprayers with an aquatic-formulated glyphosate/imazapyr herbicide mix. This will be conducted in the first and/or second year of the project.

Permit Compliance

In accordance with existing project permits (listed in "Required Permits or Approvals" section below), pre-activity wildlife surveys will be conducted by biological consultants and RCDMC staff for all work sites prior to work occurring each year. RCDMC biological monitors will be present during all work activities to oversee contractors. Biological monitors will also map all treated areas each year. RCDMC staff will prepare annual work plans and reports for permitting agencies.

Project Management

Project coordination and oversight will be conducted by RCDMC staff. This includes hiring and managing contractors, communicating with property owners, invoicing and reporting to Reclamation, and other tasks.

Performance Measures

Performance measures are detailed below in Evaluation Criteria, section E.

Evaluation Criteria

- A. Project Benefits
- 1. Benefits to Ecological Values

The Salinas River is the longest river in California's Central Coast and historically meandered through a wide river valley that supported abundant habitat for terrestrial and aquatic wildlife. The river is now flanked by intensively-farmed agricultural land as it flows south to north down its 90-mile length through Monterey County, making the extant riparian zone some of the only remaining wildlife habitat in the Salinas Valley and an important corridor for wildlife movement. The river is designated as critical habitat for South Central California Coast steelhead trout, and many other at-risk and declining species are present in the river and surrounding riparian area.

The Salinas River ecosystem has been severely degraded by the second-largest *Arundo donax* infestation in the state of California (as determined by the California Invasive Plant Council) with almost 1500 invaded acres mapped in 2011. This population is continuing to expand and more recent mapping has documented a 25-50% increase in arundo acreage in untreated areas over the last decade. Our program is progressively tamping down this unchecked population as we work our way downriver.

Arundo donax degrades the Salinas River ecosystem in multiple ways. This aggressive species outcompetes and displaces native vegetation, including rare plants we've documented like California walnut (*Juglans californica*) and elegant buckwheat (*Eriogonum elegans*). Arundo in this region does not produce flowers or seed and is unpalatable to herbivores, so it has virtually no value as a food resource. Its canes provide poor structure for bird nests compared to the native riparian shrubs and trees it displaces. Recent wildlife camera trapping work has shown that carnivores like bobcat and coyote are impeded by its dense structure.

The high biomass and leaf area per acre of arundo stands translates into huge potential water consumption in invaded riparian areas. Our best estimates are that arundo transpires 2 - 6 times as much water as native riparian vegetation on average according to the latest available data specific to the Salinas River. For aquatic, amphibious, and terrestrial wildlife in the river ecosystem, availability of standing and flowing water is a major limiting factor. By removing arundo, more water will be left in the main stem of the Salinas River and in pools and backwater areas in the riparian zone, and for a longer duration.

Arundo also alters hydrologic processes that are important to Salinas River fish and wildlife. The Salinas River is a sandy-bottomed system that is naturally prone to braiding and frequent channel migration. As arundo has colonized the banks of the main stem of the river, it has caused channel narrowing and incision, while preventing natural sediment scouring in the floodplain. Removing arundo will restore the fluvial processes that create backwater areas and

pools that can be used by breeding amphibians, invertebrates, and other animals. A return to a more natural braided channel morphology will also reduce water velocity in the main channel during high-flow events, improving conditions for passage of federally-threatened steelhead trout which migrate through the Salinas River to spawning grounds in upper tributaries.

In areas treated under previous phases of the Salinas River Arundo Eradication Project, we have observed positive changes in avian and mammal communities, particularly in species that benefit from large open areas, like loggerhead shrikes, northern harriers, and American badgers. Our wildlife camera monitoring work has documented significant increases in wildlife detections of carnivores such as bobcat and coyote immediately after arundo removal. Our plant community monitoring in former arundo stands has documented an increase in native species richness and cover over time. We expect these benefits in Phase V of the project as well.

The US Fish and Wildlife Service and other agencies believe that federally-listed species like least Bell's vireo and yellow-billed cuckoo, along with many other at-risk species, could expand their range into the area if habitat conditions are improved. Information on species of concern that would benefit from this project is summarized in Table 1. This table was composed from records in the California Natural Diversity Database as well as observations made by RCDMC and contracted field biologists in recent years.

Common	Scientific Name		Listing	
Name		Distribution	Federal	State
Plants				
Monterey spineflower	Chorizanthe pungens var. pungens	Within project reach on terraces, possibly in project area	Т	
California black walnut	Juglans californica, J. hindsii	Present in Salinas River riparian corridor		1B
Congdon's tarplant	Centromadia parryi ssp. congdonii	Has been observed in grassland and semi- disturbed areas near Salinas River and could occur within upland parts of the project area		1B
Elegant buckwheat	Eriogonum elegans	Present in Salinas River riparian corridor		4.3
Fish				
South-central California coast steelhead	Oncorhynchus mykiss irideus	Passes through project reach to upstream breeding habitat	Т	
Mammals				
San Joaquin kit fox	Vulpes macrotis mutica	Uplands above project area, could expand into and disperse through project area	E	Т
American badger	Taxidea taxus	Occurs in Salinas River riparian corridor		SSC
Monterey dusky-footed woodrat	Neotoma macrotis Iuciana	Occurs in Salinas River riparian corridor		SSC
Salinas pocket mouse	Perognathis inornatus psammophilus	Could occur in Salinas River riparian area		SSC
Pallid bat	Antrozous pallidus	Has historical occurrences near Salinas River. Identified as present in the Salinas River riparian area during acoustic bat surveys in 2019.*		SSC
Western red bat	Lasiurus blossevillii	Has historical occurrences in Monterey County. Identified as present in the Salinas River riparian area during acoustic bat		SSC

Table 1. Species of concern that would benefit from Salinas River arundo removal

Western mastiff bat Eumops perotis calfornicus Has historical occurrences near Salinas River and calfornicus SSC Townsend's big-eared bat Corynorhinus townsendii Has been observed near Salinas River and could occur in Salinas River riparian area SSC Birds Image into project area Image into project area <th></th> <th></th> <th>surveys in 2019.*</th> <th></th> <th></th>			surveys in 2019.*		
Western mastiff batEumops perotis californicusRiver identified as present in the Salinas River riparian area during acoustic bat surveys in 2019.*SSCTownsend's big-eared batCorynorhinus townsendiiHas been observed near Salinas River and could occur in Salinas River riparian areaSSCBirdsUpper Salinas River watershed, could expand range into project area areaEEBurrowing owlAthene cunicularia coridor. Could occur in Salinas River riparian areaCoccysus range into project area corridor. Could occur in Salinas River riparian areaTWestern yellow-billed cuckooCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTBank swallowRiparia riparia Agelaius tricolorCould occur in Salinas River riparian areaTTricolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia homed larkSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia homed larkAsio flammeus riparian areaCould expand its range into Salinas River riparian areaSSCCalifornia row homed larkScotus riparian areaCould expand its range into Salinas River riparian areaSSCCalifornia row row rowCould expand its range into Salinas River riparian areaSSC </td <td></td> <td></td> <td>Has historical occurrences near Salinas</td> <td></td> <td></td>			Has historical occurrences near Salinas		
mastiff bat surveys in 2019.*River riparian area during acoustic bat surveys in 2019.*SSCTownsend's big-eared batCorynorhinus townsendiiHas been observed near Salinas River riparian areaSSCBirdsImage: Into project areaImage: Into project areaImage: Into project areaImage: Into project areaBurrowing owlAthene cuniculariaOccurs in scattered areas along the length of the Salinas River, outside of the riparian areaEEBurrowing owlCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallowRiparia riparia Riparia ripariaCould expand its range into Salinas River riparian areaTELoggerhead blackbirdLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaCould expand its range into Salinas River, riparian areaSSCYellow warblerSetophaga petechiaCould expand its range into Salinas River, riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River, could occur in the riparian areaSSCYellow warblerSetophaga petechia <td>Western</td> <td>Eumops perotis</td> <td>River. Identified as present in the Salinas</td> <td></td> <td>000</td>	Western	Eumops perotis	River. Identified as present in the Salinas		000
Image: constraint of the second sec	mastiff bat	californicus	River riparian area during acoustic bat		330
Townsend's big-eard batCorynorhinus townsendiiHas been observed near Salinas River riparian areaSSCBirdsImage: Into project areaImage: Into project areaImage: Into project areaImage: Into project areaBurrowing owlAthene cuniculariaOccurs in scattered areas along the length of the Salinas River, outside of the riparian areaEEBurrowing owlAthene cuniculariaCocurs in scattered areas along the length of the Salinas River, outside of the riparian areaTEWestern yellow-billed cuckooCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallowRiparia riparia Has been observed in or near Salinas River riparian areaTELoggerhead shrikeLanius ludovicianusCould occur in Salinas River riparian areaCCVellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga alpestris actiaObserved near the Salinas River, could occur in the riparian areaSSCCalifornia horned larkEremophila alpestris actiaCould expand its range into Salinas River, could occur in the riparian areaSSCCalifornia horned larkEremophila alpestris actiaCould expand its range into Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaCould expand its range into Salinas River riparian areaSSCShort-eared owlAsi			surveys in 2019.*		
big-eared battownsendiicould occur in Salinas River riparian areaSSCBirdsuuUpper Salinas River watershed, could expand range into project areaEELeast Bell's vireoVireo bellii pusillusUpper Salinas River watershed, could expand range into project areaEEBurrowing owl welsem yellow-billed cuckooAthene cunicularia americanus occidentalisCocurs in scattered areas along the length of the Salinas River, outside of the riparian corridor. Could occur in Salinas River riparian areaTEBank swallow blackbirdCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallow blackbirdRiparia riparia Agelaius tricolorHas been observed in or near Salinas River riparian areaCCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warbler horned larkSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaCould expand its range into Salinas River riparian areaSSCCould expand its range into Salinas River riparian areaCould expand its range into Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaCould expand its range into Salinas River riparian areaSSCCalifornia red horned larkAsio otusCould expand i	Townsend's	Corynorhinus	Has been observed near Salinas River and		222
BirdsIdea to the problem of the salinas River watershed, could expand range into project areaImage into project area <th< td=""><td>big-eared bat</td><td>townsendii</td><td>could occur in Salinas River riparian area</td><td></td><td>330</td></th<>	big-eared bat	townsendii	could occur in Salinas River riparian area		330
Least Bell's vireoVireo bellii pusillusUpper Salinas River watershed, could expand range into project areaEEBurrowing owlAthene cuniculariaOccurs in scattered areas along the length of the Salinas River, outside of the riparian corridor. Could occur in Salinas River riparian areaSSCWestern yellow-billed cuckooCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallowRiparia ripariaHas been observed in or near Salinas River riparian areaTCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaCould expand its range into Salinas River, riparian areaSSCYellow warblerSetophaga apestris actiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia owlAsio otusCould expand its range into Salinas River, riparian areaSSCShort-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCCalifornia red- legged frogRana draytoniiScattered distribution below project reach, in roport area as wellTCalifornia red- legg	Birds				
vireovireo bellin pushiusrange into project areaEEBurrowing owlAthene cuniculariaOccurs in scattered areas along the length of the Salinas River, outside of the riparian corridor. Could occur in Salinas River riparian areaTSSCWestern yellow-billed cuckooCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallowRiparia riparia Agelaius tricolorHas been observed in or near Salinas River riparian areaTTTricolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaCould expand its range into Salinas River, riparian areaSSCShort-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansCould expand its range into Salinas River riparian areaSSCCalifornia regered owlAsio otusCould expand its range into Salinas River riparian areaSSCCalifornia regered owlAsio flammeusCould expand its range into Salinas River riparian areaS	Least Bell's	Viroo hallii puoilluo	Upper Salinas River watershed, could expand	Е	Е
Burrowing owlAthene cuniculariaOccurs in scattered areas along the length of the Salinas River, outside of the riparian corridor. Could occur in Salinas River riparian areaSSCWestern yellow-billed cuckooCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallowRiparia ripariaHas been observed in or near Salinas River riparian areaTTTricolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia orned larkEremophila alpestris actiaHas been observed near the Salinas River riparian areaSSCShort-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCNorthern harrierAsio flammeusCould expand its range into Salinas River riparian areaSSCAmphiliasObserved during Salinas River pre-activity surveys by avian biologistsSSCAnd advytoniiSSCSSCSSC	vireo	vireo benin pusinus	range into project area	E	E
Burrowing owl Burrowing owlAthene cuniculariathe Salinas River, outside of the riparian corridor. Could occur in Salinas River riparian areaSSCWestern yellow-billed cuckooCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallowRiparia ripariaHas been observed in or near Salinas River riparian areaTTTricolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warbler ormed larkSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCCalifornia owlSetophaga petechiaCould expand its range into Salinas River riparian areaSSCCalifornia owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusSoccattered distribution below project reach, in project reach, may occur inTSSC			Occurs in scattered areas along the length of		
Bull owing owing bull owing owing western yellow-billed cuckooCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallow blackbirdCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallowRiparia ripariaHas been observed in or near Salinas River riparian areaTTTricolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCSSCYellow warbler ormed larkSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCSSCCalifornia hormed larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCSSCLong-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCSSCNorthern harrierCircus cyaneusCould expand its range into Salinas River riparian areaSSCSSCNorthern harrierCircus cyaneusScattered distribution below project reach, in ropiect reach, may occur inTSSCCalifornia red- legged frogRana draytoniiiScattered distribution below project reach, may occur in <br< td=""><td>Durrowing out</td><td></td><td>the Salinas River, outside of the riparian</td><td></td><td rowspan="2">SSC</td></br<>	Durrowing out		the Salinas River, outside of the riparian		SSC
Image: constraint of the second sec	Burrowing owi	Athene cunicularia	corridor. Could occur in Salinas River riparian		
Western yellow-billed cuckooCoccyzus americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallowRiparia ripariaHas been observed in or near Salinas River riparian areaTTTricolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCShort-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during salinas River pre-activity surveys by avian biologistsSSCAmphibiansCould expand its range into Salinas River riparian areaSSCCalifornia red- legged frogRana draytoniiScattered distribution below project reach, in poriject area as wellT			area		
Couckyous americanus occidentalisCould expand its range into Salinas River riparian areaTEBank swallowRiparia ripariaHas been observed in or near Salinas River riparian areaTTTricolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCShort-eared owlAsio otusCould expand its range into Salinas River prarian areaSSCNorthern harrierCircus cyaneusCould expand its range into Salinas River riparian areaSSCAmphibiansScattered distribution below project reach, in foothills above project reach, may occur in project area as wellT	Western	Casaviewa			
Junctionaltheticalitiesriparian areaImage: Section of the project reach, in foothills above project reach, in grainal action appending action appendin	vellow-billed	Coccyzus	Could expand its range into Salinas River	т	Е
DescriptionOccidentalisHas been observed in or near Salinas River riparian areaTBank swallowRiparia ripariaHas been observed in or near Salinas River riparian areaTTricolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCLong-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNortherm harrierCircus cyaneusScattered distribution below project reach, in foothills above project reach, may occur in project area as wellT	cuckoo	americanus	riparian area		_
Bank swallowRiparia ripariaHas been observed in or near Salinas RiverTTricolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCLong-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusScattered distribution below project reach, in foothills above project reach, may occur in project area as wellT		occidentalis	Llas haan ahaan ad in an noon Calinga Diver		
Tricolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCShort-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCNortherm harrierCircus cyaneusCould expand its range into Salinas River riparian areaSSCNortherm harrierCircus cyaneusObserved during Salinas River pre-activity riparian areaSSCCalifornia red- legged frogRana draytoniiScattered distribution below project reach, in foothills above project reach, may occur in project area as wellT	Bank swallow	Rinaria rinaria	Has been observed in or near Salinas River		Т
Incolored blackbirdAgelaius tricolorCould occur in Salinas River riparian areaCLoggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCShort-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansCircus cyaneusScattered distribution below project reach, in foothills above project reach, may occur in project area as wellT	Tricolorod				
DiackbildHigherite interventObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCLong-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansCircus cyaneusScattered distribution below project reach, in foothills above project reach, may occur in project area as wellTSSC	hlockbird	Agelaius tricolor	Could occur in Salinas River riparian area		С
Loggerhead shrikeLanius ludovicianusObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCLong-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansScattered distribution below project reach, in foothills above project reach, may occur in project area as wellTSSC	DIACKDILU	- igolalao aloolol			
shrikeIudovicianusbiologists in Salinas River riparian areaColorYellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCLong-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansCircus cyaneusScattered distribution below project reach, in foothills above project reach, may occur in project area as wellTSSC	Loggerhead	Lanius	Observed during pre-activity surveys by avian		SSC
Yellow warblerSetophaga petechiaObserved during pre-activity surveys by avian biologists in Salinas River riparian areaSSCCalifornia horned larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCLong-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansCircus cyaneusScattered distribution below project reach, in foothills above project reach, may occur in project area as wellT	shrike	ludovicianus	biologists in Salinas River riparian area		
Yellow warblerSetophaga petechiaSocieties during producting of dentify during of d	_		Observed during pre-activity surveys by avian		
California horned larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCLong-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansCircus cyaneusScattered distribution below project reach, in foothills above project reach, may occur in project area as wellT	Yellow warbler	Setophaga	biologists in Salinas River rinarian area		SSC
California horned larkEremophila alpestris actiaHas been observed near the Salinas River, could occur in the riparian areaSSCLong-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibians </td <td></td> <td>petechia</td> <td></td> <td></td> <td></td>		petechia			
horned larkLitomorphild alpestris actiacould occur in the riparian areaSSCLong-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansCalifornia red- legged frogRana draytoniiScattered distribution below project reach, in project area as wellT	California	Fremonhila	Has been observed near the Salinas River,		000
Long-eared owlAsio otusCould expand its range into Salinas River riparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansScattered distribution below project reach, in foothills above project reach, may occur in project area as wellTSSC	horned lark	alpestris actia	could occur in the riparian area		330
Long out of owlAsio otusriparian areaSSCShort-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierAsio flammeusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansScattered distribution below project reach, in foothills above project reach, may occur in project area as wellT	Long-eared		Could expand its range into Salinas River		
Short-eared owlAsio flammeusCould expand its range into Salinas River riparian areaSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansCircus cyaneusScattered distribution below project reach, in foothills above project reach, may occur in project area as wellTSSC	owl	Asio otus	riparian area		SSC
owlAsio flammeusoccur oxpanie no occur oxpanie no occur oxpanie no occur oxpanieSSCNorthern harrierCircus cyaneusObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansScattered distribution below project reach, in foothills above project reach, may occur in project area as wellT	Short-eared		Could expand its range into Salinas River		
Northern harrierObserved during Salinas River pre-activity surveys by avian biologistsSSCAmphibiansObserved during Salinas River pre-activity surveys by avian biologistsSSCCalifornia red- legged frogRana draytoniiScattered distribution below project reach, in foothills above project reach, may occur in project area as wellTSSC	owl	Asio flammeus	riparian area		SSC
Normality Circus cyaneus SSC Amphibians Scattered distribution below project reach, in foothills above project reach, may occur in project reach, may occur in project area as well T SSC	Northern		Observed during Salinas River pre-activity		
Amphibians Scattered distribution below project reach, in foothills above project reach, may occur in project area as well T SSC	harrier	Circus cyaneus	surveys by avian biologists		SSC
California red- legged frog Rana draytonii Scattered distribution below project reach, in foothills above project reach, may occur in T SSC	Amphibians	-			
California red- legged frog Rana draytonii foothills above project reach, may occur in T SSC			Scattered distribution below project reach in		
legged frog	California red-	Rana dravtonii	foothills above project reach may occur in	т	SSC
	legged frog		project area as well		

Western	Spaa hammandii	Has been observed near the Salinas River,		222	
spadefoot		could occur in the riparian area	50	330	
Foothill yellow-	Dono havlii	Has been observed in Salinas River near	022		
legged frog	Raha Duyili	Salinas, and could occur in the riparian area		330	
Coast range	Taricha torosa	Has been observed in Salinas River near		000	
newt	1 diicha 10108a	Salinas, and could occur in the riparian area	alinas, and could occur in the riparian area		
Reptiles					
Western pond	Emus mormorato	Occurs in scattered locations throughout the		222	
turtle	Ennys mannorala	Salinas River		330	
Coast horned	Phrynosoma	Occurs throughout the Salinas River riparian		222	
lizard blainvillii		area		330	
Two-striped	Thamnophis	Has been observed in Monterey County and		222	
garter snake hammondii		could occur in Salinas River		330	
Northern		Has been observed in sandy areas near			
California	Anniella pulchra	Salinas Diver and could occur in project area		SSC	
legless lizard					
Insects					
Western		Has been observed in the Salinas Piver			
monarch Danaus plexippus			С		
butterfly					

T = *Threatened*; *E* = *Endangered*; *SSC* = *Species of Special Concern*; *C*=*Candidate for listing*; *1B* = *California Rare Plant, Rare, threatened or endangered*; *4.3* = *California Rare Plant, Limited distribution*

* Bat species identified by SonoBat software but not manually vetted as of submission of this proposal

Removing arundo from the Salinas River also benefits other water-users. According to the *Draft Upper Valley Subbasin Groundwater Sustainability Plan* and the *Draft Upper Valley Subbasin and Draft Forebay Subbasin Groundwater Sustainability Plan*, modeled historical water budgets indicate that deep percolation of Salinas River flow to groundwater in the Upper Valley and Forebay Subbasins accounts for 60-65% of the groundwater supply. Groundwater withdrawals are the primary source of irrigation water to support the thriving agricultural industry in Monterey County, often referred to as the "Salad Bowl of the World". The Salinas Valley Basin Groundwater Sustainability Agency has identified Salinas River arundo removal as a priority project due to the water savings benefit it provides (see B. Collaborative Planning, below), which will help bring the over-tapped groundwater basin into balance with agricultural and municipal withdrawals.

Furthermore, dense monocultures of arundo back river water up during high flow events, increasing water levels in the river channel and causing erosion to levees flanking the Salinas River riparian zone. This increases the risk of flooding to agricultural land along the river, and in fact, many farmers have experienced flooding during high flow events and are deeply concerned about this issue. As a result, the Salinas River Arundo Eradication Project is a popular project with Salinas Valley farmers (see letters of support). Keeping river water out of agricultural fields is also important for food safety and for water quality, to avoid contamination from pesticides, fertilizers, and sediment.

Flooding and erosion are also concerns for municipalities along the Salinas River, including Salinas, Gonzales, Soledad, and King City, which have wastewater treatment plants adjacent to the river. The currently-arundo-choked river threatens this infrastructure, and King City, Salinas, and Soledad are contracting with RCDMC or have dedicated funds as cost share to support our work minimizing flood risk. Arundo also poses a fire risk to municipalities that border the river due to its tall, dense structure and high flammability. Our project will reduce this risk, which is of increasing concern as climate change drives more frequent and intense fires in California.

2. Quantification of Specific Benefits by Project Type (Watershed Management and Multi-Benefit Projects)

Water Savings for Fish and Wildlife

Phase V will treat 150 acres of arundo in the primary project area to very low percent cover (<1%) over the grant term, ultimately eradicating it. This phase of the project will increase the long-term availability of water in the Salinas River. Estimates of water savings from arundo removal in the Salinas River watershed range from 23.3 acre-feet per acre per year (Cal-IPC 2011) and 1.5 acre-feet per acre per year (Melton and Hang 2021), both accounting for other types of riparian vegetation replacing the arundo over time. The lower estimate is based on an evapotranspiration model that uses remotely-sensed satellite data for the Salinas River, and the upper estimate is based on leaf gas exchange measurements scaled up according to measured leaf area index and stand density of Salinas River arundo stands. Using the range of these values, **this project would save between 225 and 2880 acre-feet of water per year**, accounting for replacement vegetation. Less water transpired will translate into more surface water availability for the fish and wildlife in the river and riparian corridor and more potential for groundwater recharge.

Increasing Biodiversity

We expect to see increased diversity of plants and animals in the 150 acres of monoculture arundo that will be treated in this project. A plant community monitoring study conducted from 2017-2020 under a previous phase of the Salinas River Arundo Eradication Project documented 73 native plant species in the Salinas River riparian corridor that could benefit from arundo removal. We expect to see increases in both richness and percent cover of native plants (expect a 20-40% increase over 4-5 years post project initiation) in arundo-treated areas several years following initial herbicide treatment.

This project is expected to benefit numerous species that inhabit or could inhabit the Salinas River and its riparian zone, including the 28 animal species listed in Table 1.

Restoration of Fluvial Processes

The project will restore fluvial processes along an approximately 5 mile-long stretch of river. Under Phase III of the project, our collaborator FlowWest used a 2D HEC-RAS model created for the Salinas River to simulate water velocity in restored reaches before and after arundo removal. They found significant increases in predicted flow velocity within secondary channels in former arundo stands on the floodplain after arundo removal with high potential for sediment movement, paired with reduced water velocity in the main stem (Frank and Hackenjos 2020). This will result in increased channel complexity and wetland formation after high flow events, which for the Salinas River represents a return to a more natural state.

Reducing Flood Risk and Bank Erosion

In the hydraulic modeling exercise mentioned above, FlowWest modeled the expected changes in surface water elevation throughout previous treatment areas, concluding that Phases I-III of the Salinas River Arundo Eradication project, which removed 498 acres of arundo, would reduce the total flooded area during a five-year flow event by 302 acres (Frank and Hackenjos 2020). While we have not modeled expected benefits of Phase V (to be done with matching funding if this project is funded by Reclamation), extrapolating based on the ratio of arundo acreage treated to inundated area reduction means we can expect to save approximately 91 acres of farmland from flooding as a result of this project.

Protecting Water Quality

While we do not expect our project to have direct measurable impacts on water quality, reducing the risk of flooding helps protect water quality by keeping it out of farm fields. Flooding can contaminate the river with pesticides, nutrients, and sediment as water scours paths through tilled farmland.

Benefits to Agricultural and Municipal Interests

The continued eradication of Arundo in the Salinas River Basin was ranked as the #1 project for groundwater stakeholders in the Salinas Valley Basin during recent groundwater sustainability planning efforts. These stakeholders represented residential, municipal, agricultural, disadvantaged community and environmental interests. Accordingly, this project is included as a priority project in each of the recently-drafted Salinas Valley Basin Groundwater Sustainability Plans required by California's Sustainable Groundwater Management Act (see also under Section B below). Reducing arundo is a "win-win" project that results in water savings for the aquifers, reduction of flood and fire risk to farmers and communities adjacent to the river, and ecological improvements, making this work popular among a diverse set of stakeholders that typically hold conflicting views.

Photographs of proposed work and project benefits



Figure 1. Untreated arundo stands in the proposed Phase V reach.



Figure 2. Data from wildlife cameras deployed under Phase IV monitoring funding show benefits of arundo removal to wildlife. Deer, coyote, and bobcat are among the species that have been recorded in higher number after arundo is removed, most likely due to the elimination of the physical barrier posed by the dense structure of arundo (top left).

Figure 3. Arundo likely worsened the effects of the drought on native trees through its high water use. In these photos you can see dead native trees amidst thriving arundo, which bounced back quickly after water levels in the river returned to normal

Figure 4. Mowers masticate arundo to a layer of mulch in the first year of work

Figure 5. Photographs of a work site in a prior project phase showing conditions shortly after fall mowing (above) and the following summer after re-sprouts have grown to be 8-10 ft tall. Arundo regrowth is given an initial herbicide treatment in year 2, and the high leaf area generated by mowing helps maximize the translocation of herbicide into the arundo rhizomes.

Figure 6. Herbicide contractors conducting power spraying (left) and backpack spraying (right). Power spraying is only used for initial treatment of mowed or unmowed stands, while backpacks are typically for more targeted re-treatment of scattered re-sprouts

Salinas River Arundo Eradication Project Phase V Attachment 1 – Technical Proposal

Figure 7. Photo of prior project phase showing arundo re-sprouts before (left) and after (right) initial herbicide treatment

B. Collaborative Project Planning

The proposed project is an outgrowth of and stated priority for several local, collaborativelygenerated plans that included diverse stakeholders reflective of the entire Monterey County community: water purveyors, municipalities, disadvantaged community groups, environmental organizations, agriculture, and state, federal & local agencies. The work is also a stated priority in multiple state and federal resource protection agencies' plans regarding wildlife and water resource protection. These are outlined in chronological order below, as the local plans, in effect, build off each other.

1. Monterey County Weed Management Area 'War on Weeds Partnership Strategic Plan for the Control of Noxious and Invasive Weeds' (2000)

This partnership was formed by local agricultural, environmental and governmental organizations (local and state) concerned about the impacts of non-native, invasive weeds on the local economy and biological diversity. Through a series of collaborative meetings that engaged community input, the WMA developed the Strategic Plan (see Attachment 7) that outlines actions designed to stop the spread of noxious weeds with an emphasis on the application of Integrated Weed Management practices. To execute the plan, the partners agreed to meld resources, priorities and strategies into a unified action.

The core WMA members in 2000 were the Monterey County Department of Agriculture, University of California Cooperative Extension Service, California Department of Food and Agriculture, California Department of Forestry and Fire Protection, California Department of Transportation, Monterey County Cattlemen's Association, Monterey County Farm Bureau, Monterey Chapter California Native Plant Society, Monterey County Public Works Department, Monterey County Parks Department, and the Resource Conservation District of Monterey County. By 2008, this Weed Management Area expanded to include Bureau of Land Management, CA State Parks, US Forest Service, USDA NRCS, Elkhorn Slough Foundation, Big Sur Land Trust, Santa Lucia Conservancy, The Nature Conservancy, and others.

In the Prioritization section on page 3, the plan identifies 12 top priority weeds for control, including arundo and tamarisk, and RCDMC and the Agricultural Commissioner's office teamed up with the California Invasive Plant Council (Cal IPC) to engage their expertise and mapping information of arundo populations for planning and funding the first phase of the Salinas River Arundo Eradication Project in 2008. To accomplish this, RCDMC engaged with landowner groups, individual landowners, agricultural support organizations, local agencies and permitting agencies over a 5-year period to craft a program they all want and will support. This included dozens of presentations at community lunches and board meetings and workshops, of site visits and conversations and emails with agency staff, and of close coordination with County agencies working closest with farmers and river management issues. It took a long time for a good reason: the program enjoys phenomenal local, regional and public/institutional support, and as

a result, has been incorporated as a priority action under multiple local community-based, collaborative planning efforts, most notably the Greater Monterey County Integrated Regional Water Management Plan (2013) the Salinas Valley Basin Groundwater Sustainability Agency's subbasin Groundwater Sustainability Plans, and the Salinas River Long-Term Management Plan (2019) as described below.

2. Greater Monterey County Integrated Regional Water Management Plan (GMC IRWMP, 2013)

The IRWMP (https://www.greatermontereyirwmp.org/documents/plan/) for the Greater Monterey County region includes the objective 'Promote efforts to prevent, control, reduce, and/or eradicate high priority invasive species' under the Goal 'Protect, enhance, and restore the region's ecological resources while respecting the rights of private property owners' in Section D 'Goals and Objectives'. The first stage of the RCDMC arundo project is included as a ranked project (11 of 26) in Section G 'Projects' that meets multiple resource goals within the plan per Section E 'Resource Management Strategies' page E-21, including flow conveyance, conjunctive management, pollution prevention, ag lands stewardship, ecosystem restoration, recharge area protection, watershed management, and flood management. The GMC IRWMP was developed out of a five-year, collaborative process that included extensive public outreach and community meetings led by a diverse stakeholder group that includes local water agencies, local private non-profit environmental groups, disadvantaged community groups & advocates, and a variety of local and federal agencies. In 2017-2018, the Plan was updated with the arundo control project remaining as a standing priority project.

3. Salinas Valley Basin Groundwater Sustainability Agency Groundwater Sustainability Plans for the 180/400-ft. Aquifer Subbasin (approved 2021), Eastside Subbasin, Forebay Subbasin (draft 2021) and Upper Valley Subbasin (draft 2021)

The Salinas Valley Basin Groundwater Sustainability Agency (GSA) was formed as a Joint Powers Authority in 2016 over a two year, facilitated, extensive community-engagement process. In turn, each of the Groundwater Sustainability Plans (GSPs) drafted by the GSA for the different Salinas Valley subbasins (distinguished by unique groundwater characteristics and challenges) have been developed with similar scientific rigor, public process and community input. All of the GSPs (noted above) that include groundwater linkages to the Salinas River specifically name the RCD's Salinas River Arundo Eradication Project as a top priority project for achieving their respective groundwater sustainability goals due to the water conservation benefits of Arundo removal and community support for the work thanks to its multiple benefits. The *180/400-ft Aquifer Subbasin Groundwater Sustainability Plan* (http://svbgsa.org/wp-content/uploads/2020/04/SVBGSA-Combined-GSP-2020-0123-rev-032520-1.pdf) was approved

by the CA Dept of Water Resources (DWR) in 2021, and the other three are in final draft stage in preparation for local approval in December 2021 and submission to DWR in January 2022. In the *180/400-ft Aquifer GSP*, 'Removal of invasive species' is identified on page 9-24 in Chapter 9 'Projects and Management Actions' as Project Type 3: Indirect Recharge through Decreased Evapotranspiration or Increased Percolation', and Invasive Species Eradication was listed at Priority Project #1 on pages 9-26 through 9-32 in the same chapter, to be conducted in partnership with the RCD of Monterey County, as we are doing in this proposal.

4. Salinas River Long-Term Management Plan (MCWRA and CSCC 2019)

From 2018-2019, the Monterey County Water Resources Agency (MCWRA) worked with diverse stakeholders and project partners, including RCDMC, to develop a Salinas River Long-Term Management Plan (<u>http://www.salinasrivermanagementprogram.org/ltmp_doc.html</u>). The plan addresses habitat enhancement among other goals for the Salinas River and riparian area and identifies the RCDMC's Arundo Eradication Project as part of the collaborative, community effort to protect the quality and function of the Salinas River.

5. Additional Resource Protection Plans

In addition to locally-led processes and partners, this project directly supports the following state and federal resource protection plans as described below:

The **South Central Coast Steelhead Recovery Plan (2013)** developed by the National Oceanic Atmospheric Administration National Marine Fisheries Service identifies the Salinas River as a Core 1 Watershed for prioritization of recovery activities, and specifically references arundo removal from the river corridor as a needed project for the recovery of the steelhead runs along the Salinas River (section 4.2.4, page 4-7), with emphasis on the reaches leading to the Arroyo Seco River. *Link: <u>https://www.fisheries.noaa.gov/resource/document/final-recovery-plan-south-central-california-steelhead</u>*

The **Riparian Habitat Joint Venture Riparian Bird Conservation Plan (2004)** identifies the Salinas River as a 'Portfolio Site' on the Central Coast because of its potential for extending least Bell's vireo habitat, and it specifically emphasizes arundo control as a critical element of the type of riparian habitat improvement work needed for that purpose, as well as for general improvement of riparian ecosystem function and health. The proposed work is compatible with the methodologies recommended within the plan for encouraging native plant species diversity, working on a landscape or watershed scale, and working compatibly with adjacent agricultural lands. *Link: <u>http://www.prbo.org/calpif/htmldocs/riparian.html</u>*

The objectives of this project specifically align with Actions 4 and 8 of **The California Water Action Plan (2014)**: Two subactions under Action 4: Restore Coastal Watersheds and Enhance Water Flows in Stream Systems Statewide are anticipated benefits of arundo eradication as described elsewhere in this proposal. Our arundo eradication efforts also address Action 8: Increase Flood Protection by enhancing channel conveyance capacity (and enhancing the river channel's ability to handle large flows less erosively) not only in terms of obstruction reduction but also in the manner with which we're conducting the work, in partnership with the County's flood modeling and management program, for the most effective approach. *Link:* <u>https://resources.ca.gov/CNRALegacyFiles/docs/california water action plan/2014 California Water Action Pla</u>

<u>n.pdf</u>

C. Stakeholder Support

The broader Salinas River Arundo Eradication Project, including this particular phase of work (Phase V), has broad support from all the major stakeholders involved in management of the Salinas River.

Support from Private and Agricultural Entities

The land on which this project will take place is entirely privately owned, as is most of the land in the Salinas River riparian corridor, and is managed by the landowners or the tenants who farm the land adjacent to the river. These stakeholders want to see the arundo on their property eradicated to protect their farmland from flooding, to increase water availability, and to steward the land on which they recreate (e.g., hiking, hunting).

Property owners or managers voluntarily sign ten-year Landowner Access Agreements with RCDMC to allow our work to take place and they in turn commit to long-term maintenance via spot treatments as needed. Several landowners have shown their support of previous work phases through direct financial contributions to the program and by conducting their own arundo control work with help from the USDA Natural Resources Conservation Service.

We are proud to have gained the trust of landowners along 50 miles of river where we have ongoing work, including several landowners who previously were skeptical and now support the project. To-date, we have secured 41 Landowner Access Agreements for the overall project!

The Salinas River Stream Maintenance Program's River Management Unit Association (landowner-based organization) have been strong drivers for the creation of an arundo eradication program to move toward a comprehensive solution instead of individuals carrying out inefficient and ineffective site-by-site projects.

Please see attached letters from Alarid Farms LLC, Mission Ranches, and Salinas Land Company for support private landowners/agricultural interests.

Management Agency Support and Complimentary Water Management Programs

The **Monterey County Agricultural Commissioner's office** strongly supports the program as it will benefit the agricultural community along the river. They contributed time and funding support to complete the regulatory permitting and program development and have maintained steady financial support of the program through Professional Services Agreements with RCDMC since the program began. Based on recent conversations, we expect to continue to receive financial support for the Salinas River Arundo Eradication from the Ag Commissioner, though he is unable to commit to a specific sum before 2022 (see support letter).

The **Monterey County Water Resources Agency (MCWRA)**, which manages flows within the river via releases from upstream dams, has actively supported the arundo control program by contributing engineering and hydrologist staff time, granting permission for and preparing to fund work to occur on lands that they manage, and assisting the program in obtaining permission on private and public property (see support letter).

MCWRA has been the lead in developing the ongoing Salinas River Stream Maintenance Program (SRSMP), which is a separate but complimentary program to the Salinas River Arundo Eradication Project. The SRSMP is a flood risk mitigation program that allows property owners to create "secondary channels" in the floodplain via vegetation clearing and sediment removal. Arundo removal is used as mitigation for SRSMP impacts to native vegetation and implemented by SRSMP participants (private landowners/tenants).

As described in their support letter, the **Salinas Valley Basin Groundwater Sustainability Agency** is the newest partner in our work, having identified the Salinas River arundo control project as high priority project in their final and draft Groundwater Sustainability Plans as described earlier under B. Collaborative Project Planning. Their staff and board are actively working to identify new and long-term funding to support the arundo control program and are partners with RCDMC on this proposal. They have identified the RCDMC as their trusted partner for implementing arundo removal through our existing Salinas River Arundo Eradication Project, so there will be no duplication of efforts.

The **California Wildlife Conservation Board** has been the primary financial supporter of the Salinas River Arundo Eradication Project, first through a grant from their Riparian Habitat Conservation Program in 2014, and two subsequent grants from their Stream Flow Enhancement Program in 2016 and 2019. The project aligns with their mission to protect, restore, and enhance "California's spectacular natural resources for wildlife...in partnership with conservation groups, government agencies and the people of California." The funding remaining on the grant awarded in 2019 will be used as match for our proposed project (see support letter).

Support of Elected Officials

Elected officials of the region (county, state and federal) support this work because it benefits their constituents and meets universally-supported goals of flood protection and environmental resource protection. We are including support letters from **Congressman Jimmy Panetta**, the **Monterey County Board of Supervisors**, **State Senators Anna Caballero and John Laird**, and **State Assembly members Robert Rivas and Mark Stone**.

Support of Environmental Organizations

Regional environmental organizations are very eager to see this work completed as they value the potential benefits to fish and wildlife of restoring the Salinas River riparian corridor. **The Nature Conservancy** has been particularly engaged in finding nature-based solutions to

resource management problems in the Salinas Valley. **Trout Unlimited** is also supportive of projects like ours that improve habitat for steelhead trout. Please see their attached support letters for more information.

Other information

The project is not located on federal land or at a federal facility. There has been no known opposition to the project.

D. Readiness to Proceed

The proposed project is the next phase in an ongoing, successful, and fully-permitted program. A CEQA Mitigated Negative Declaration (SCH#2011091078) was completed for the program by the RCDMC as lead agency in 2011. We secured a Streambed Alteration Agreement from the California Dept. of Fish and Wildlife, Technical Assistance letters from the US Fish and Wildlife Service and NOAA National Marine Fisheries Service, and a NPDES permit through the California State Water Resources Control Board. These permits extend through the proposed project term.

Engineering designs are not required for implementation of this project.

RCDMC will secure ten-year Landowner Access Agreements for the Salinas River properties targeted in this application once funding is awarded. The agreement language has already been developed and approved by RCDMC's contracted legal consultant. Because the term of the agreement is ten years from the date signed, we intend to sign these agreements only when we are confident we have the funding to proceed. We have been in contact with the major landowners in this scope of work, who have expressed willingness to participate (see support letters).

We are confident that we will be ready to proceed upon entering into a financial assistance agreement with Reclamation, following completion of required NEPA and cultural resources compliance actions. We have contacted our local Bureau of Reclamation office to discuss the environmental and cultural resources compliance activities. They said our project should fit under a Categorical Exclusion for NEPA and estimated \$5000-10,000 needed for their staff to complete all compliance activities.

The Implementation Plan below details tasks and milestones for completing this proposed project, organized by the five major tasks identified in the budget.

Task Title	Tasks/Milestones	Timeframe for completion
Task 1: Management and Reporting	Conduct competitive bidding process for arundo control and biological services contractors, select contractors, execute contracts	Summer 2022 (between award notification and September 2022)
	Hire RCDMC biological monitors	
	Quarterly invoicing	Quarterly through grant term
	Final Performance Report creation	July-August 2025

Implementation Plan

Task Title	Tasks/Milestones	Timeframe for completion
Task 2: Project Coordination and Outreach	Secure Landowner Access Agreements for all properties in project area	Summer 2022 (between award notification and September 2022)
	Develop annual work schedules and scope of work in coordination with contractors	Spring-summer 2022, 2023, 2024
	Inform property owners/managers about upcoming project activities and dates of work	August 2022, June-July 2023, 2024
	Community outreach about the project through conference/outreach presentations, articles, tours, social media, TV/radio interviews	Ongoing through grant term
Task 3: Project Planning and Permit Compliance	Assist Reclamation with NEPA and cultural resources compliance	Award date – September 2022
	Complete Annual Workplans for permitting agencies (CDFW and USFWS)	June 2022, 2023, 2024
	Conduct pre-activity surveys of work areas	September 2022, June- September 2023, 2024
	Conduct onsite biological monitoring of work activities	September-October 2022, July- October 2023, 2024
	Complete Annual Reports for permitting agencies (CDFW, USFWS, SWRCB)	March 2023, 2024, 2025
Task 4: Arundo Control and Revegetation	Mow ~105 acres arundo	September-November 2022
	Spot treat arundo and tamarisk upstream of primary project reach [MATCHING FUNDING]	July – November 2022
	Initial herbicide treatment of ~105 acres mowed arundo and ~45 acres unmowed arundo	July – November 2023
	Seed collection for revegetating treatment sites	June-December 2023

Task Title	Tasks/Milestones	Timeframe for completion
	Native vegetation planted into	December 2023
	treatment areas	
	Herbicide spot treatment over project footprint	July – November 2024
Task 5:	Arundo treatment efficacy and plant	May 2023, 2024, 2025
Monitoring (see	community recovery monitoring	
"Performance	performed in 4 locations	
Measures" for		
detail)		
	Hydrologic modeling of project effects	January-March 2024
	with HEC-RAS 2D model	
	Actual water savings of project	May-June 2025
	calculated with OpenET tool	

E. Performance Measures

We propose to quantify project benefits using a variety of methods, as described below.

1) Acreage treated

RCDMC will track net acreage of arundo treated as well as gross riparian acreage benefiting from the project. Biological monitors will map areas treated in the field using Collector for ArcGIS, and acreage will be calculated from these data. The maps and total acreage values will be used to further quantify project benefits as described below. We aim to treat 150 net acres of arundo using Reclamation funding, benefitting 1000-1500 gross riparian acres. Matching funding will spot treat approximately 1500 gross riparian acres.

1) Water savings

The quantity of water saved via reduced evapotranspiration in the project area after waterthirsty arundo is removed will be calculated by RCDMC staff using the OpenET API developed by California State University Monterey Bay researchers in collaboration with RCDMC for the Salinas River Arundo Eradication Project under previous state funding (Melton and Hang 2020). This tool is based on the METRIC model, a well-established evapotranspiration model that uses remotely sensed data from Landsat satellites to determine actual evapotranspiration across landscapes (Allen et al. 2007). Using GIS maps of acreage treated, we will evaluate changes in ET in treatment areas following arundo removal. We expect to document total water savings of 200-500 acre-feet per year at the end of the grant term. We will continue to use this tool over subsequent years to track changes in ET rates in the project area.

2) Reduction in inundated farmland

FlowWest engineering firm will use a 2D HEC-RAS hydraulic model to estimate the extent of anticipated flooding throughout the floodplain and adjacent properties in the treatment areas under pre-treatment, post-treatment, and post-revegetation conditions. This model was developed for the Salinas River under prior funding sources (Frank and Hackenjos 2020). RCDMC will provide FlowWest with GIS shapefiles of the treated arundo as inputs for the model. Model scenarios will include 2-, 5-, and 10-year flow events. Output will include maps showing anticipated changes in water elevation and estimates of the total reduction in inundated area for the three flow events. We expect a reduction in inundated area of ~75-100 acres as a result of this project.

3) Restoration of fluvial processes

FlowWest will use the above-mentioned 2D HEC-RAS model to generate maps of anticipated changes in water velocity throughout the project area as a result of arundo removal under 2-, 5-, and 10-year flow events. This model will allow us to visualize areas where water is expected to increase in velocity (generally areas on the floodplain where arundo has been removed) and

areas where water will decrease in velocity (generally the currently-constrained main stem of the river). We can anticipate that our project will allow greater sediment scouring within the floodplain, leading to increased channel complexity and wetland formation and decreased erosion within the main river channel.

4) Treatment efficacy and plant community recovery

Using methods established and used under prior phases of the Salinas River Arundo Eradication Project, the RCDMC Ecologist will establish long-term plant community monitoring plots in four locations in the project area to assess the effectiveness and progress of arundo treatments, the success of active planting efforts, and the continued succession of plant communities post-treatment. At each of the four locations, three 50 m² monitoring plots will be established in arundo stands post-mowing: one in an area planted with seeds, one in an area planted with plugs and cuttings, and one unplanted area. Data collected will include the following: number of resprouting arundo canes; percent cover and height of arundo; percent cover of non-native and native grasses, herbaceous plants, and woody plants; percent cover of bare soil or arundo mulch; list of all present plant species; photographs of site conditions.

We expect to see significant decreases in arundo density and cover (>95%) and increases in native plant cover and species richness as a result of our project. These plots will be monitored in spring 2023, 2024, and 2025 (during the project term), and at least twice during the five years following project completion.

Additionally, at least five long-term photopoints in opportune locations will be established to show conditions before treatment and after each treatment step. These will be monitored at least annually during the grant term and biannually for at least five years after the project is completed. The resulting photo series will give a visual picture of the transformation of the riparian zone and the ecological benefits of the project.

Continued monitoring after project completion

We will work to secure funding to continue monitoring efforts after the grant term has expired. This will most likely come from the Monterey County Agricultural Commissioner's office, which has supported these monitoring efforts in the past and has recently expressed a desire to continue to support our work (see support letter). RCDMC is committed to continuing periodic monitoring as our work progresses downriver so that we may adaptively manage our methods based on observed outcomes. This is critical for continuing to improve efficiency and ensure the best environmental outcomes. As an example, previous monitoring of passive and active restoration in former arundo treatment areas has informed current plans for how to conduct restoration for this and future phases of work.

F. Presidential and Department of the Interior Priorities

Improving Resilience to Climate Change

Recent regional scenarios (e.g., *California's Fourth Climate Change Assessment*, 2018) predict hotter temperatures, with more frequent and longer heat waves. California is expected to shift to a drier climate overall, but with more extreme winter storm events. Swings between extremely dry and extremely wet years are expected to increase, and wildfires are expected to become more severe (Swain et al. 2018). Eradicating arundo will increase the long-term resilience of the Salinas River ecosystem to all of these projected effects of climate change.

Drought

Currently, arundo exacerbates the impacts of hotter, drier summers by transpiring at least twice as much water as native plant communities (Melton and Hang, 2021), which leaves less water in the ground for native plants, and less surface water for fish and other wildlife. The 2011-2016 drought resulted in massive die-off of cottonwoods and other riparian vegetation in the river, while arundo persisted and bounced back quickly after wetter conditions returned.

Eradicating arundo will provide a long-term water savings for the river. This is critical in the Salinas River ecosystem, where the river typically runs dry for many months of the year in dry years.

Wildfire

Climate change is also increasing the frequency and intensity of fires in the region (Langridge, et al., 2018). Arundo has extremely high biomass, a significant portion of which is dry biomass (Cal-IPC 2011, Spencer 2006). This, combined with a favorable structure for intense fires (tall ventilated fuel ladder structure - something that is not naturally present in riparian systems (Scott 1993, DiTomaso 1998, Brooks et al. 2004)), generates fires that are difficult to extinguish and that spread rapidly (Cal-IPC 2011, Brooks et al. 2004). Arundo has been implicated in spreading fires, for example when the Simi/Verdale Fire spread from one mountain range to the next via the Santa Clara River arundo population (Coffman et al. 2010).

In the Salinas River watershed, several large-scale upland wildfires have occurred in the last few years. While they did not enter the Salinas River, the August 2020 River Fire came dangerously close and it is only a matter of time before riverine fires do occur. In fact, several fires in arundo stands have occurred in multiple places along the river but have luckily been extinguished prior to spreading out of the riparian area. Removing arundo from the system will greatly reduce the current and future risk of catastrophic fires in the Salinas River.

Flooding

While climate change is expected to result in drier conditions overall in California, it is also predicted to result in more extreme storm events (Langridge, et al., 2018). Arundo is well-

documented to exacerbate flooding in river systems, as it forms extremely tall, dense stands that cause water to back up and/or find new pathways to flow (Cal-IPC 2011). Removing arundo will ameliorate the effects of flooding in the Salinas River by reducing huge amounts of standing vegetation biomass in the riparian corridor. The benefits of arundo removal from our previous WCB-funded projects and private landowner efforts were observed by landowners along the Salinas River during the winter storms of 2017.

Wildlife Connectivity

The latest Climate Change Assessment also documents the need for increased habitat connectivity to allow migration of plants and wildlife to move to more suitable climates. The removal of arundo through our project will increase such connectivity. While habitat fragmentation by human land use and development is a current threat to the viability of wildlife populations (Wilcove et al. 1998), it is expected to become an even greater threat in the future as wildlife species struggle to move across landscapes in response to changes in climate (Schloss et al. 2012). Current levels of connectivity within the contiguous United States are not high enough to sustain viable wildlife populations (McGuire et al. 2016). Establishing corridors will be a critical strategy for allowing wildlife species to respond to changes in climate.

Within the Central Coast region, establishing corridors for wildlife movement through the riparian habitat of the Salinas River may be especially important, as increasing connectivity here will allow wildlife to respond to changes in climate along a large elevational gradient, including coastal ranges, valley floors, upland areas, and mountains (Spencer 2010). Wildlife camera monitoring on previous project phases on the Salinas River and in other watersheds (e.g., Santa Clara River) has indeed linked removing arundo with greater wildlife movement (Hardesty-Moore et al. 2020, Diamond 2018).

Disadvantaged Communities

The majority of the project area around and between Soledad and Gonzales is within a Disadvantaged Community Tract, as identified by the California Department of Water Resources Disadvantaged Communities Mapping Tool (<u>https://gis.water.ca.gov/app/dacs/</u>); the city of Soledad is identified as a Disadvantaged Community Place; and both Gonzales and Soledad have Disadvantaged and Severely Disadvantaged Community Block Groups. These populations will derive flood and fire risk reduction benefits from this project.

Tribal Benefits

Because there are no Tribal lands or distinct communities in the vicinity of the project area, we do not expect there to be Tribal benefits associated with the proposed work. As noted above, however, there will be flood and fire risk reduction benefits to the nearby communities of Soledad and Gonzales, within which Tribal members may reside.

References

Allen, R.G., Tasumi, M., and Trezza, R. 2007. Satellite-based energy balance for mapping evapotranspiration with internalized calibration (METRIC)—Model. *Journal of irrigation and drainage engineering*. 133: 380-394.

Brooks, M.L., D'Antonio, C.M., Richardson, D.M., Grace, J.B, Keeley, J.E., DiTomaso, J.M., Hobbs, R.J., Pellant, M., and Pyke, D. 2004. Effects of invasive alien plants on fire regimes. *Bioscience* 54: 677-688.

Cal-IPC. 2011. *Arundo donax* Distribution and Impact Report. Agreement No. 06-374-559-0, prepared for State Water Resources Control Board. <u>http:///www.cal-ipc.rog/ip/mapping/Arundo/index.php</u>

California's Fourth Climate Change Assessment. 2018. Edited by D. Cayan and S. Wilhelm. <u>https://www.climateassessment.ca.gov/</u>, accessed November 2021.

Coffman, G.C., R.F. Ambrose, P.W. Rundell. 2010. Wildfire promotes dominance of invasive giant reed (*Arundo donax*) in riparian ecosystems. *Biological Invasions*. 12: 2723-2734.

Diamond, T. 2018. Salinas River Wildlife Monitoring Study 2018: Long term effectiveness assessment for the Salinas River Stream Maintenance Program. Pathways for Wildlife. Technical Memorandum.

DiTomaso, J.M. 1998. Biology and ecology of giant reed. In: Bell, C.E. ed, in: *Arundo* and Saltcedar: the Deadly Duo- Proceedings of a workshop on combating the threat from *Arundo* and saltcedar; 1998, Ontario, CA. University of California Cooperative Extension: 1-5.

Frank, P. and B. Heckenjos. 2020. Hydraulic implications of Arundo donax removal on the Salinas River, King City to Soledad. FlowWest Engineering. Technical Memorandum.

Hardesty-Moore, M., Orr, D., & McCauley, D. J. 2020. Invasive plant *Arundo donax* alters habitat use by carnivores. *Biological Invasions*, 1-13.

Langridge, Ruth. (University of California, Santa Cruz). 2018. Central Coast Summary Report. California's Fourth Climate Change Assessment. Publication number: SUM-CCCA4-2018-006.

McGuire, J.L., Lawler, J.J., McRae, B.H., Nuñez, T.A., and Theobald, D.M. 2016. Achieving climate connectivity in a fragmented landscape. *Proceedings of the National Academy of Sciences* 113: 7195-7200.

Melton, F., and M. Hang. 2021. Remote Sensing of Evapotranspiration from the Arundo donax in the Salinas River channel. California State University Monterey Bay and NASA Ames Research Center.

Monterey County Water Resources Agency and California State Coastal Conservancy (MCWRA and CSCC). 2019. Salinas River Long-Term Management Plan. February. Salinas, CA and Oakland, CA.

Schloss, C., Nu^{nez}, T., and Lawler, J.J. 2012. Dispersal will limit the ability of mammals to track climate change in the Western Hemisphere. *Proceedings of the National Academy of Sciences*. 109: 8606–8611.

Scott, G.D. 1993. Fire threat from *Arundo donax*. *Arundo donax* Workshop Proceedings; N.E. Jackson, P. Frandsen, and S. Douthit. Eds. Ontario, CA 1994: 17-18.

Spencer, D.F., Liow, P., Chan, W.K., Ksander, G.G., and Getsinger, K.D. 2006. Estimating *Arundo* donax shoot biomass. *Aquatic Botany* 84: 272-276.

Spencer, W.D., Beier, P., Penrod, K., Winters, K., Paulman, C., Rustigian-Romsos, H., Strittholt, J., Parisi, K., and Pettler, A. 2010. California Essential Habitat Connectivity Project. A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish & Game, and Federal Highways Administration.

Swain, D., B. Langenbrunner, J.D. Neelin, A. Hall. 2018. Increasing precipitation volatility in twenty-first-century California. *Nature Climate Change*. 8: 427-433.

Wilcove, D.S., Rothstein, D., Dubow, J., Phillips, A. and Losos, E. 1998. Quantifying threats to imperiled species in the United States. *BioScience*. 48: 607-615.

Resource Conservation District of Monterey County Salinas River Arundo Eradication Project Phase V

US Bureau of Reclamation WaterSMART Environmental Resources Projects Grants for Fiscal Year 2022

Attachment 2 - Project Budget

Funding Plan

The California Wildlife Conservation Board (WCB) will provide at least 25% of the total project costs. On April 4, 2019, WCB appropriated \$2,868,781 to RCDMC to support our Salinas River Arundo Eradication Project through a Stream Flow Enhancement Program grant. A Notice to Proceed was provided on July 1, 2019. As of November 1, 2021, \$648,143 remained in the budget, with the original funding period running through April 30, 2023, to be extended by a 1-year no-cost extension into April 2024. (Such extensions are routine but requests can only be submitted within a year of the original grant termination date.) We will use **\$495,787.20** of the remaining funds on this grant to provide non-Federal cost share for eligible project expenses.

Please see letter of commitment attached below for confirmation of WCB's support of this project.

We expect all costs to be expended after the date of award from Reclamation, but if necessary (depending on the date of the award) some of these state funds may be expended prior to the award date to prepare for the 2022 arundo control work season, which has an annual permitted work window of July 15-November 14 for mowing and September 1-November 14 for herbicide application. Pre-award tasks may include preparing work plans for permitting agencies, securing contractors and hiring staff, and conducting pre-activity surveys of work areas. These costs should not exceed \$50,000. The majority of WCB funds will cover spot treatment of arundo and tamarisk over 1500 acres of Salinas River riparian land in summer/fall 2022 and/or 2023. We understand that NEPA review must be completed before this on-the-ground work can be included as cost share.

While the amount of WCB funds will be more than sufficient to comprise the 25% required cost share, we also expect non-Federal contributions to come from the Monterey County Agricultural Commissioner's Office (direct financial support) and private landowners/managers (in-kind or direct financial support), although these sources have not been secured.
Budget Proposal

Table 1. Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$ 1,479,261.81
Costs to be paid by the applicant	\$ 495,787.20
Value of third-party contributions	NA
TOTAL PROJECT COST	\$ 1,975,049.01

Table 2. Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. California Wildlife Conservation Board	\$ 495,787.20
Non-Federal Subtotal	\$ 495,787.20
REQUESTED RECLAMATION FUNDING	\$ 1,479,261.81

Table 3. Budget Proposal

		COMPUTATION		Quantity	
BUDGET ITEM DESCRIPTION	\$/U	Jnit	Quantity	Туре	TOTAL COST
Salaries and Wages					
USBR Request					
Project Manager	\$	46.04	1207.7	Hours	\$ 55,607.14
Executive Director	\$	63.36	146.0	Hours	\$ 9,251.26
Field Manager	\$	31.23	842.8	Hours	\$ 26,315.93
Finance Manager	\$	31.40	22.0	Hours	\$ 690.85
Environmental Scientist	\$	37.66	112.0	Hours	\$ 4,217.72
Biological Monitors	\$	35.47	872.8	Hours	\$ 30,960.21
Matching Funds (billing rates)					
Project Manager	\$	70.35	350	Hours	\$ 24,622.50
Executive Director	\$	93.45	70	Hours	\$ 6,541.50
Field Manager	\$	50.40	450	Hours	\$ 22,680.00
Finance Manager	\$	49.35	10	Hours	\$ 493.50
Environmental Scientist	\$	54.60	10	Hours	\$ 546.00
Biological Monitors	\$	51.45	450	Hours	\$ 23,152.50
Fringe Benefits					
Project Manager	\$	13.81	1207.7	Hours	\$ 16,682.14
Executive Director	\$	19.01	146	Hours	\$ 2,775.38
Field Manager	\$	9.37	842.77	Hours	\$ 7,894.78
Finance Manager	\$	9.42	22	Hours	\$ 207.25
Environmental Scientist	\$	11.30	112	Hours	\$ 1,265.32
Biological Monitors	\$	4.26	872.77	Hours	\$ 3,715.23
Travel					
Vehicle mileage, field work	\$	0.56	9381	Miles	\$ 5,253.36
Vehicle mileage, conferences and workshops	\$	0.56	800	Miles	\$ 448.00
Per diem, conferences and workshops	\$	233.00	12	Days	\$ 2,796.00

	COMPU	TATION		
BUDGET ITEM DESCRIPTION	\$/Unit	Quantity	Туре	TOTAL COST
Supplies and Materials				
Field supplies	\$1,955.00	1	lump sum	\$ 1,955.00
Personal protective equipment	\$ 325.00	1	lump sum	\$ 325.00
Active revegetation supplies	\$ 164.00	1	lump sum	\$ 164.00
Contractual				
Arundo mowing contractor				\$ 315,000.00
Arundo herbicide contractor				\$ 1,021,250.00
Dendra, Inc. (project consultant)				\$ 15,000.00
Restoration contractor				\$ 40,000.00
Biological Services contractor				\$ 152,500.00
FlowWest Engineering				\$ 83,070.00
Labor compliance contractor				\$ 16,293.75
Rein and Rein legal services				\$ 2,000.00
Third-Party, In-kind contributions				
NA				
Environmental and Regulatory Compliance Costs			-	
NEPA Compliance: contractor Provost & Pritchard				\$ 5,000.00
NEPA and Cultural Resources Compliance: USBR				\$ 5,000.00
Other Expenses		T	T	T
California Dept. of Fish and Wildlife Annual				
'Maintenance Project' fees	\$ 325.00	5	fees	\$ 1,625.00
State Water Resources Control Board Annual NPDES				
permit fees	\$ 3,000.00	3	fees	\$ 9,000.00
Conference/workshop registration	\$ 750.00	4	fees	\$ 3,000.00
iPad data plans for 2 iPads	\$ 45.00	68	months	\$ 3,060.00
TOTAL DIRECT COSTS				\$ 1,920,359.31

	COMPUTATION		Quantity	
BUDGET ITEM DESCRIPTION	\$/Unit Quantity		Туре	TOTAL COST
Indirect Costs				
	Type of			
	rate	Percentage	\$base	
USBR funds: NICRA on personnel costs	NICRA	24.35%	\$159,583.20	\$ 38,858.51
	Flat			
WCB (Cost share) allowable indirect	percentage	20%	\$79,156.00	\$ 15,831.20
TOTAL PROJECT COSTS				\$ 1,975,049.01

Budget Narrative

Salaries and Wages

Key staff for this project include the following employees of the RCD of Monterey County:

- Emily Zefferman, Ecologist (Project Manager)
- Paul Robins, Executive Director
- Jasmine Ruvalcaba, Field Manager
- Maggie Errea, Finance Manager
- Megan Barker, Environmental Scientist
- Biological monitors (seasonal positions hired annually)

The hours for each employee are displayed by Project Task in Table 4. Hours are summed for all three years of the grant term and include hours that will be paid for with Reclamation as well as cost-share funding. Specific tasks for RCDMC employees included in each Project Task are listed below Table 4.

Please note that the way we bill for employee time under our cost-share source (a grant from the California Wildlife Conservation Board) is different from how we will bill to Reclamation: For the WCB grant we use a billing rate that includes benefits (no separate fringe). These hours are separated out in the Budget Table (Table 3) so that this distinction is clear. The hours are combined to show time budgeted for the overall project in Table 4 below.

	Executive Director	Project Manager	Finance Manager	Env. Scientist	Field Manager	Biological monitors
Task 1 – Project	Director	manager	manager	oorentise	manager	
Management and	80	280	32	3	21	0
Reporting						
Task 2 – Project						
Coordination and	115	635	0	59	55	56
Outreach						
Task 3 – Permit	21	200	0	57	1022	1102
Compliance	21	299	0	57	1032	1105
Task 4 – Arundo						
Control and	0	52	0	0	144	84
Revegetation						

Table 4. Employee hours by project task

Task 5 – Performance	0	291	0	3	40	80
Monitoring						
Total Hours	216	1558	32	122	1293	1323
Base Hourly Labor						
Rate						
(USBR)	\$63.36	\$46.04	\$31.40	\$37.66	\$31.23	\$35.47
Billing Rate						
(WCB Cost Share)	\$93.45	\$70.35	\$49.35	\$54.60	\$50.40	\$51.45
TOTAL USBR						
COSTS	\$9,251.26	\$55,607.14	\$690.85	\$4,217.72	\$26,315.93	\$30,960.21
TOTAL COST						
SHARE	\$6,541.50	\$24,662.50	\$493.50	\$546.00	\$22,680.00	\$23,152.50

Task 1 – Project Management and Reporting

- Conduct procurement process for arundo control, restoration, and biological services contractors and drafting contracts
- Budget planning and management
- Hire seasonal biological monitors
- Review employee timesheets and contractor invoices
- Prepare interim invoices and reports for Reclamation
- Prepare Final Report for Reclamation
- Invoicing and reporting for Wildlife Conservation Board (cost share)

Task 1 will be predominantly carried out by the Project Manager and Executive Director, with assistance from the Finance Manager (invoicing) and Field Manager (contractor and biomonitor hiring).

Task 2 – Project Coordination and Outreach

- Secure Landowner Access Agreements for properties to be treated with project funds
- Communicate with landowners and managers, contractors, and RCD staff to coordinate project activities during the work season
- Field visits before, during, and after the work season to plan work and monitor and document progress
- Outreach to the broader community through conference and workshop presentations (2 total), local meetings, newsletters, news articles, and social media

Task 2 includes hours mostly for the Project Manager for overall project coordination. The Executive Director will assist with securing access agreements and public outreach. The Environmental Scientist will assist with project documentation and public outreach, and the

Field Manager and Biological Monitors will assist with pre-season field scoping for project planning.

Task 3 – Permit Compliance

- Prepare Annual Work Plans for permit agencies (CA Dept. of Fish and Wildlife, US Fish and Wildlife Service)
- Train biological monitors and contractors on permit conditions and project protocols
- Create GIS web map for field data collection in Collector for ArcGIS and update during work season
- Conduct onsite biological monitoring during all arundo control activities
- Review, edit, and prepare field-collected data on areas treated and results of biological surveys for reports
- Write Annual Reports for the CA Dept. of Fish and Wildlife, US Fish and Wildlife Service, and State Water Resources Control Board
- Assist Reclamation and contractors with NEPA and Cultural Resources compliance
- Participate in professional training related to permit compliance (e.g., species identification workshops)

The Project Manager will be responsible for most of the office-related permit compliance and GIS work under this task. The Field Manager and Biological Monitors will spend most of their designated hours in the field doing biological monitoring and field data collection with the work crews. The Executive Director and Environmental Scientist will assist the Project Manager with training and NEPA compliance.

Task 4 – Arundo Control and Revegetation

- Plan active revegetation work for year 2 of the project
- Assist contractor with seed collection and planting for active revegetation project

Arundo control work will be carried out exclusively by contractors, but RCDMC staff, particularly the Field Manager and Biological Monitors, will help implement active revegetation within the project area.

Task 5 – Performance Monitoring

- Plan and conduct plant community recovery and treatment effectiveness monitoring and enter and analyze data
- Calculate water savings with OpenET tool
- Assist contractor with hydrologic modeling work
- Monitor revegetation sites for plant establishment and survival

Performance monitoring work will be conducted mostly by the Project Manager. The Field Manager and Biological Monitors will assist with field work for the plant community and revegetation site monitoring studies.

Fringe Benefits

Fringe benefits for permanent employees are calculated at 30% of the base pay rate and include payroll taxes, workers compensation insurance, health insurance, retirement contributions, and paid time off (vacation, sick leave, holidays).

Fringe benefits for seasonal employees (Biological Monitors) are calculated at 12% of the base pay rate and include payroll taxes, workers compensation insurance, and sick leave (per CA law).

As noted above, fringe benefits are not separated out for our cost share source – we use a billing rate that includes benefits. Fringe is only calculated separately on the hours that we will bill to Reclamation.

	Executive	Project	Finance	Environmental	Field	Biological
	Director	Manager	Manager	Scientist	Manager	monitors
Fringe Percent	30%	30%	30%	30%	30%	12%
Actual Fringe Rate (\$/hr)	\$19.01	\$13.81	\$9.42	\$11.30	\$9.37	\$4.26

Table 5. Fringe rates per RCDMC employee

Travel

The bulk of travel costs identified in the budget are for vehicle mileage for project staff to visit work sites near Soledad (local travel). We estimate each trip to be approximately 50 miles roundtrip from the RCDMC office in Salinas. For all vehicle trips, we are using the current mileage rate of \$0.56/mile in the budget but will bill according to the standard federal mileage rate at the time of billing. Mileage is included for the following trips for all three years of the project:

 Travel to work sites each day of arundo control activities (Biological Monitors and Field Manager): 110 total workdays for Phase V, based on acreage treated per day in previous phases of the project, including mowing in year 1 (28 days), initial herbicide treatment in year 2 (59 days), and retreatment in year 3 (23 days). Also included are 40 total workdays for spot treatments under cost share funding.

- Pre-season field visits for project planning and check-ins during the work season (Project Manager): 14 total trips
- Assistance with active planting efforts (Biological Monitors, Field Manager, Project Manager): 16 total trips
- Plant community and treatment effectiveness monitoring (Project Manager with one Biological Monitor): 8 total trips

We are budgeting for two professional conferences or workshops for the Project Manager to attend to present on the project and learn from other practitioners (e.g., California Invasive Plant Council or California Society for Ecological Restoration), and two training workshops for the Field Manager (e.g., training on species of special concern, GIS methods, or other topics that benefit the project). These trips are budgeted at 200 miles of travel each, with an estimated three days at the current Federal per diem rate for Monterey County of \$233/day to include lodging and meals. The actual amount billed will reflect per diem rates at the time of billing. Registration fees are included under 'Other Expenses' in this proposed budget.

Equipment

NA – All equipment used in the project will be owned or rented by contractors.

Materials and Supplies

Materials and supplies are broken into three categories: field supplies for biological monitoring work; personal protective equipment for RCDMC employees working on or visiting field sites; and supplies to use in the active revegetation project (additional supplies will be provided by contractor). Costs are broken out in detail in below.

Cost estimates are based on the current prices of items (including sales tax), as determined during preparation of this proposal.

Supplies and Materials	Unit cost	#	Quantity type	Total cost	Purpose
Field supplies					
iPad mini tablets	650.00	2	tablets	\$1,300.00	Field data collection: mapping treated areas, marking sensitive species habitats, delineating access routes, etc
iPad mini screen protectors	\$10.00	3	pack of 2	\$30.00	Protect iPad screen, replace annually

Table 6. Descriptions of supplies and materials to be used in project implementation

iPad mini case	\$20.00	2	case	\$40.00	Protect iPad from dust and
Anemometers	\$80.00	2	units	\$160.00	Measure wind speed to monitor conditions for herbicide application (no spraying with >10mph wind)
Flagging tape	\$25.00	6	box of 10 rolls	\$150.00	Mark no disturbance buffers for protected species and habitats
Meter tapes	\$25.00	2	units	\$50.00	Measure transects for plant community monitoring
Misc. supplies (iPad cords, batteries, etc)	\$75.00	3	years of supplies	\$225.00	Replacements for items that wear out
Personal protective	equipment	for	field work		
Gloves	\$16.67	6	pairs	\$100.00	Leather gloves for Biological Monitors for working in the field
Face masks/respirators	\$25.00	3	box of 10 masks	\$75.00	Protect against dust, herbicide exposure, and disease
Safety vests	\$20.00	3	vests	\$60.00	Increase visibility of biological monitors
First Aid kits	\$30.00	3	kits	\$90.00	For field workers to keep on site
Supplies for active re	evegetatio	n			
Belly grinder seed spreader	\$65.00	2	units	\$130.00	Efficiently spread native seed throughout treated arundo areas
Pin flags	\$17.00	2	packs of 100	\$34.00	Mark sites of planted plugs and cuttings

Contractual

Arundo Mowing Contractor

The mowing contractor will perform biomass reduction on approximately 105 net acres of arundo throughout the project area in the first year of the project. Based on the work conducted under previous project phases, we estimate this work to take 28 days (typically 10 hr days) and to cost \$3000 per acre, or \$315,000 total. Our most recent contract for a mowing contractor included labor rates of \$30/hr for the mowing operators and \$450/hr for the Barko mowing equipment. They typically deploy two mowers to work concurrently. We will conduct a competitive bidding process for this contractor consistent with RCDMC Procurement Policy.

Arundo Herbicide Contractor

The herbicide contractor will perform initial herbicide treatment in the second year of the project and herbicide retreatment in the third year. Cost estimates are based on previous project phases. For initial treatment, we estimate the cost to be \$4500/acre for unmowed arundo (apx. 45 acres = \$202,500), \$4000/acre for mowed arundo (apx. 105 acres = \$420,000), and \$725/acre for retreatment (150 acres = \$108,750). This amounts to \$731,250 for Phase V work that will be billed to Reclamation. We expect initial herbicide treatment to take 59 days and retreatment to take 23 days, typically 6-10 hours per day depending on weather conditions. The crew size is typically 12-16 workers for initial treatment and 8-12 for retreatment.

An herbicide contractor (already procured) will also conduct spot treatments across 1500 riparian acres with state cost share funds for an estimated amount of \$290,000.

Rates for labor and materials for our current herbicide contractor for Phase IV of the Salinas River Arundo Control Project are shown in Table 7. We expect rates to be similar but to increase with inflation at the time we negotiate the contract for this project (Phase V), which will be awarded based on a competitive bidding process per RCDMC Procurement Policy.

Rates for Staff Positions	Unit	Rate
Field Supervisor	Hour	\$70.00
Chainsaw Operator	Hour	\$55.00
Herbicide Applicator	Hour	\$50.00
Laborer	Hour	\$50.00
GIS Specialist	Hour	\$80.00
Admin	Hour	\$40.00
Equipment & Material Resources	Unit	Rate
60 Gallon Power Sprayer (day rate)	Day	\$150.00
4 Wheel Drive Tractor w/Sprayer (day rate)	Day	\$400.00
6 Wheel ATV (day rate)	Day	\$250.00
Aquaneat Herbicide (per gallon)	Gallon	\$60.00
Polaris Herbicide (per gallon)	Gallon	\$130.00
Dyneamic Adjuvant (per gallon)	Gallon	\$49.00
Quest Water Conditioner (per gallon)	Gallon	\$40.00
Blue Dye (per gallon)	Gallon	\$42.00

Table 7. Current rates for herbicide contractor

Dendra, Inc. – Project Consultant

Dendra, Inc. has been a consistent consultant throughout the history of the Salinas River Arundo Eradication Project. Dendra, Inc. consults on multiple arundo control projects throughout California and uses these experiences to help plan and implement our program. Some tasks that Dendra, Inc. is expected to assist RCDMC with include securing landowner access agreements, site scoping and work season planning, permit reporting, mapping treated areas, contractor training, and report writing. We are budgeting \$5000 for this assistance to be paid by Reclamation and \$10,000 by state cost share funds.

Dendra, Inc.'s current billing rate is \$85/hr, which may increase when we negotiate a new contract for Reclamation funding. All supplies, materials, travel, etc. are included in the billing rate.

Restoration Contractor

The restoration contractor will work with RCDMC to implement active restoration with native plants in arundo treatment areas following initial herbicide treatment. The contractor, along with RCDMC staff, will collect seed and cuttings from within the Salinas River riparian area from spring through fall in the second year of the project. The contractor will grow out approximately 5000 plants from the collected seed in greenhouses to install at the start of the growing season (winter). Additional seed may be purchased by the contractor from commercial seed suppliers as needed.

We are including \$40,000 in the budget for the restoration contractor. We estimate these costs will be spent as follows, based on our most recent contract with a restoration contractor for similar services:

- Personnel: \$20,000
- Supplies (seeds, pots, planting tools, etc): \$7000
- Travel: \$5000
- Indirect: \$8000

The contract for restoration services will be procured using a competitive bidding process consistent with RCDMC Procurement Policy.

Biological Services Contractor

A biological services contractor will be engaged to conduct permit-mandated pre-activity surveys for species and habitats of concern prior to all arundo control activities. Based on costs for work under prior project phases, we estimate that for Phase V, to be paid with Reclamation funds, initial surveys conducted prior to mowing in year 1 will cost \$63,000, surveys conducted prior to initial herbicide application in year 2 will cost \$49,500, and surveys conducted prior to retreatment will cost \$15,000. We are also including \$25,000 in the budget to be paid by state cost share funds to conduct surveys prior to spot-treating 1500 riparian acres upstream of Phase V. These costs include labor, mileage, and supplies.

The biological services contractor will be procured through a competitive bidding process consistent with RCDMC Procurement Policy. Hourly billing rates for the biological services contractor currently under contract with RCDMC for Phase IV of the Salinas River Arundo Eradication Project are \$67.50 for the senior ecologist and \$58.50 for wildlife biologists. The contractor will bill mileage for traveling to work sites at the federal mileage rate.

FlowWest Engineering

FlowWest Engineering developed a 2-dimensional HEC-RAS hydraulic model for the Salinas River to model surface water elevation and water velocity under different vegetation management scenarios. RCDMC currently has a contract with FlowWest to use this model to analyze the hydrologic benefits of Phase IV of the Salinas River Arundo Control Project for a total cost of \$68,070, which will be paid with state cost share funds. We are including an additional \$15,000 in the budget to be paid by Reclamation to include the impacts of Phase V in the analysis (see "Performance Measures" in Technical Proposal for more information on specific tasks and deliverables).

Our existing contract with FlowWest includes the following hourly billing rates:

- Principal Civil Engineer: \$210
- Principal Geomorphologist: \$210
- Staff Engineer: \$155

Labor Compliance Contractor

The costs for contracting a Labor Compliance consulting firm to assist RCDMC in confirming and asserting contractor compliance with federal and state labor regulations are estimated at 1.5% of the total contract costs to be paid by Reclamation (cost share portions of contractor costs not included in this tally) for contracts subject to Prevailing Wage requirements. Those contracts, for vegetation management (mowing & spraying) and restoration, amount to \$1,086,250. The estimated Labor Compliance contractor fee of 1.5% of those contract values (\$16,293.75) is based on standard fees applied by a local firm (Contractor Compliance and Management, Inc.) that regularly assists California RCDs with this service.

Rein and Rein Legal Services

We are including \$2000 to cover legal review of contract solicitation and award documents, as provided with our consulting attorney, Terry Rein. She provides our RCD with a 'non-profit'

rate of \$225/hour, for which we expect her legal review services for no more than 8.75 hours based on prior work.

Third-Party, In-kind Contributions

Although we expect third-party in-kind contributions to this project, for example landowner and farm manager time reviewing and signing access agreements and assisting with property access during work activities, we are not including these contributions in the budget. All of the required cost-share is projected to come from the California Wildlife Conservation Board.

Environmental and Regulatory Compliance Costs

RCDMC spoke with staff from our local Reclamation office in November to discuss costs for completing NEPA and Cultural Resources review. They estimated a cost of no more than \$10,000 for Reclamation staff to complete this work on their own, and recommended using a consultant to help prepare the necessary documents. We are including \$5000 for Reclamation's costs and \$5000 from environmental consulting firm Provost and Pritchard to assist with environmental and regulatory compliance. USBR personnel's estimate of cost was based on discussion of our project's supporting communications from Army Corps of Engineers (claimed no permit needed by virtue of lack of soil disturbance) and 'no-take' Technical Assistance letters from US Fish & Wildlife and NOAA National Marine Fisheries Services. The anticipated NEPA documentation is a Categorical Exception supported by consultation with the federal wildlife agencies and cultural resources review.

Other Expenses

Other expenses include annual permit fees for the California Department of Fish and Wildlife, which are calculated based on the number of "maintenance activities" performed that year Three fees will be billed to Reclamation- for mowing in year 1, initial chemical treatment in year 2, and chemical retreatment in year 3. Two fees will be billed to state cost share funds for retreatment in years 1 and 2. We estimate these fees to be \$325 on average based on increases above current rates.

We also anticipate annual fees for our NPDES permit from the State Water Resources Control Board. Cost share funds will pay for years 1 and 2, and Reclamation will be billed for year 3. We estimate the annual fee to be \$3000 based on increases above current rates.

As noted in the Travel section above, we are budgeting for two conferences for the Project Manager and two workshops/trainings for the Field Manager to attend. Registration costs for conferences and workshops vary, but in our experience they typically range from \$500-1000, therefore we are using an estimated cost of \$750 for each of four registration fees.

We are also including costs for iPad data plans in our budget. Cellular data plans are necessary for instantaneous updating of data in the field using the Collector for ArcGIS app, which enables information-sharing between multiple field workers and office staff in real time. This project

will pay for plans for two iPads for a total of 68 combined months (44 to be paid by Reclamation and 24 by cost share funding). The rate of \$45/month is based on the current rate plus a slight anticipated increase.

Indirect Costs

Indirect Costs for the Reclamation-funded aspects of this project are based on a NICRA with the USDA NRCS of 24.35% of direct payroll costs, using the Simplified Allocation Method consistent with 2 CFR 200 using the formula of 'total indirect cost pool (minus distortions)/direct salaries + direct benefits'. The total amount of \$38,858.51 for indirect costs listed in the budget are based on the \$159,583.20 for combined personnel and fringe costs that will be billed to Reclamation.

For our cost share source, the California Wildlife Conservation Board, we are allowed a 20% indirect rate on all direct costs. The \$15,831.20 in the budget for cost share indirect is based on the combined costs for personnel and mileage to be billed to WCB (\$79,156).



Gavin Newsom, Governor NATURAL RESOURCES AGENCY DEPARTMENT OF FISH AND WILDLIFE

WILDLIFE CONSERVATION BOARD Mailing Address: P.O. Box 944209 Sacramento, California 94244-2090 www.wcb.ca.gov (916) 445-8448

12/8/2021

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

USE OF GRANT FUNDS TO MATCH USBR COST SHARE OBLIGATION

Dear Grant Review Committee:

On April 4, 2019, the Wildlife Conservation Board (WCB) appropriated \$2,868,781 in State funds for a Stream Flow Enhancement Program grant (WC-1839AP) to the Resource Conservation District of Monterey County (RCDMC) to treat 215 acres of Arundo for habitat improvement and water conservation under their Salinas River Arundo Eradication Program. Of these funds, \$648,143 remain to be used as of November 1, 2021, and are to be expended between then and April 30, 2023.

This match will be used as State cost share for the RCDMC "Salinas River Arundo Eradication Project Phase V" application to the U.S. Bureau of Reclamation Water SMART Environmental Water Resources Projects NOFO, if USBR awards the grant request to RCDMC.

This match is put forward with our full knowledge and support in order to leverage other nonfederal and federal grant dollars. These State-appropriated funds came from the Water Quality, Supply and Infrastructure Improvement Act of 2014 (Proposition 1), California Water Code Section 79733 and will not be used to match any other federal grant programs. If you have any questions, please contact Ms. Rebecca Fris, Assistant Executive Director, at (916) 212-5637.

Sincerely, DocuSigned by:

John P. Donnelly John Donnelly Executive Director

ec: Julie Vance, CDFW, Central Region

ATTACHMENT 3: Environmental and Cultural Resources Compliance and Required Permits or Approvals

Environmental and Cultural Resources Compliance

Below are answers to the questions listed in Section H.1. of the NOFO:

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

The proposed project may have temporary environmental impacts associated with work activities, with a goal of long-term environmental benefits. The work for this project occurs entirely above-ground, with no earth disturbance.

Step 1 includes mastication of live *Arundo donax* with large tractors, which can cause disturbance to air quality from dust. These impacts are expected to be minimal and temporary and cannot be avoided.

Steps 2 and 3 include herbicide application to arundo resprouts. Our permits and our established best management practices minimize potential environmental impacts to the extent possible. This includes using only aquatic-approved formulations of herbicide that have low toxicity to animals, applying only when wind speeds are below 10 mph to avoid overspray, and separating arundo canes from intertwined native vegetation before treatment to avoid accidental exposure of non-target plants.

All work areas and vehicle access routes will be surveyed for species of concern and sensitive habitats by biologists prior to work occurring. Habitats such as mammal burrows, bird nests, wetlands, rare plants, etc. will be flagged off as no-disturbance areas. Additionally, a biological monitor will be on site during all work activities to sweep the area immediately prior to work and to respond to any wildlife sightings or resource concerns.

Question: Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project? While several Federal threatened or endangered species have either historically occurred or are thought to have potential to occur in the project area (see Table 1), the only species we know occurs is South-Central California Coast steelhead trout (SCCC steelhead, *Oncorhynchus mykiss*), for which the Salinas River is listed as designated critical habitat. SCCC steelhead do not use the project area to spawn, but migrate through this section of the river to and from spawning grounds upstream. The NOAA National Marine Fisheries Service issued a Technical Assistance letter for the program that concluded that the project "would not impact SCCC steelhead." Improvement of instream habitat for SCCC steelhead is a goal of the project.

One candidate species is also know to occur in the riparian area of the project: Monarch butterfly (*Danaus plexippus*). Project activities have the potential to impact the monarch butterfly by accidental destruction of milkweed (*Asclepias* spp.), which occur infrequently in the riparian area. Biological contractors are instructed to flag any milkweed plants so that work crews are alerted to their presence and can avoid impacts. Ultimately, removing arundo and planting milkweed through this project should benefit monarch butterflies.

Our program permits provide measures to minimize the potential for impacts to other Federally-listed species, although none have been documented in the eight years we have been conducting this work. In their Technical Assistance letter, the US Fish and Wildlife Service concluded that our project is unlikely to result in take of least Bell's vireo or California redlegged frog.

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

During the permit development process for the overall program, the US Army Corps of Engineers determined that while work does fall within the Water of the United States but because there is no ground disturbance there is no impact to the waters themselves.

Question: When was the water delivery system constructed?

NA

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

No

Question: Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?

NA, the project will not impact any human-made structures.

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

Currently, there are no known archeological sites in the proposed project area, although a records search at the Northwest Information Center at Sonoma State University and a review of archaeological and historic research reports for the Salinas River and its surrounding area conducted in 2013 for the Salinas River Stream Maintenance Program Draft EIR (MCWRA, 2013) indicate that the cultural resources sensitivity of the Program area along the Salinas River is moderate to high. That records search identified that most (i.e., approximately 90%) of the area along the Salinas River is not previously surveyed for the presence of cultural resources (e.g., prehistoric sites, historic sites, and isolated artifacts) and that cultural resources (i.e., prehistoric and historic sites) were identified in the previously surveyed areas along the river.

That said, the same document noted that within the river corridor, work areas (such as ours) within the 5- and 10-year floodplains that are subject to flooding at regular intervals, have a very low to low likelihood of containing intact cultural resources. Work under the Salinas River Arundo Eradication Program is all above-ground mowing and herbicide treatment with shallow, hand-tool planting disturbance for native plant seeding and planting. As such, our work to date has only required cultural resources surveys or record searches in two recent instances where USDA NRCS funding was integrated to augment the project. In both cases, there were no resources identified. To date, outreach to local Tribal groups has not elicited any concerns regarding potential disturbance of archeological sites or cultural resources.

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

No

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

No, there are no tribal lands or known sacred sites in the proposed project areas. All work will occur on private land.

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

No, the project has a goal of eradicating the most noxious invasive plant in the Salinas River.

Required Permits or Approvals

This Salinas River Arundo Eradication Program is fully permitted and has been operating since 2014. A CEQA Mitigated Negative Declaration (SCH#2011091078) was completed for the program by the RCDMC as lead agency in 2011. The program has an active California Department of Fish and Wildlife Streambed Alteration Agreement effective through 2026 (SAA1600-2012-0154-R4). The US Fish and Wildlife Service reviewed the program and issued a Letter of Technical Assistance (08EVEN00-2014-CPA-0112) in 2014 approving methods used in the program to be used with a determination that no adverse effect to federally listed species is likely. This letter was updated on June 14, 2018 at our request. National Oceanographic and Atmospheric Agency/National Marine Fisheries Service also issued a concurrence letter (#151416SWR2013SR00167) approving methods used in the program to be used with a determination sed in the program to be used with a determination that no adverse effect to federally. The Army Corps of Engineers (ACOE) also reviewed program documents and approaches and made a determination that formal consultation or issuance of permits was not required. The program has obtained a State Water Resources Control Board NPDES permit allowing the use of aquatic approved herbicides in riparian areas (enrollee #3-27AP00001).

All project permits can be viewed on our website at: <u>https://rcdmonterey.org/salinas-river-programs</u>

ATTACHMENT 4

Letters of Partnership and Support

- Salinas Valley Basin Groundwater Sustainability Agency
- District 20 Representative Jimmy Panetta
- Monterey County Board of Supervisors
- State Senators Anna Caballero and John Laird
- State Assemblypersons Robert Rivas and Mark Stone
- Monterey County Agricultural Commissioner
- Monterey County Water Resources Agency
- Salinas River Channel Stream Maintenance Program's River Management Unit Association
- Mission Ranches, Alarid Farms, and Salinas Land Company (all Salinas River landowners)
- The Nature Conservancy
- Trout Unlimited



P.O Box 1350 Carmel Valley, CA 93924 (831) 471-7512, ext. 203 www.svbgsa.org

December 7, 2021

Bureau of Reclamation Attn: Josh German and/or Robin Graber P.O. Box 25007, MS 86-69200 Denver, CO 80225

Dear Mr. German and Ms. Graber,

I am writing you to express the Salinas Valley Basin Groundwater Sustainability Agency's (GSA) support for the RCD of Monterey County's **Salinas River Arundo Eradication Project** at the full amount requested in their submission to the Bureau of Reclamation. The GSA is a partner with the RCD on water resource and watershed management objectives in the Salinas Valley Basin. Modeled historical water budgets indicate that deep percolation of Salinas River flow to groundwater in the Upper Valley and Forebay Subbasins accounts for 60-65% of the groundwater supply. The Arundo population impacting surface water availability in the Salinas River is a high priority for our two agencies because of the benefits to freshwater ecosystems and groundwater replenishment.

The continued eradication of Arundo in the Salinas River Basin was ranked as the #1 project for groundwater stakeholders in the Basin during recent groundwater sustainability planning efforts. Our groundwater stakeholders consider the **Salinas River Arundo Eradication Project** as a cost effective and environmentally beneficial project. The 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan, approved by the California Department of Water Resources in 2021, also identifies Arundo removal as a key management action to protect groundwater resources. The GSA received 125 letters from Salinas Valley landowners and agricultural representatives in support of comprehensive river maintenance which includes Arundo removal.

Ongoing groundwater recharge and management concerns in the Salinas Valley have made even more critical the need to address the threat posed by the extensive Arundo stands in the river for its remarkable water consumption, which is many times that of native vegetation. Targeted, geomorphically-informed stream maintenance and floodplain enhancement can improve stream function both morphologically and biologically. Removing dense non-native vegetation provides vegetation free channel bottom areas for infiltration, stabilizes stream banks and earthen levees by reducing downstream velocities, and reduces flood risk. Allowing and planting native species to reestablish in areas where invasive species have become dominant is beneficial for native habitat. Infiltration through the streambed accounts for a significant portion of the groundwater budget, and invasive species such as Arundo, which can take up to 4 times as much water as native riparian species, thereby negatively impact both river flows as well as infiltration in to the subsurface through the streambed (Cal-IPC, 2011).

This work needs to be carried forward in the near term. The RCD has made excellent progress in the years it has been operating the program and it has earned support from landowners and local governments along the way. We need the investment of Bureau of Reclamation funds to continue this work on the scale necessary to complete it in the most timely and cost-effective manner for the benefit of the ecological health of the river, agricultural lands and operations, and our local economy.

Please expedite the funding of this proposal, and do not hesitate to contact me about any questions on this matter. I can be reached at 831-535-3979 or meyersd@svbgsa.org. Thank you again for your investment into our watersheds and groundwater resources.

Tos

Donna Meyers, General Manager



CHIEF DEPUTY WHIP

COMMITTEE ON WAYS AND MEANS

COMMITTEE ON AGRICULTURE

COMMITTEE ON ARMED SERVICES

Congress of the United States House of Representatives Mashington, DC 20515–0520

406 CANNON HOUSE OFFICE BUILDING WASHINGTON, DC 20515 (202) 225–2861

> 142 WEST ALISAL ROOM E116 SALINAS, CA 93901 (831) 424–2229

701 OCEAN STREET ROOM 318 SANTA CRUZ, CA 95060 (831) 429–1976

11/23/2021

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office U.S. Bureau of Reclamation Department of the Interior

To Whom It May Concern:

I write to urge your approval of funding of the fifth phase of the Resource Conservation District (RCD) of Monterey County's "Salinas River Arundo Eradication Project" at the full amount requested in their submission to the WaterSMART Environmental Water Resources Projects funding opportunity. It is imperative we continue to develop control efforts along the river to support steelhead trout and other wildlife dependent upon flows in the Salinas River.

The untreated arundo stands that remain along the Salinas River corridor pose an increasing threat to the wildlife, agriculture, and communities that rely and live along the river. This proposal will complete treatments of 150 acres of arundo along five to ten river miles.

The RCD has successfully completed the prior phases of the program down roughly half the length of the river, with the eager support of the Salinas River landowner community and local agencies. As the representative for this district, I am proud to support collaborative solutions that meet both the human and environmental needs from the river. The RCD has been a vital collaborator with private and public partner organizations, landowners, and the local, state, and federals levels of government to advance effective management to the benefit of the Salinas River corridor. Ongoing groundwater recharge and management concerns in the Salinas Valley have made critical the need to address the threat posed by the extensive and invasive arundo stands in the river for both flooding and its water consumption, which is many times that of native vegetation.

So far, this work has been funded primarily through grants from the California Wildlife Conservation Board, with additional contributions from the Agriculture Commissioner, California Department of Food and Agriculture, and private landowners. The investment of U.S. Bureau of Reclamation funds will leverage those state and local contributions to continue this

Congress of the United States Washington, DC 20515

work on the scale necessary to complete it in the most timely and cost-effective manner, which will benefit the health of the river, agricultural lands and operations, and our local economy.

Please give this proposal your highest consideration for funding, and do not hesitate to contact me about any questions on this matter.

incerely, Jimmy Panetta Member of Congress

MONTEREY COUNTY

BOARD OF SUPERVISORS

LUIS A. ALEJO, *District 1* JOHN M. PHILLIPS, *District 2* CHRIS M. LOPEZ, *District 3* WENDY ROOT ASKEW, *Chair, District 4* MARY ADAMS, *Vice Chair, District 5*

November 23, 2021

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

RE: RCD of Monterey County Salinas River Arundo Eradication Project - Support

Dear Review Committee:

On behalf of the Monterey County Board of Supervisors I write to urge your approval of funding of the fifth phase of the Resource Conservation District (RCD) of Monterey County's *'Salinas River Arundo Eradication Project'* at the full amount requested in their submission to the WaterSMART Environmental Water Resources Projects funding opportunity. Time is of the essence to continue control efforts along the river in order to hasten the benefit for steelhead trout and other wildlife dependent upon flows in the Salinas River.

The untreated arundo stands that remain along the Salinas River corridor pose an increasing threat to the wildlife, agriculture, and communities that use it and live along the river. This proposal will complete treatments of 150 acres of arundo along 5-10 river miles.

The RCD has permits in place and has successfully conducted the prior phases of the program down roughly half the length of the river, with the eager support of the Salinas River landowner community and local agencies. The County has and will continue to work hard to support collaborative solutions that meet the human and environmental needs of the river. The RCD has been a vital collaborator with private and public partner organizations and landowners to advance effective management for multiple benefits of the Salinas River corridor. Ongoing groundwater recharge and management concerns in the Salinas Valley have made even more critical the need to address the threat posed by the extensive arundo stands in the river for both flooding and its remarkable water consumption, which is many times that of native vegetation.

So far, this work has been funded primarily through grants from the California Wildlife Conservation Board, with additional contributions from the Agricultural Commissioner, California Department of Food and Agriculture (CDFA), and private landowners. The investment of U.S. Bureau of Reclamation funds will leverage those state and local contributions to continue this work on the scale necessary to complete it in the most timely and cost-effective manner for the benefit of the health of the river, agricultural lands and operations, and our local economy.

For these reasons Monterey County is pleased to support this project and request your full funding approval.

Wendy Rt on

Wendy Root Askew Chair, Board of Supervisors



CAPITOL OFFICE STATE CAPITOL, ROOM 5052 SACRAMENTO, CA 95814 (916) 651-4012

DISTRICT OFFICES 510 W. MAIN STREET, SUITE E MERCED, CA 95340 (209) 726-5495

132 W. GABILAN STREET, SUITE 101 SALINAS, CA 93901 (831) 769-8040

SENATOR.CABALLERO@SENATE.CA.GOV WWW.SENATE.CA.GOV/CABALLERO

December 2, 2021

Josh German WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

RE: WaterSMART Environmental Water Resources Projects funding application-

Dear Mr. German:

I am writing to express my support for the funding application submitted by Resource Conservation District (RCD) of Monterey County, for the Salinas River Arundo Eradication Project in the amount of \$1.7 million for the WaterSMART Environmental Water Resources Projects funding opportunity. Time is of the essence in this project in order to continue control efforts along the river to hasten the benefit for steelhead trout and other wildlife dependent upon water flows in the Salinas River.

The RCD has its permits in place and has successfully conducted the prior phases of the program along roughly half the length of the Salinas river, with the eager support of the Salinas River landowner community and local agencies. In addition, the RCD has been a vital collaborator with private and public partner organizations and landowners to advance effective management for multiple benefits of the Salinas River corridor. Ongoing groundwater recharge and management concerns in the Salinas Valley have made critical the need to address the threat posed by the extensive arundo stands in the river for both flooding and its remarkable water consumption, which is many times that of native vegetation. Pertinent to this application is the understanding that arundo is a non-native plant and its eradication in imperative to the maintenance of native plant and animal species and the natural water shed in the Salinas Valley.

Previously, this work has been funded primarily through grants from the California Wildlife Conservation Board, with additional contributions from the Ag Commissioner, CDFA, and private landowners. The investment of US Bureau of Reclamation funds will leverage those state and local contributions to continue this work on the scale necessary to complete it in the most



SENATOR ANNA M. CABALLERO TWELFTH SENATE DISTRICT



CHAIR BUDGET SUBCOMMITTEE #4 ON STATE ADMINISTRATION & GENERAL GOVERNMENT

CHAIR SELECT COMMITTEE ON PREPARING CALIFORNIA'S FUTURE WORKFORCE

VICE CHAIR JOINT COMMITTEE ON FAIRS ALLOCATION & CLASSIFICATION

MEMBER AGRICULTURE BANKING & FINANCIAL INSTITUTIONS HOUSING NATURAL RESOURCES & WATER timely and cost-effective manner for the benefit of the health of the river, agricultural lands and operations, and our local economy.

The untreated arundo stands that remain along the Salinas River corridor pose a threat to the wildlife, agriculture, and communities that use the river and live along it. This proposal will complete treatment of 150 acres of arundo along 5-10 river miles in the Salinas River.

Thank you for your time and consideration. Please do not hesitate to contact my Salinas District Office at (831) 769-8040 if you have any questions or would like to discuss the issue further.

ŧ

Cabiller

Anna M. Caballero Senator 12th Senate District



December 3, 2021

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

Re: Support for Salinas River Arundo Eradication Project Grant Proposal

To Whom It May Concern:

I am writing you to urge your approval of funding of the fifth phase of the RCD of Monterey County's 'Salinas River Arundo Eradication Project'. The untreated arundo stands that remain along the Salinas River corridor pose an increasing threat to the wildlife, agriculture, and communities that use it and live along it. Time is of the essence to continue control efforts along the river to hasten the benefit for steelhead trout and other wildlife dependent upon flows in the Salinas River.

The RCD has its permits in place and has successfully conducted the prior phases of the program down roughly half the length of the river, with the eager support of the Salinas River landowner community and local agencies. The RCD has been a vital collaborator with private and public partner organizations and landowners to advance effective management for multiple benefits of the Salinas River corridor. Ongoing groundwater recharge and management concerns in the Salinas Valley have made even more critical the need to address the threat posed by the extensive arundo stands in the river for both flooding and its remarkable water consumption, which is many times that of native vegetation.

The investment of US Bureau of Reclamation funds will leverage previous state and local contributions to continue this work on the scale necessary to complete it in the most timely and cost-effective manner for the benefit of the health of the river, agricultural lands and operations, and our local economy.

Please give this proposal your highest consideration for funding, and do not hesitate to contact me about any questions on this matter.

du Land

John Laird State Senator, 17th District

STATE CAPITOL P.O. BOX 942849 SACRAMENTO, CA 94249-0030 (916) 319-2030 FAX (916) 319-2130 **E-MAIL** Assemblymember.RRivas@assembly.ca.gov



DISTRICT OFFICE 60 WEST MARKET STREET, SUITE 110 SALINAS, CA 93901 (831) 759-8676 FAX (831) 759-2961

> 525 MONTEREY STREET SOLEDAD, CA 93960

17555 PEAK AVENUE, SUITE 100 MORGAN HILL, CA 95037 (831) 256-1272

ROBERT RIVAS ASSEMBLYMEMBER, THIRTIETH DISTRICT

December 6, 2021

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

Re: Support for Funding of RCD of Monterey County's Salinas River Arundo Eradication Project

To whom it may concern:

I write in support of funding for the fifth phase of the Resource Conservation District (RCD) of Monterey County's 'Salinas River Arundo Eradication Project' at the full amount requested in their submission to the WaterSMART Environmental Water Resources Projects Review Committee. This funding is critical to continue control efforts along the river in order to improve conditions for steelhead trout and other wildlife dependent upon flows in the Salinas River.

The untreated arundo stands that remain along the Salinas River corridor pose an increasing threat to the wildlife, agriculture, and communities that use it and live along it. This proposal will support 150 acres of complete treatments to arundo along 5-10 river miles. The RCD has the permits needed to conduct treatments and has successfully conducted prior phases of the program down approximately half the length of the river.

These efforts have had the eager support of the Salinas River landowner community and local agencies. The RCD has been a vital collaborator with private and public partner organizations and landowners to advance effective management for multiple benefits of the Salinas River corridor. Ongoing groundwater recharge and management concerns in the Salinas Valley have made even more critical the need to address the threat posed by the extensive arundo stands in the river for both flooding and its remarkable water consumption, which is many times that of native vegetation.

This work has been primarily funded through grants from the California Wildlife Conservation Board, with additional contributions from the Ag Commissioner, CDFA, and private landowners.



The investment of US Bureau of Reclamation funds will leverage state and local contributions to continue this work on the scale necessary to complete it in the most timely and cost-effective manner for the benefit of the health of the river, agricultural lands and operations, and our local economy.

If your office has any questions or concerns about these requests, please do not hesitate to reach out to my office at (831) 759-8676

RÖBERT RIVAS Assemblymember, District 30 State of California

COMMITTEES BANKING AND FINANCE BUDGET BUDGET SUBCOMMITTEE NO. 5 ON PUBLIC SAFETY HUMAN SERVICES NATURAL RESOURCES

SELECT COMMITTEES CHAIR, COASTAL PROTECTION AND ACCESS TO NATURAL RESOURCES VICE CHAIR, JOINT COMMITTEE ON FISHERIES AND AQUACULTURE

December 6, 2021

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

RE: Support for Salinas River Arundo Eradication Project

To Whom It May Concern:

I am writing to express my support for WaterSMART Environmental Water Resources Projects funding of the fifth phase of the Resource Conservation District of Monterey County's (RCD) "Salinas River Arundo Eradication Project" at the full amount requested in their submission.

The untreated, invasive arundo stands that remain along the Salinas River corridor pose an increasing threat to the wildlife, agriculture, and communities that use and live along it. This species inhibits the natural functioning of this habitat and consumes an outsized amount of water compared to its native counterparts. Arundo also creates a significant flooding hazard amongst some of this region's most fertile agricultural lands. Ongoing groundwater recharge and management concerns in the Salinas Valley have made even more critical the need to address the threat posed by the extensive arundo stands in the river.

Control has been initiated over 650 acres of arundo from San Ardo to Soledad, out of an estimated 1,500 infested acres total. Phase five of this project will complete treatments of 150 acres along five to ten river miles. Time is of the essence to continue control efforts along the river, in order to hasten the benefit for steelhead trout and other wildlife dependent upon healthy flows in the Salinas River.

This project is shovel-ready. The RCD has its permits in place and has successfully conducted the prior phases of the program down roughly half the length of the river, in collaboration with private and public partner organizations and landowners to advance effective management of this corridor.

With water conservation a major challenge for the region, this project offers a solution that emphasizes returning the watershed to its natural functioning and inherent resilience. So far, this work has been funded primarily through grants from the California Wildlife Conservation Board, with additional contributions from the Agricultural Commissioner, California Department of Food and Agriculture, and private landowners. The investment of US Bureau of Reclamation funds will leverage those state and local contributions to continue this work on the scale necessary to complete it in the most timely and cost-effective manner for the benefit of the health of the river, agricultural lands and operations, and our local economy.

Thank you for your consideration of this worthy project. Please feel free to contact me at (831) 649-2832 if you have any questions.

Sincerely,

a

Mark Stone Assemblymember, 29th District



STATE CAPITOL P.O. BOX 942849 SACRAMENTO, CA 94249-0029 (916) 319-2029 FAX (916) 319-2129

DISTRICT OFFICES 701 OCEAN STREET, ROOM 318B SANTA CRUZ, CA 95060 (831) 425-1503 FAX (813) 425-2570

99 PACIFIC STREET, SUITE 575G MONTEREY, CA 93940 (831) 649-2832 FAX (831) 649-2935



AGRICULTURAL COMMISSIONER/SEALER OF WEIGHTS & MEASURES HENRY S. GONZALES, AGRICULTURAL COMMISSIONER/SEALER 1428 ABBOTT STREET - SALINAS, CALIFORNIA 93901 PHONE: (831) 759-7325 FAX: (831) 422-5003 WEBSITE: ag.co.monterey.ca.us



December 8, 2021

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

To Whom it May Concern,

I am writing you to urge your approval of funding of the fifth phase of the RCD of Monterey County's 'Salinas River Arundo Eradication Project' at the full amount requested in their submission to the WaterSMART Environmental Water Resources Projects funding opportunity. Time is of the essence to continue control efforts along the river in order to hasten the benefit for steelhead trout and other wildlife dependent upon flows in the Salinas River.

We have directly supported the RCD's work to date in developing this project and are invested in the project outcome and want to see full eradication along the whole river, as arundo and other noxious weeds threaten not only the health and function of the river, but our agricultural economy in the form of flood risk and excessive water consumption. Our engagement in the program includes direct funding of project expenses and the technical assistance of our Ag Biologist as needed for the duration of the program. We have supported this work continuously since 2009 and are currently committed to supporting this project (via in-kind and direct contributions) in a two-year professional services agreement through June 2022. We are preparing to extend the agreement for an additional two years starting July 1, 2022.

The Agricultural Commissioner's Office is especially concerned that this work continues because of the growing density of non-native vegetation in the river and the increasing likelihood of flooding and associated damage to adjacent lands and the local economy. This concern is heightened with the understanding that the flows in the river over time are feeding a continually expanding population of arundo instead of benefiting wildlife and groundwater recharge.

The RCD has its permits in place and has successfully conducted the program since 2014 from the upper watershed working downstream, with the eager support of the Salinas River landowner community and local agencies. The RCD has been a vital collaborator with private and public partner organizations and landowners to advance effective management for multiple benefits of the Salinas River corridor. The long-standing drought has made even more critical the need to address the threat posed by the extensive Arundo stands in the river, not only for flooding, but also for its remarkable water consumption, which is many times that of native vegetation. The RCD has the trust and confidence of the Salinas River landowners. They have worked diligently with all of the agencies with regulatory authority on the river to develop and implement a program that will improve the





river's wildlife habitat and water availability while relieving flood risk. The Agricultural Commissioner's Office staff is in regular communication with the RCD in the development and execution of this program. We are ready to continue our participation and conduct our own noxious riparian weed treatment work in concert with the RCD's program under the terms of the permits the RCD now holds.

This work needs to be carried forward on a substantial scale. We need the investment of US Bureau of Reclamation funds to continue this work on the scale necessary to complete it in the most timely and cost-effective manner for the benefit of the health of the river, agricultural lands and operations, and our local economy.

Please expedite the funding of this proposal, and do not hesitate to contact me about any questions on this matter.

DocuSigned by:

Hurry S. Gonzales DB06FFBB3AB84FF... Henry S. Gonzales Agricultural Commissioner/Sealer of Weights and Measures

MONTEREY COUNTY

WATER RESOURCES AGENCY

PO BOX 930 SALINAS, CA 93902 P: (831) 755-4860 F: (831) 424-7935

BRENT BUCHE GENERAL MANAGER



STREET ADDRESS 1441 SCHILLING PLACE, NORTH BUILDING SALINAS, CA 93901

December 8, 2021

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

Subject: The Salinas River Arundo Eradication Project Phase IV Grant Proposal for the WaterSMART Environmental Water Resources Projects Notice of Financial Opportunity

Dear Members of the USBR Grant Review Committee,

The Monterey County Water Resources Agency (MCWRA) fully supports the fifth phase of the RCD of Monterey County's 'Salinas River Arundo Eradication Project' and urges your approval of funding at the full amount requested in their submission to the WaterSMART Environmental Water Resources Projects NOFO. Time is of the essence to have this work continue down-watershed in order to hasten the benefit for steelhead trout and other wildlife dependent upon flows in the Salinas River.

We have directly supported the RCD's work to date in developing this project and are committed to seeing it done, as Arundo and other noxious weeds threaten not only the health and function of the river, but our agricultural economy in the form of flood risk. The MCWRA has been collaborating with the RCD and other agencies to develop complementary programs on the Salinas River. We have integrated our efforts and the MCWRA will continue to provide assistance in the form of flood model mapping to better understand the benefits of the Arundo removal and other vegetation management activities that are ongoing in the watershed. The MCWRA will also survey the conditions of the river, provide landowner information and outreach, monitor stream flows and support the USGS in stream gauge maintenance, for the duration of the program. The MCWRA manages water resources in the Salinas River Watershed and developed the Stream Maintenance Program with interested landowners and partner agencies and organizations, including the RCD. The MCWRA is especially concerned that this work continues on a large scale because of the growing density of vegetation in the river after many years of non-treatment and the increasing likelihood of flooding and associated damage to adjacent lands and the local economy. This concern is heightened with the understanding that the required minimum flows in the river over time would be feeding a continually-expanding population of Arundo rather than benefiting wildlife and groundwater recharge.

The RCD has its permits in place and has successfully conducted this work since 2014, with the eager support of the Salinas River landowner community and local agencies. The RCD has the trust and confidence of Salinas River landowners. They have worked diligently with all of the agencies with regulatory authority on the river to develop and implement a program that will improve the river's wildlife habitat and water

The Water Resources Agency manages, protects, stores and conserves water resources in Monterey County for beneficial and environmental use, while minimizing damage from flooding to create a safe and sustainable water supply for present and future generations

availability while reducing the flood risk.

This work needs to be carried forward on a substantial scale. We need the investment of US Bureau of Reclamation funds to continue this work on the scale necessary to complete it in the most timely and cost-effective manner for the benefit of the health of the river, agricultural lands and operations, and our local economy.

Please fund this proposal, and do not hesitate to contact me about any questions on this matter.

E-signed 12/8/2021 BA 5

Brent Buche, P.E General Manager
Salinas River Management Unit Association PO Box 1449 Salinas CA 93902

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

December 1, 2021

I am writing on behalf of the Salinas River Stream Maintenance Program River Management Unit (RMU) Association. The RMU Association represents landowners, farmers, vintners, and municipalities regarding the Salinas River.

I wholeheartedly recommend your approval of the fifth phase of the RCD of Monterey County's 'Salinas River *Arundo Donax* Eradication Project' at the amount requested in their submission to the WaterSMART Environmental Water Resources Projects Notice of Financial Assistance. The RCD's work is a vital component to the multi-benefit stream maintenance program, which positively influences steelhead trout and other wildlife. The overgrown Salinas River corridor currently poses an increasing flood threat to farming, wildlife, transportation infrastructure and the communities that live alongside it.

The RCD has successfully implemented the program down to the confluence of the Arroyo Seco River, with the steadfast support of the Salinas River landowner community and local agencies. As an organization representing landowners along the river, the RMU Association works closely with the RCD to support each other's efforts. The RCD has been a vital collaborator in the local effort to advance effective management for multiple benefits of the Salinas River corridor. Ongoing ground water recharge management needs in the Salinas Valley have made it even more critical to address the threat posed by the extensive *Arundo* stands in the river, not only for flooding, but also for its excessive water consumption, which is many times that of native vegetation.

The Salinas Valley community needs and appreciates the investment of US Bureau of Reclamation funds to continue this work on the scale necessary to complete it in the most timely and cost-effective manner for the benefit of the river and our community. Please do not hesitate to contact me directly about any questions on this matter.

Thank you for your time and attention in considering the RCD's proposal.

Sincerely,

Christopher Bunn President, Salinas River Management Unit Association



117 N. 1st Street, King City, CA 93930

December 7, 2021

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

To Whom It May Concern:

I am writing on behalf of Mission Ranches Company, Inc., a farming company that manages lands along the Salinas River. This letter is to express our support of the work proposed by the Resource Conservation District (RCD) of Monterey County under the WaterSMART Environmental Water Resources grants program. Mission Ranches has been cooperating with the RCD's arundo control work on the lands we operate within which the Salinas River runs through and plans to continue this cooperative effort under this new funding.

Mission Ranches supports the RCD's efforts to rid the whole river of arundo and tamarisk. It is clear the benefit of this work is a much cleaner river bed and system, which we believe would result in water savings and less flooding, particularly if more owners and operators along or within the Salinas River become involved.

We appreciate and request continued investment of the US Bureau of Reclamation funds to continue this work on a scale necessary to benefit the adjacent rural communities and agricultural lands and for the general health of the river system. Your assistance with our efforts will be greatly appreciated.

Sincerely.

Pamela H. Silkwood Environmental Compliance

Joe Alarid Alarid Farms, LLC 33401 River Road Soledad, CA 93960

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

12/5/21

I am writing on behalf of Alarid Farms, LLC a farming operation that manages lands along the Salinas River, to express our support and commitment to the work proposed by the RCD of Monterey County for your WaterSMART Environmental Water Resources grants program. We have been eager to cooperate with the RCD's arundo control work along the Salinas River as they work their way downstream towards our lands along the river.

We support the RCD's efforts to rid the whole river system of arundo and tamarisk. The results we see from this work on our neighbors' ground is more room for water and wildlife, and we are sure this would result in water savings and less flooding if more people are involved.

We need and appreciate the investment of US Bureau of Reclamation funds to continue this work on the scale necessary for the benefit of our homes, agricultural lands and operations, and the health of the river. Your assistance with our efforts will be much appreciated.

Sincerely,

to al

Joe Alarid, Owner Alarid Farms, LLC



Salinas Land Company P.O. Box 686 King City, CA 93930

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

December 6, 2021

I am writing on behalf of Salinas Land Company, a farming company that manages lands along the Salinas River, to express our support and commitment to the work proposed by the RCD of Monterey County for your WaterSMART Environmental Water Resources grants program. We have been cooperating with the RCD's arundo control work on our Salinas River Lands and look forward to continued work under this new funding.

We support the RCD's efforts to rid the whole river system of arundo and tamarisk. The results we see from this work is a much cleaner riverbed and we are sure this would result in water savings and less flooding if more people are involved.

We need and appreciate the investment of US Bureau of Reclamation funds to continue this work on the scale necessary for the benefit of our homes, agricultural lands and operations, and the health of the river. Your assistance with our efforts will be much appreciated.

Sincerely.

Brad Rice, General Manager Salinas Land Company



CALIFORNIA CHAPTER 830 S Street Sacramento, CA 95811 (415) 777-0487 nature.org

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

29 November 2021

Dear WaterSMART Review Committee,

I am writing on behalf of The Nature Conservancy to urge your approval of funding for the fifthphase of the RCD of Monterey County's *Salinas River Arundo Eradication Project* at the full amount requested in their submission to the WaterSMART Environmental Water Resources Projects grant program. Time is of the essence to have this work continue down-watershed in order to hasten the benefit for steelhead trout and other wildlife dependent on the Salinas River.

The increasingly overgrown Salinas River corridor also poses an increasing flood threat to the wildlife, agriculture, and communities that use it and live along it.

The RCD has its permits in place and has successfully conducted the prior of the program down to the confluence of the Arroyo Seco River, with the eager support of the Salinas River landowner community and local agencies. As a partner, The Nature Conservancy has provided some of the foundational science and work toward collaborative solutions that meet human and environmental needs. The RCD has been a vital collaborator with private and public partner organizations and landowners to advance effective management for multiple benefits of the Salinas River corridor. Ongoing groundwater recharge and management concerns in the Salinas Valley have made even more critical the need to address the threat posed by the extensive Arundo stands in the river for both flooding its remarkable water consumption, which is many times that of native vegetation.

We need the investment of US Bureau of Reclamation funds to continue this work on the scale necessary to complete it in the most timely and cost-effective manner for the benefit of the health of the river, agricultural lands and operations, and our local economy.

Please do not hesitate to contact me about any questions on this matter.

Sincerely,

Augail Host

Abigail Hart Project Director, Water Program The Nature Conservancy



Nov. 29, 2021

WaterSMART Environmental Water Resources Projects Review Committee Water Resources and Planning Office US Bureau of Reclamation Department of the Interior

Re; The Salinas River Arundo Eradication Project Phase V- WaterSMART Environmental Water Resources Projects Proposal -- support

This letter conveys the comments of Trout Unlimited (TU), on the grant proposal by the Resource Conservation District of Monterey County titled 'Salinas River Arundo Eradication Project' phase 5.

TU supports this project.

Trout Unlimited is America's largest and oldest coldwater fish conservation group. Since 1959 TU has worked across the country to conserve, protect and restore native trout and salmon and their watersheds. TU has some 10,000 members in California; several dozen residing in the Salinas River watershed.

The Salinas River Arundo Eradication Project Phase V proposed by Resource Conservation District of Monterey County is an important action addressing a major threat to the recovery of the Salinas River steelhead (currently listed as Threatened under the federal Endangered Species Act.)

It is widely acknowledged that due to demand, reservoir management and over utilization of water resources in the Salinas River watershed, stream flow conditions in the main-stem Salinas River during migration of adults and juveniles are a threat to recovery. According to some hydrologic modeling, eliminating the infestation of Arundo in the Salinas River watershed will reduce vegetative demand of available Salinas River water by 40,000 acre feet (personal communication from NMFS) which will improve conditions.

This project will remove this infestation, re-vegetate with native plant species and monitor the resulting improvement to shallow groundwater. NMFS staff has suggested that because of the expected improvement of surface water conditions, this project may improve or lengthen the outmigration period for juvenile steelhead.

RCD of Monterey County has a demonstrated track record of successful implementation of this type of project, has its permits in place and is in a good position to be successful with this project.

We strongly encourage the US Bureau of Reclamation to consider funding this important project at the full amount requested in their submission to the WaterSMART Environmental Water Resources Projects grant program

Please contact me at <u>tfrahm@tu.org</u> and/or 650 759 4416 if you have any questions or comments surrounding our support of this proposal.

Sincerely,

Tim Frahm California Central Coast Steelhead Coordinator 76 Valle Vista, Carmel Valley, Ca 93924 (650) 759-4416 tfrahm@tu.org



744 La Guardia Street, Building A, Salinas, CA 93905

(831) 975-7775

RESOLUTION 2021-05

RESOLUTION OF THE BOARD OF DIRECTORS OF THE RESOURCE CONSERVATION DISTRICT OF MONTEREY COUNTY APPROVING THE APPLICATION FOR US BUREAU OF RECLAMATION WATERSMART GRANT FUNDING FOR PHASE FIVE OF THE SALINAS RIVER ARUNDO ERADICATION PROJECT

WHEREAS a Notice of Financial Opportunity has been circulated for the US Bureau of Reclamation's (USBR) Water SMART Riparian Improvement...Program to support projects that enhance water quality, quantity and related habitat; and

WHEREAS the Resource Conservation District of Monterey County intends to control 150 acres of the invasive non-native plant *Arundo donax* along the Salinas River over the next four years, through a combination of USBR grant funds and matching funds; and

WHEREAS, procedures and criteria established by the USBR require a resolution certifying the approval to submit an application for funding and enter into an agreement by the applicant's governing body and identifying the authorized individual to sign the grant agreement and any amendment or revisions thereto.

NOW, THEREFORE, BE IT RESOLVED that the Resource Conservation District of Monterey County hereby:

- 1. Approves the filing of the Salinas River Arundo Eradication Project, Phase V application for funding from the US Bureau of Reclamation; and
- 2. Certifies that said Applicant is capable of providing the matching and in-kind contributions specified in the funding plan for the project; and
- 3. Certifies that said Applicant will work with USBR to meet established deadlines for entering into a grant or cooperative agreement; and
- 4. Certifies that said Applicant will comply with all federal, state and local environmental, public health, and other appropriate laws and regulations applicable to the project; and
- 5. Appoints the RCDMC Executive Director or Board President as a representative of the Resource Conservation District of Monterey County to conduct negotiations, execute, submit and sign all documents including but not limited to applications, agreements, amendments, payment requests, and other documents which may be necessary for the completion of the proposed project;

PASSED AND ADOPTED, by the following vote on December 16, 2021:

YES VOTES_____NO VOTES_____ABSENT___

I hereby certify that the fo<mark>rego</mark>ing Resolution Number 2021-05 was adopted by the Board of Directors of the Resource Conservation District of Monterey County.

Benny Jefferson, Board President

December 16, 2021

USAM,GOV°

Entity Workspace Results 1 Total Results

RCD OF MONTEREY COUNTY

	Unique Entity ID: 621475404	Physical Address:	Expiratio
I	SAM Unique Entity ID: K17DDYWDW9G6	744 LA GUARDIA ST STE A	Sep 17, 2
		SALINAS, CA	Purpose
	CAGE/NCAGE: 4C294	93905-3358 USA	Federal A

Entity Type: Registration

Purpose of Registration: Federal Assistance Awards