# Salinas River Stream Maintenance Program 2021 Work Season

# Annual Report To United States Army Corps of Engineers

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# **Executive Summary**

This report summarizes the annual maintenance activities of the Salinas River Stream Maintenance Program (SMP) for the 2021 maintenance season. The SMP incorporates a cooperative planning and design process among technical experts, agencies, municipalities, landowners, and growers to establish a flood risk reduction and habitat enhancement approach for the majority of the Salinas River and three tributaries. This is achieved through vegetation maintenance, sediment management, and non-native vegetation removal primarily in designated secondary or high flow channels outside of the low flow channel. This Annual Report provides regulatory agencies and interested parties with an overview of the work completed during the maintenance season and the program's compliance with the U. S. Army Corps of Engineers' permit conditions. It also allows the MCWRA to summarize and analyze the project success and impacts for future planning activities.

Stream maintenance activities were approved for both the early and regular work seasons. Work began on Wednesday, September 1, 2021 and finished by November 3, 2021. Maintenance activities were performed in 5 of the 7 RMUs with treatment occurring in 22 Maintenance Areas and 1 Selective Treatment Area. A total of 122.84 acres of native and non-native vegetation removal occurred within the Maintenance Areas including 1.24 acres of initial treatment and 121.60 acres of retreatment. Sediment was removed from San Lorenzo Creek in King City, a tributary to the Salinas River. As mitigation for program impacts, arundo was removed via herbicide application and/or mowing on 83.20 acres outside secondary channels in RMUs 3, 4, and 6. Bar ripping was not conducted as part of this year's maintenance activities. No new tree planting projects are required for 2021 impacts, however, continued tree planting survivorship monitoring under previous projects occurred.

Biological surveys for species of concern were conducted prior to work within specified time windows, and protective measures were followed during all project activities. All personnel involved in on-site work were trained in permit conditions, project protocols, and species identification by qualified staff. Confirmed special status wildlife found in or near work sites included two active American badger dens, and 127 active dusky-footed woodrat nests. No state- or federally- threatened or endangered animals or plants were observed. 'No-disturbance' buffers were placed around known and potential habitats like burrows and woodrat houses and buffers were observed during work activities.

### 1 Introduction

# 1.1 Program Background

The Salinas River has experienced flooding events in recent years that have damaged agricultural crops along the river corridor. A flood maintenance program is desired by public and private entities to prevent damage from flood events. The Salinas River Stream Maintenance Program (SMP) began in 2014 with Phase 1, a multi-benefit demonstration project involving a cooperative planning and design process among public agencies, stakeholders, landowners and growers. The objective for the SMP is to reduce flood risk to land adjacent to the Salinas River while maintaining or enhancing natural habitat and ecological and hydrological processes. This is achieved through vegetation maintenance, sediment management, and non-native vegetation removal primarily in designated secondary or high flow channels outside of the low flow channel.

Phase 1 of the program occurred in two River Management Units (RMUs) along the Salinas River at river miles 22.7 to 29.2 and river miles 32.7 to 37.7. These are referred to as RMUs 4 and 5 (Gonzales and Chualar areas respectively). Phase 2 of the SMP was developed following the same process as Phase 1 and included five additional RMUs within the SMP Program Area (river miles 2 to 94). The new RMUs are concentrated near Salinas, Soledad, Greenfield, King City and San Ardo. The 2016 work season was the first to include both Phase 1 and Phase 2, using a uniform approach over the entire Program area. The SMP will continue to be implemented under one set of permits.

# 1.2 Purpose of the Annual Report

The Annual Report provides regulatory agencies, interested parties, and MCWRA an overview of work completed during the previous maintenance season as well as a summary of the program's compliance with the permit conditions. It also allows the MCWRA to summarize and analyze the project results for future planning activities. The Annual Report is due to the U.S. Army Corps of Engineers (USACE) by March 31<sup>st</sup> of each year. A similar report will be prepared for the Regional Water Quality Control Board (RWQCB) by May 31<sup>st</sup> of each year.

### 1.3 Authorizations

The Salinas River Stream Maintenance Program was approved by the Monterey County Water Resources Agency Board of Supervisors on July 29, 2014. The authorizations listed below were received to implement both phases of the Program for a period of up to ten years.

### 1.3.1 U.S. Army Corps of Engineers

The Department of the Army Regional General Permit (RGP) 20 for the Salinas River Stream Maintenance Program, Corps File No. 22309S, was executed on September 28, 2016 by the USACE. The RGP is authorized under Section 404 of the Clean Water Act (33 U.S.C. Section 1344) through November 15, 2021. The National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) concurred with the USACE determination that the project was not likely to adversely affect the federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*) and the federally threatened California tiger salamander (*Ambystoma californiense*), Monterey spineflower (*Chorizanthe pungens var. pungens*) and

its critical habitat, the yellow-billed cuckoo (*Coccyzus americanus*), and the South-Central Coast (S-CCC) steelhead (*Oncorhynchus mykiss*). The USFWS issued a Biological Opinion on August 22, 2016 for the federally endangered least Bell's vireo (*Vireo bellii pusillus*) and tidewater goby (*Eucyclogobius newberryi*) and its critical habitat and the federally threatened California red-legged frog (*Rana draytonii*).

### 1.3.2 State of California Regional Water Quality Control Board

The Clean Water Act Section 401 Water Quality Certification for Discharge of Dredged and/or Fill Materials, Certification No. 32716WQ02, was approved on August 31, 2016 and is set to expire on November 30, 2025. The Central Coast Water Board staff will assess the implementation and effectiveness of the SMP after five years, and consider modifications to this Certification for the second five years of the permit term.

### 1.3.3 California Department of Fish & Wildlife

Phase 1 of the SMP was authorized by Operation of Law under Notification of Lake or Streambed Alteration No. 1600-2014-0127-R4, Salinas River Multi-Benefit Demonstration Project, Salinas River — Monterey County, dated October 2, 2014. This was held by an limited liability corporation made up of participating landowners. This authorization expired on November 15, 2018 and has been replaced by a Routine Maintenance Agreement. All impacts and necessary mitigation related to this authorization are tracked separately for the purpose of reporting to the California Department of Fish & Wildlife.

Phase 2 of the SMP was authorized under a Routine Maintenance Agreement (RMA) 1600-2016-0016-R4, approved October 14, 2016 and held by the Resource Conservation District of Monterey County (RCDMC). The RMA was amended and restated on June 16, 2017 and subsequently amended on April 10, 2018. The RMA covers all impacts under the program from the original date of approval through December 31, 2026.

### 1.4 Annual Work Plan Approvals

Each year, the specific maintenance activities need to be approved prior to commencement of work, by each of the authorizing agencies. Two plans detailing work proposed for the early and regular work seasons were submitted to the USACE and the RWQCB on April 20, 2021 and July 17, 2021 respectively. The National Marine Fisheries Service and U.S. Fish and Wildlife Service were sent a courtesy copy of the Work Plan although their authorization is facilitated through the USACE. In addition, California Department of Fish & Wildlife (CDFW) has a Verification Request Form process in place which is facilitated by the RCDMC.

### 1.4.1 U.S. Army Corps of Engineers

The early work season plan proposed to conduct herbicide treatment of non-native vegetation in RMUs 3 and 4 in areas that had already been treated in previous seasons and outside of wetland areas. USACE jurisdiction is limited in RMU's 1-6 to the activities involving grading or other fill discharge below the OHWM and in wetlands. Therefore, the early work plan was submitted to the USACE for informational purposes only and authorization for these activities was not required. The proposed regular season activities were authorized by the USACE on October 1, 2021.

# 1.4.2 State of California Regional Water Quality Control Board

The RWQCB approved the early work plan on May 6, 2021 and the regular season work plan on June 25, 2021. All proposed activities were authorized.

### 1.4.3 California Department of Fish & Wildlife

Verification Request Forms (VRFs) were approved by CDFW and maintenance activities were completed under 35 of the total 38 approved VRFs.

### 2 Pre-Maintenance Activities

Specific Maintenance Areas were defined using modeling and mapping tools during the Program and permit development process. Those Maintenance Areas were further refined prior to implementation of maintenance activities based on current field conditions. Successful implementation of the SMP required a diverse project team which included trained equipment operators, landowners, farm operators, biologists, ecologists, Arundo specialists, hydrologists, engineers, field staff, IT specialists, public relations staff, and legal staff. This team demonstrated a high level of coordination.

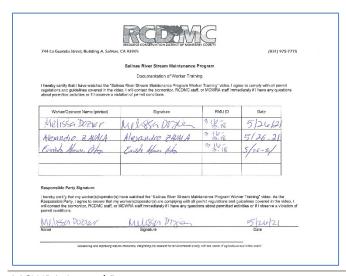
# 2.1 Training

Following Monterey County COVID-19 regulations there were no in-person trainings for the 2020 Work Season for project personnel (Biomonitors, Responsible Parties, equipment operators, farm managers). Fortunately, the MCWRA and Resource Conservation District of Monterey County (RCDMC) was able to utilize the program's training video which was introduced in the 2019 SMP Work Season. The purpose of this video is to train project participants in identification, range, and avoidance and minimization for state and federally protected wildlife with the potential to occur on site during project operations. Other topics included both project rules and conditions as stated in the CDFW, RWQCB, and USFWS project permits.

The training video provided a safe and effective way to train project personnel offsite since in-person training workshops were not feasible. Responsible parties, and especially project personnel, were required to watch the training video and sign a training acknowledgement sheet verifying that they had reviewed all program requirements and guidelines before project activities occurred.

See below for sample copy of the training acknowledgement sheet, the sheet contains a statement that the SMP participant understood and agreed to comply with all permit regulations and guidelines covered in the video.

Figure 1. Example documentation of training video review and acknowledgement for Fall Work Season species identification and permit conditions.



### 2.2 Site Preparation

Participants with the assistance of the RCDMC, flagged their proposed maintenance areas after the required training and prior to receipt of work authorizations. This flagging is color-coded based on the type of activity in the area. For example, existing access ways are flagged in yellow ribbon so that heavy-equipment operators use the same site access each time and biologists and inspectors can survey and access the area. The flagging also marks the boundary for each activity and includes red flagging for avoidance areas.

# 2.3 Biological Surveys

The California Department of Fish & Wildlife and the U.S. Fish & Wildlife Service identifies the following species of concern for which surveys may be needed before conducting work under the Stream Maintenance Program: American badger (*Taxidea taxus*), arroyo toad (*Anaxyrus californius*), California legless lizard (*Aniella pulchra*), California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californienses*), coast horned lizard (*Phrynosoma blainvillii*), coast range newt (*Taricha torosa*), foothill yellow-legged frog (*Rana boylii*), Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*), San Joaquin kit fox (*Vulpes macrotis mutica*), steelhead trout (*Oncorhynchus mykiss*), tidewater goby (*Eucyclogobius newberry*), two-stripped garter snake (*Thamnophis hammondii*), western pond turtles (*Emys marorata*), western spadefoot toad (*Spea hammodii*), Salinas pocket mouse (*Perognathis inonatus psammophilus*), burrowing owl (*Athene cunicularia*), yellow-billed cuckoo (*Coccyzus americanus*), least Bell's vireo (*Vireo bellii pusillus*), Monterey spineflower (*Chorizanthe pungens* var. *pungens*), all nesting birds, and roosting bats.

Surveys were conducted for special status species in areas of suitable habitat per Work Plan approval. No nesting birds were detected before or after September 1. Surveys for yellow-billed cuckoo and least Bell's vireo were avoided by delaying the project until October in areas of concern. Focused California red-legged frog surveys were conducted in several areas of suitable habitat within 48 hours of the start of work.

At all work sites, two types of pre-activity surveys were completed within 30 days of the start of work: habitat assessment surveys and pre-maintenance surveys. Both surveys occurred within permit-specified buffer distances of work areas after the Responsible Party had flagged the work site boundaries. Habitat assessment surveys were conducted by service approved biologists from Burleson Consulting, and included conducting transect surveys for special status species and their habitats. Pre-maintenance surveys were conducted by RCD biological monitors and included classifying vegetation types in Secondary Channels, identifying and flagging wetlands and large native trees for avoidance, and also looking for sensitive wildlife and their habitats. Additionally, RCD biological monitors performed morning walk-throughs of the work areas each day work occurred, and in most cases were present during all work activities.

All surveys for San Joaquin kit fox, California red-legged frogs, and California tiger salamanders were completed by USFWS-approved biologists.

The locations of all special status individuals or habitats identified during any of the above-mentioned surveys were mapped in Collector for ArcGIS and flagged with red or pink flagging tape in the field with the appropriate buffer size.

### 2.3.1 Biological Survey Results

Woodrat houses were the most common evidence of special status species presence found in or near work sites: 127 active houses were found, most of which were confirmed active. All woodrat nests were avoided with at least a 10-foot buffer. Two American badger dens with sign of recent use were found. Three potential and two active bat roosts in dead trees were identified (bat presence not confirmed). There were no bird nesting or fledgling recorded for the spring work season June 1st-August 30th. Since fall project activity only occurred September 1st – November 3rd, there were also no records for bird nesting or fledging present in the work area. Table 1 shows results for special status species or habitats found for all work areas during the 2021 Work Season by VRF agreement number. The data shown in Table 2 will be submitted to the California Natural Diversity Database as a Microsoft Excel spreadsheet using the CNDDB template for submittal requirements.

Table 1: Summary of species survey results

	American Badger	Active Woodrat Nest in or near	
Channel ID	(active)	Work Area	Potential Bat Roost
1.02	0	15	0
1.03	0	8	0
1.06	0	7	0
1.07	0	5	1
1.38	0	0	0
2.05	0	1	0
2.06	0	2	0
3.16b	0	3	1
3.16a & Mitigation	0	0	0
3.17	0	0	0
3.18	0	1	0
3.19	0	1	0
4.22 & Mitigation	0	7	2
4.23, 4.25, 4.26 & Mitigation	0	22	2 (active) 3 (potential)
4.24 & Mitigation	0	6	0
6.07 & Mitigation	0	8	1
6.08	0	6	0
6.09	2	7	0
6.10	0	23	0
6.11 & Mitigation	0	4	0
6.12	0	1	0
Total Found or Indicating Activity	2	127	10

Table 2: Special status species and habitats identified during the 2021 SMP Work Season

VRF#	RMU ID	Species	Status	Buffer (ft)	Survey Date	Lat	Long
157	1.02	Woodrat	Active	10	27-Sep-2021	36.02032648	-120.5514896
157	1.02	Woodrat	Active	10	27-Sep-2021	36.02114514	-120.5517636
157	1.02	Woodrat	Active	10	27-Sep-2021	36.02095749	-120.5518381
157	1.02	Woodrat	Active	10	27-Sep-2021	36.02128043	-120.5518618
157	1.02	Woodrat	Active	10	27-Sep-2021	36.02125748	-120.551854
157	1.02	Woodrat	Active	10	27-Sep-2021	36.0212412	-120.5518618
157	1.02	Woodrat	Active	10	27-Sep-2021	36.01583711	-120.5515874
157	1.02	Woodrat	Active	10	27-Sep-2021	36.01581573	-120.551594
157	1.02	Woodrat	Active	10	27-Sep-2021	36.0158344	-120.5516207
157	1.02	Woodrat	Active	10	27-Sep-2021	36.0157921	-120.5516006
157	1.02	Woodrat	Active	10	27-Sep-2021	36.01560883	-120.5515762
157	1.02	Woodrat	Active	10	27-Sep-2021	36.01556964	-120.5515596
157	1.02	Woodrat	Active	10	27-Sep-2021	36.01538551	-120.5512767
157	1.02	Woodrat	Active	10	27-Sep-2021	36.01540044	-120.551292
157	1.02	Woodrat	Active	10	27-Sep-2021	36.01546208	-120.5513253
158	1.03	Woodrat	Active	10	6-Oct-2021	36.02152586	-120.5526926
158	1.03	Woodrat	Active	10	11-Oct-2021	36.02162252	-120.5526857
158	1.03	Woodrat	Active	10	11-Oct-2021	36.0214705	-120.5526007
158	1.03	Woodrat	Active	10	11-Oct-2021	36.02137815	-120.5526293
158	1.03	Woodrat	Active	10	12-Oct-2021	36.02134581	-120.5524643
158	1.03	Woodrat	Active	10	12-Oct-2021	36.0213261	-120.5524542
158	1.03	Woodrat	Active	10	12-Oct-2021	36.02126998	-120.5524834
158	1.03	Woodrat	Active	10	12-Oct-2021	36.0213408	-120.5525598
159	1.06	Woodrat	Active	10	4-Oct-2021	36.03056584	-120.5524063
159	1.06	Woodrat	Active	10	4-Oct-2021	36.03053257	-120.5523731
159	1.06	Woodrat	Active	10	4-Oct-2021	36.03053834	-120.5523872
159	1.06	Woodrat	Active	10	4-Oct-2021	36.03054152	-120.5523672
159	1.06	Woodrat	Active	10	4-Oct-2021	36.0250747	-120.552941
159	1.06	Woodrat	Active	10	4-Oct-2021	36.02505282	-120.553031
159	1.06	Woodrat	Active	10	4-Oct-2021	36.02511437	-120.5530034
160	1.07	Bat roost	Potential	25	6-Oct-2021	36.03137911	-120.5526305
160	1.07	Woodrat	Active	10	8-Oct-2021	36.03101014	-120.552596
160	1.07	Woodrat	Active	10	8-Oct-2021	36.03095524	-120.5526064

VRF#	RMU ID	Species	Status	Buffer (ft)	Survey Date	Lat	Long
160	1.07	Woodrat	Active	10	11-Oct-2021	36.03095708	-120.5526246
160	1.07	Woodrat	Active	10	11-Oct-2021	36.03102805	-120.5525995
160	1.07	Bat roost	Potential	25	11-Oct-2021	36.03122793	-120.5526459
161	2.05	Woodrat	Active	10	13-Sep-2021	36.20015912	-121.1201834
161	2.05	American badger	Potential	50	13-Sep-2021	36.19561958	-121.1157107
162	2.06	Woodrat	Active	10	13-Sep-2021	36.2019942	-121.1211956
162	2.06	Woodrat	Active	10	13-Sep-2021	36.20141462	-121.1210996
166	3.18	Woodrat	Active	10	8-Jul-2021	36.25273011	-121.2202717
167	3.19	Woodrat	Active	10	25-Aug-2021	36.2538683	-121.2237487
168	4.22	Woodrat	Active	10	5-Aug-2021	36.29123011	-121.2827903
168	4.22	Bat roost	Potential	25	5-Aug-2021	36.29129498	-121.2824679
168	4.22	Bat roost	Potential	25	5-Aug-2021	36.29134749	-121.282503
168	4.22	Woodrat	Active	10	6-Aug-2021	36.29076792	-121.2753218
168	4.22	Woodrat	Active	10	6-Aug-2021	36.29074277	-121.2753336
168	4.22	Woodrat	Active	10	6-Aug-2021	36.29105673	-121.2801434
168	4.22	Woodrat	Active	10	6-Aug-2021	36.29106967	-121.2802378
168	4.22	Woodrat	Active	10	6-Aug-2021	36.29074572	-121.2753572
168	4.22	Woodrat	Active	10	6-Aug-2021	36.29073252	-121.2753728
168	4.22	Woodrat	Potential	10	6-Aug-2021	36.29094107	-121.2801122
169	4.23	Woodrat	Potential	10	6-Aug-2021	36.28412467	-121.2724288
169	4.23	Woodrat	Active	10	6-Aug-2021	36.28482219	-121.272908
169	4.23	Bat roost	Potential	25	6-Aug-2021	36.28372966	-121.2716575
169	4.23	Woodrat	Active	10	6-Aug-2021	36.28486261	-121.2728927
169	4.23	Woodrat	Active	10	6-Aug-2021	36.28497288	-121.2729476
169	4.23	Woodrat	Active	10	6-Aug-2021	36.28498356	-121.2729535
169	4.23	Woodrat	Active	10	9-Aug-2021	36.28400516	-121.2721246
169	4.23	Woodrat	Active	10	9-Aug-2021	36.28489632	-121.272906
169	4.23	Woodrat	Active	10	9-Aug-2021	36.28331103	-121.2717291
169	4.23	Woodrat	Active	10	9-Aug-2021	36.28491557	-121.2728791
169	4.23	Woodrat	Active	10	9-Aug-2021	36.28493236	-121.2729135
169	4.23	Woodrat	Active	10	9-Aug-2021	36.28450242	-121.2725264
169	4.23	Woodrat	Active	10	9-Aug-2021	36.28444136	-121.272541
169	4.23	Woodrat	Potential	10	9-Aug-2021	36.28406582	-121.2720246
169	4.23	Woodrat	Active	10	9-Aug-2021	36.28404488	-121.2720117

VRF#	RMU ID	Species	Status	Buffer (ft)	Survey Date	Lat	Long
169	4.23	Bat roost	Active	25	9-Sep-2021	36.28345786	-121.27157
169	4.23	Bat roost	Active	25	9-Sep-2021	36.28318545	-121.2709853
169	4.23	Bat roost	Potential	25	9-Sep-2021	36.28310519	-121.2709056
170	4.24	Woodrat	Active	10	11-Aug-2021	36.28472147	-121.2720146
170	4.24	Woodrat	Active	10	11-Aug-2021	36.28426732	-121.2710951
170	4.24	Woodrat	Active	10	26-Oct-2021	36.28418883	-121.2711992
170	4.24	Woodrat	Active	10	26-Oct-2021	36.28396299	-121.2713251
170	4.24	Woodrat	Active	10	26-Oct-2021	36.28510742	-121.2725691
170	4.24	Woodrat	Active	10	26-Oct-2021	36.28515441	-121.2727305
169	4.25	Woodrat	Active	10	7-Sep-2021	36.28272797	-121.2704068
169	4.25	Woodrat	Active	10	8-Sep-2021	36.28188998	-121.2658452
169	4.25	Woodrat	Active	10	8-Sep-2021	36.28147812	-121.2655285
169	4.25	Woodrat	Active	10	8-Sep-2021	36.28129828	-121.2654746
169	4.25	Woodrat	Active	10	8-Sep-2021	36.28206435	-121.2658856
169	4.25	Woodrat	Active	10	8-Sep-2021	36.28118594	-121.2656494
169	4.25	Woodrat	Active	10	9-Sep-2021	36.28319051	-121.2714014
169	4.26	Woodrat	Active	10	7-Sep-2021	36.28135877	-121.2657726
169	4.26	Bat roost	Potential	25	7-Sep-2021	36.28264966	-121.270485
169	4.26	Woodrat	Active	10	7-Sep-2021	36.28288815	-121.2705018
169	4.26	Bat roost	Potential	25	9-Sep-2021	36.28242591	-121.2703809
169	4.26	Woodrat	Active	10	10-Sep-2021	36.28322429	-121.2658569
171	6.07	Woodrat	Active	10	30-Aug-2021	36.36445946	-121.3638476
171	6.07	Woodrat	Active	10	30-Aug-2021	36.36378701	-121.3646302
171	6.07	Woodrat	Active	10	30-Aug-2021	36.36386489	-121.364553
171	6.07	Woodrat	Active	10	30-Aug-2021	36.36393355	-121.3644878
171	6.07	Bat roost	Potential	50	30-Aug-2021	36.36431544	-121.3639763
171	6.07	Woodrat	Active	10	30-Aug-2021	36.36418797	-121.3640759
171	6.07	Woodrat	Active	10	30-Aug-2021	36.36436914	-121.3637749
171	6.07	Woodrat	Active	10	30-Aug-2021	36.36425611	-121.3638528
171	6.07	Woodrat	Active	10	30-Aug-2021	36.36441086	-121.36377
172	6.08	Woodrat	Active	10	31-Aug-2021	36.36291842	-121.3658964
172	6.08	Woodrat	Active	10	31-Aug-2021	36.36335442	-121.3653598
172	6.08	Woodrat	Active	10	31-Aug-2021	36.36142255	-121.3714929
172	6.08	Woodrat	Active	10	31-Aug-2021	36.36136197	-121.371663

VRF#	RMU ID	Species	Status	Buffer (ft)	Survey Date	Lat	Long
172	6.08	Woodrat	Active	10	31-Aug-2021	36.3613187	-121.371972
172	6.08	Woodrat	Active	10	31-Aug-2021	36.36120042	-121.3723463
173	6.09	American badger	Active	50	1-Sep-2021	36.36137051	-121.3745711
173	6.09	Woodrat	Active	10	1-Sep-2021	36.3614804	-121.3755852
173	6.09	Woodrat	Active	10	1-Sep-2021	36.36126188	-121.3748438
173	6.09	Woodrat	Active	10	1-Sep-2021	36.3610898	-121.3726625
173	6.09	Woodrat	Active	10	1-Sep-2021	36.36109674	-121.3726318
173	6.09	Woodrat	Active	10	1-Sep-2021	36.36112913	-121.372606
173	6.09	Woodrat	Active	10	1-Sep-2021	36.36109121	-121.3730595
173	6.09	Woodrat	Active	10	7-Sep-2021	36.36107637	-121.3729386
173	6.09	American badger	Active	50	7-Sep-2021	36.36134849	-121.3745722
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36291051	-121.3820615
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36226453	-121.3811972
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36215	-121.3811698
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36206913	-121.3810505
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36193211	-121.3807274
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36188245	-121.3808541
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36189898	-121.3808624
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36180423	-121.3806191
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36192176	-121.3806607
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36178313	-121.3805049
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36187463	-121.3805488
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36171696	-121.3805148
174	6.10	Woodrat	Active	10	2-Sep-2021	36.361733	-121.3801649
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36176036	-121.3802712
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36171954	-121.3804887
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36174951	-121.3804417
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36174642	-121.3803292
174	6.10	Woodrat	Active	10	2-Sep-2021	36.3617818	-121.3804612
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36184618	-121.3805934
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36187262	-121.3807767
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36196798	-121.380847
174	6.10	Woodrat	Active	10	2-Sep-2021	36.36187757	-121.3808221
174	6.10	Woodrat	Active	10	2-Sep-2021	36.3624617	-121.3816585

VRF#	RMU ID	Species	Status	Buffer (ft)	Survey Date	Lat	Long
175	6.11	Woodrat	Active	10	16-Aug-2021	36.36373532	-121.3858002
175	6.11	Woodrat	Active	10	16-Aug-2021	36.36475745	-121.3909275
175	6.11	Woodrat	Active	10	16-Aug-2021	36.36478246	-121.3909592
175	6.11	Woodrat	Active	10	16-Aug-2021	36.36413265	-121.3901466
177	6.12	Woodrat	Active	10	1-Nov-2021	36.37487052	-121.4035157
164	3.16b	Bat roost	Potential	25	23-Aug-2021	36.2502691	-121.210749
164	3.16b	Bat roost	Potential	25	23-Aug-2021	36.25013157	-121.2056365
164	3.16b	Woodrat	Active	10	23-Aug-2021	36.25026945	-121.2042518
164	3.16b	Woodrat	Active	10	23-Aug-2021	36.25022419	-121.2040431
164	3.16b	Woodrat	Active	10	23-Aug-2021	36.25017833	-121.2100778
164	3.16b	Bat roost	Potential	25	23-Aug-2021	36.25049565	-121.2114696

### 2.3.2 Tidewater Goby Survey Plan

No work was performed in RMU 7 during the 2021 Maintenance Season but some survey data is available that was conducted for other programs. In future years when work is proposed in RMU 7 the following condition will apply: each year before the start of work in RMU 7 and no later than August 1, information on the current status of tidewater goby (e.g., presence, estimated number of individuals) in the Salinas River Lagoon will be submitted to the Service for review.

USFWS has developed a survey protocol to facilitate the determination of presence or absence of the tidewater goby in habitats that have potential to support it. The primary use for this protocol is for project-level surveys in support of requests for consultation under section 7 of the ESA, as amended. Additionally, this protocol may also be used for section 10(a)(1)(B) permit applications, and to determine general presence—absence for other management purposes. Several assessments of the tidewater goby population in various localities have been conducted using these methods.

The USACE and MCWRA in cooperation with a Service-approved biologist will develop and implement a tidewater goby survey plan to document the presence, distribution, and abundance of the species within and adjacent to the Project area, including the Salinas River downstream of the Salinas River Diversion Facility (SRDF) and the Salinas River Lagoon. The survey plan will be developed in coordination with the National Marine Fisheries Service to avoid duplication of effort and excessive disturbance of habitat. The survey plan will be submitted to the Service for review and approval.

### 2.3.2.1 Tidewater Goby Survey Results

In October 2013, two tidewater goby were detected in the Salinas River Lagoon (Lagoon) during a survey performed by Hagar Environmental Science on behalf of the Agency. Prior to that survey, tidewater goby had not been reported in the Lagoon since 1951. Since being detected in 2013, tidewater goby have been detected during monitoring efforts in 2014, 2015, 2017, 2018, and 2020.

The most recent surveys conducted in April 2021 and prior to the emergency sandbar management action that occurred in December 2021 did not detect tidewater goby. The December 2021 surveys were primarily conducted in areas near the river mouth that were newly inundated by storm flows into the Lagoon. The purpose of this survey was to determine risk of stranding related to the emergency sandbar management action, therefore many sites with suitable habitat or previous goby detection were not surveyed because they were determined to have low potential for stranding.

The Agency is currently working on a Low-Effect Habitat Conservation Plan to address emergency sandbar management to prevent flooding at the Salinas River Lagoon. Tidewater goby will be one of the Lagoon species addressed by the plan which the Agency hopes to complete by the end of 2022.

### 2.3.3 Water Quality Reports

Water quality monitoring of the Salinas River Lagoon occurs between April and October. Depth profiles with instantaneous readings of temperature, dissolved oxygen, and conductivity are taken at multiple sites in the Lagoon on a monthly basis. Continuously recording sensors are also left at select sites to document conditions with hourly resolution. After being disrupted in 2020 due to the COVID-19 pandemic, monthly sampling resumed in 2020 and is scheduled to begin again in the spring of 2021.

Limited sampling is also conducted in association with facilitated sandbar management events at the Salinas Lagoon. The Lagoon most recently opened to the ocean on December 27, 2021 and remained open until mid-February 2022.

### 3 Maintenance Activities Conducted in 2021

The Salinas River did not have significant flows during the previous winter season and conservation releases from the upstream reservoirs ceased prior to the maintenance season. With this, there was not water present in the low-flow channel at the beginning of the maintenance season. The RMUs dried out completely before November 15<sup>th</sup> and no work was authorized within water or in wetlands.

Maintenance activities were conducted in 5 of the 7 RMUs in a total of 22 Maintenance Areas and 1 Selective Treatment Area. No work was performed in RMU 7. All of the activities were authorized through the Annual Work Plan approvals. The maintenance activities are displayed in map format in Section 6 of this report.

### 3.1 Work Season Dates

The early or spring work season, which only involves arundo herbicide application, began July 8<sup>th</sup> and was completed by July 14<sup>th</sup>. The fall work season began on September 1<sup>st</sup> and was completed by November 3<sup>rd</sup>. Typical work hours were daily from 7am to 5 pm during daylight hours. No work was performed at night.

### 3.1.1 Rainfall Restrictions

There was one rain day during the work season and no work occurred that day. But, no rain event of 0.25 inches or greater in a 24-hour period occurred during the work period.

# 3.2 Completed Maintenance Activities

Maintenance activities were performed in RMUs 1, 2, 3, 4, and 6 for a total 22 Maintenance Areas and 1 Selective Treatment Area, all retreatment. Maintenance activities occurred in one Selective Treatment Area that had previously been treated, but the work was limited in area and types of activities. The specific maintenance activities are further described below. Two tree planting projects were proposed for mitigating anticipated tree removal however, no sensitive tree removal occurred therefore not warranting required mitigation. The third planting project was intended to repair tree damage caused by River fire debris flows. However, the responsible party later determined that the proposed planting area was not fit for long-term tree survivorship because of the soil's low organic material content and likely future inundation events. The responsible party has agreed to continue working with the permitee on tree mitigation efforts.

## 3.2.1 Native Vegetation Management

Native vegetation was removed within the designated maintenance areas. Disturbance of emergent vegetation did not occur in areas with suitable habitat for California red-legged frogs or for tidewater gobies. All new impacts associated with vegetation removal are quantified in the tables below by vegetation types for each maintenance area, each RMU, and the Program Area. This includes expansion of previously treated areas. Retreatment of native vegetation is included in the total area column but not under the vegetation type columns. Those impacts were addressed in the annual report following the initial removal.

**Table 3: New Vegetation Impacts by Maintenance Area** 

Maint. Area #	Total Area* (acres)	Arundo dominant	Unvegetated / Sparse herbaceous	Early successional perennial riparian	Mid- successional willow	Early to mid- successional cottonwood forest	Low stature herbaceous wetland
1.02	10.2	retreat	retreat	retreat	retreat	retreat	retreat
1.03	3.0	retreat	retreat	retreat	retreat	retreat	retreat
1.06	4.93	retreat	retreat	retreat	retreat	retreat	retreat
1.07	2.64	retreat	0.64	0.25	retreat	retreat	retreat
2.05	1.85	retreat	retreat	retreat	retreat	retreat	retreat
2.06	7.8	retreat	retreat	retreat	retreat	retreat	retreat
3.16a	5.4	retreat	retreat	retreat	retreat	retreat	retreat
3.16b	12.7	retreat	retreat	retreat	retreat	retreat	retreat
3.17	4.7	retreat	retreat	retreat	retreat	retreat	Retreat
3.18	3.7	retreat	retreat	retreat	retreat	retreat	retreat
3.19	2.35	retreat	retreat	retreat	retreat	retreat	retreat
4.22	5.37	retreat	retreat	retreat	retreat	retreat	retreat
4.23	5.6	retreat	retreat	retreat	retreat	retreat	retreat
4.24	4.6	retreat	retreat	retreat	retreat	retreat	retreat
4.25	4.0	retreat	retreat	retreat	retreat	retreat	retreat
4.26	6.0	retreat	retreat	retreat	retreat	retreat	retreat
6.07	6.4	retreat	retreat	retreat	retreat	retreat	retreat
6.08	6.96	retreat	retreat	retreat	retreat	retreat	retreat
6.09	9.3	retreat	retreat	retreat	retreat	retreat	retreat
6.10	4.30	retreat	retreat	retreat	retreat	retreat	retreat
6.11	8.16	retreat	retreat	retreat	retreat	retreat	retreat
6.12	1.65	retreat	0.17	0.18	retreat	retreat	retreat

**Table 4: New Vegetation Impacts by RMU** 

RMU	Total Area* (acres)	Arundo dominant	Sparse herbaceous	Early successional perennial riparian	Mid- successional willow	Early to mid- successional cottonwood forest	Low stature herbaceous wetland
1	20.77	retreat	0.64	0.25	retreat	retreat	retreat
2	9.65	retreat	retreat	retreat	retreat	retreat	retreat
3	28.85	retreat	retreat	retreat	retreat	retreat	retreat
4	25.57	retreat	retreat	retreat	retreat	retreat	retreat
6	36.77	retreat	0.17	0.18	retreat	retreat	retreat
7	0	0	0	0	0	0	0

**Table 5: New Vegetation Impacts for Program Area** 

RMUs	Total Area* (acres)	Arundo dominant	Sparse herbaceous	Early successional perennial riparian	Mid- successional willow	Early to mid- successional cottonwood forest	Low stature herbaceous wetland
1-7	121.61	0	0.81	0.43	0	0	0

Note: \* Total Area includes re-treated areas. Total new areas are 1.24 acres. Vegetation categories do not include the retreated areas.

### 3.2.2 Wetlands Identification and Avoidance

No wetlands were impacted during the maintenance season. Areas where wetland plants were present were marked both by GPS coordinates and red tape during pre-maintenance surveys. Additional monitoring during maintenance activities occurred to ensure avoidance and final locations of wetland plants were confirmed after maintenance activities were completed. Areas that were located within or near where maintenance activities occurred that were previously mapped as wetlands using aerial tools were field verified. If no wetland vegetation was present then these areas were assumed not to be wetlands.

### 3.2.3 Permanent Fill, Including Grading, Within USACE Jurisdiction

Grading and limited sediment removal occurred during the 2021 maintenance season. The sediment removal occurred in one tributary within the SMP Area, MA 1.38 San Lorenzo Creek. The MA stockpile location was established in a location outside of jurisdictional area The grading and excavation activities performed within the maintenance areas are shown in the tables below.

**Table 6: Sediment Management Activities by Maintenance Area** 

Maint. Area #	Total Work Area (acres)	Un-vegetated Area Graded (acres)	Volume of Sediment Removal (cy)	Volume of Sediment Displaced by Grading (cy)	Grading Methods Used
1.38	2.05	0	2,000	0	Bulldozer, grader, and water truck

**Table 7: Sediment Management Activities by RMU** 

RMU	Total Work Area (acres)	Un-vegetated Area Graded (acres)	Volume of Sediment Removal (cy)	Volume of Sediment Displaced by Grading (cy)	
1	<b>1</b> 2.05		2,000	0	
2	0	0	0	0	
3	<b>3</b> 0		0	0	
4	<b>4</b> 0		0	0	
5	<b>5</b> 0		0	0	
6	0	0	0	0	
7	0	0	0	0	

**Table 8: Sediment Management Activities for Program Area** 

RMUs	Total Work Area (acres)	Un-vegetated Area Graded (acres)	Volume of Sediment Removal (cy)	Volume of Sediment Displaced by Grading (cy)
1-7	2.05	0	2,000	0

### 3.2.4 New Access

No new access routes were constructed, and all maintenance activities utilized existing access ways.

# 3.3 Compensatory Mitigation

Impacts to certain native vegetation types require compensatory mitigation. The impacts are tabulated annually and the necessary compensatory mitigation are reported cumulatively after each maintenance season. The following season's work plan must include enough mitigation to compensate for the previous season's impacts. Therefore, compensatory mitigation activities may occur before the related impacts or the season after the impact occurred. The following table outlines which impacts require compensatory mitigation as well as the ratios.

**Table 9: Compensatory Mitigation Ratios** 

Vegetation Type	Required Mitigation
Arundo-dominated Removal	none
Sparse Herbaceous with or without Arundo	none
Early Successional Perennial Riparian	1:1 Arundo Removal within secondary channel
	0.5:1 Arundo removal outside secondary channel
Mid-Successional Willow (less than 6")	3:1 Arundo Removal outside secondary channel
Early and Mid-Successional Cottonwood (2" or	3:1 Planting of cottonwood, sycamore or
greater of cottonwood, sycamore and alder)	alder (based on individual trees)
Large Stature Willows (6" or greater)	2:1 Planting of cottonwood, sycamore or
	alder (based on individual trees)
Low Stature Herbaceous Wetland	1:1 restoration

### 3.3.1 **Summary of Impacts**

The initial impacts to specific native vegetation types requires mitigation. Subsequent maintenance activities at the same location do not require additional mitigation. The impacts are documented annually and cumulatively reported. Therefore, the following tables identify the impacts from the most recent maintenance season and from the entire permit term to date, by vegetation type.

**Table 10: New Impacts Requiring Compensatory Mitigation** 

RMU	Early successional perennial riparian (acres)	Mid- successional willow (acres)	Early to mid- successional cottonwood forest (trees)	Large Stature Willows (trees)	Low stature herbaceous wetland (acres)
1	0.25	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
6	0.18	0	0	0	0
7	0	0	0	0	0
Totals	0.43	0	0	0	0

**Table 11: Total Impacts for Permit Term Requiring Compensatory Mitigation** 

RMU	Early successional perennial riparian (acres)	Mid- successional willow (acres)	Early to mid- successional cottonwood forest (trees)	Large Stature Willows (trees)	Low stature herbaceous wetland (acres)
1	11.24	3.48	0	0	0
2	0.26	0.27	0	0	0
3	3.39	2.2	0	0	0
4	12.98	3.25	7	1	0
5	8.9	1.9	29	18	0
6	15.91	4.6	0	6	0
7	0	0	0	0	0
Totals	52.70	15.69	36	25	0

### 3.3.2 Arundo Treatment as Compensatory Mitigation

The targeted invasive species for removal is arundo. Herbicide application is the preferred method of treatment for higher eradication rates. Herbicide application is most effective on green leafy plants, before they go dormant. Herbicide application was utilized during this maintenance season primarily in areas that were previously mowed. Any dense stands or browning arundo was treated through mowing and mulching, as necessary. Mitigation is performed preferentially by RMU or throughout the Program Area as needed. The following tables document the new and retreated arundo areas for the past maintenance season. Enough arundo areas have been identified and received initial treatment to account for all SMP impacts to date.

**Table 12: New Arundo Treatment by RMU** 

		New Tre	atment		Retreatment			
	Mowing		Herbicide		Mowing		Herbicide	
RMU	inside MAs (acres)	outside MAs (acres)	inside MAs (acres)	outside MAs (acres)	inside MAs (acres)	outside MAs (acres)	inside MAs (acres)	outside MAs (acres)
1	0	0	0	0	0	0	0	0
2	0	0	0	0	<0.1	0	0	0
3	0	0	0	0	2.6	0	0	2.6
4	0	0	0	0	9.8	28.3*	41.2	48.8
5	0	0	0	0	0	0	0	0
6	0	0	0	0	0.9	0	0	3.5
7	0	0	0	0	0	0	0	0
Totals	0	0	0	0	13.3	28.3	41.2	54.9

<sup>\*</sup>Retreatment of 1.8 ac near the upstream tie-in of 4.26 where access had been blocked by heavy debris flows in 2017, now made accessible by maintenance equipment. Initial treatment of this area occurred in 2016.

### 3.3.3 Native Tree Species Plantings

No trees that would require mitigation were removed during the 2021 work season, and no additional trees are required to be planted in 2021 as mitigation for 2020 impacts. Two tree planting projects were proposed for mitigating anticipated tree removal however, no sensitive tree removal occurred therefore not warranting required mitigation. The third planting project was intended to repair tree damage caused by River fire debris flows. However, the responsible party later determined that the proposed planting area was not fit for long-term tree survivorship because of the soil's low organic material content and likely future inundation events. The responsible party has agreed to continue working with the permitee on tree mitigation efforts.

Supplemental planting for previous years' impacts occurred to address low survivorship of planted trees. The success of native tree species plantings continues to be monitored and a replanting report in 2021 recorded the survival and status of trees planted. The report recorded the number of trees surviving and the remedial action needed to address tree cuttings that did not survive from subsequent years'. A total of 40 cottonwood cuttings were planted in December 2019 to address trees that did not survive in RMU 4 per above. Approximately 30 of the 40 cottonwood cuttings showed signs of initial sprouting and rooting. These cuttings were also regularly irrigated to ensure survivorship during dry summer months. An update on the RMU 5 and 6 tree planting area was reported including a record of survival and status of trees planted. Approximately 22 of the 80 trees from the planting conducted have survived. The responsible party intends to apply to plant trees in the 2022 Work Season. All tree planting areas and activities are monitored closely and updates will be provided as necessary.

Table 13: New Tree Plantings by RMU

RMU	Cottonwoods	Willows	Other Native Trees
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
Totals	0	0	0

### 3.3.4 Status of Compensatory Mitigation

The mitigation activities began in year two of the program and will continue until all success criteria is achieved. The areas are being tracked individually but are reported cumulatively in order to determine programmatic compliance. The tables below document the total treatment areas and compares it to

the compensatory mitigation requirement ratios in Table 10. No additional initial arundo removal is required for the impacts to date.

**Table 14: Status of Required Arundo as Compensatory Mitigation** 

RMU	Total ESPR Impacts (acres)	Total Arundo treated inside MAs (acres)*	Total MSW Impacts (acres)	Total Arundo Treatment Required Outside MAs (acres)	Total Arundo treated outside MAs (acres)	Additional Arundo Removal Required (acres)
1-7	52.70	62.8	15.69	60.6	83.2	0

<sup>\*</sup>Arundo treatment inside MAs is counted on an acre-for-acre basis for early successional perennial riparian impacts only.

**Table 15: Status of Required Tree Planting Mitigation by RMU** 

RMU	Number of non- willow trees ≥ 2" dbh removed	Number of willows ≥ 6" dbh removed	Total Number of Trees Required to Plant	Number of Trees Planted, species	Trees Required – Trees Planted
1	0	0	0	0	-
2	0	0	0	0	-
3	0	0	0	0	-
4	7	1	23	90, cottonwoods 700, willows	-
5	29	18	123	275, cottonwoods	-
6	0	6	12	0	-
7	0	0	0	0	-
Totals	36	25	158	365 cottonwoods 700 willows	0

### 3.3.5 Success Criteria

Mitigation sites are monitored annually. The success of the invasive plant removal will be reported by area as they reach the targeted percent cover or after five years from initial removal, whichever occurs sooner. Due to extended drought conditions, there are no sites that are nearing the success criteria.

# 4 Program Review

### 4.1 Impacts to Listed Species

Maintenance activities were designed to avoid direct and indirect impacts to listed species. There were no observations of any federally-listed species during the required pre-maintenance surveys. Biological Monitors performed all necessary inspections before work began each day and were present during maintenance activities. A Service-approved biologist was on-site as necessary and on-call daily.

### 4.2 Project Design Changes

All work was in compliance with the permit applications, permit terms and conditions, and annual authorizations. Less work was performed than proposed in the approved Work Plan.

### 4.3 Effectiveness Monitoring

Topographic surveys were conducted down the centerline of select maintenance areas both pre- and post-maintenance activities. This data is representative of each RMU and will be used over time to determine how the maintenance areas are functioning and to assess the sediment transport characteristics of the maintenance areas. The resultant longitudinal profiles are available in Section 7 of this report.

### 4.4 Adaptive Management

Adaptive management may be necessary if significant flows (25,450 cfs or greater at the Spreckels stream gage) occur during the previous rainy season. These needs should be evaluated near the end of the rainy season in order to be prepared for the following year's maintenance. There still may be high flows during this rainy season so no conclusions can be made at this time.

# 4.5 Certification of Compliance

MCWRA understands that this report may be reviewed by the resource agencies for compliance with the terms of the RGP. In addition, field site visits may be performed on representative sites by the employees of these resource agencies as part of their compliance evaluation. The USACE has provided a Certification of Compliance Form in their Annual Work Plan approval to verify that the applicant complied with the terms and conditions of the RGP. This certification is provided in Section 8.

# 5 Photos of Typical Work Areas

### **Pre-maintenance Areas**





# **Vegetation Removal**





## **Arundo Treatment**





**Selective Treatment Area Pre- and Post-work** 



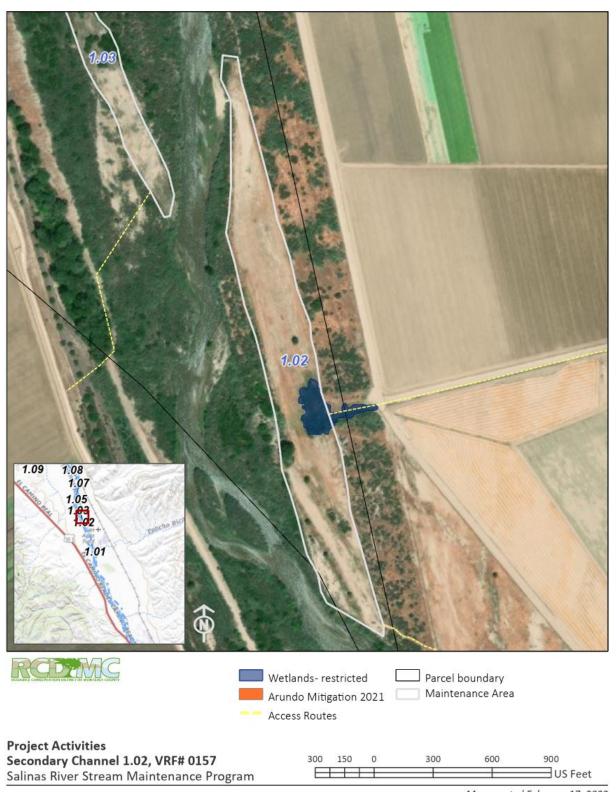


**Grading & Sediment Removal** 





**6 Maps of Maintenance Activities** 

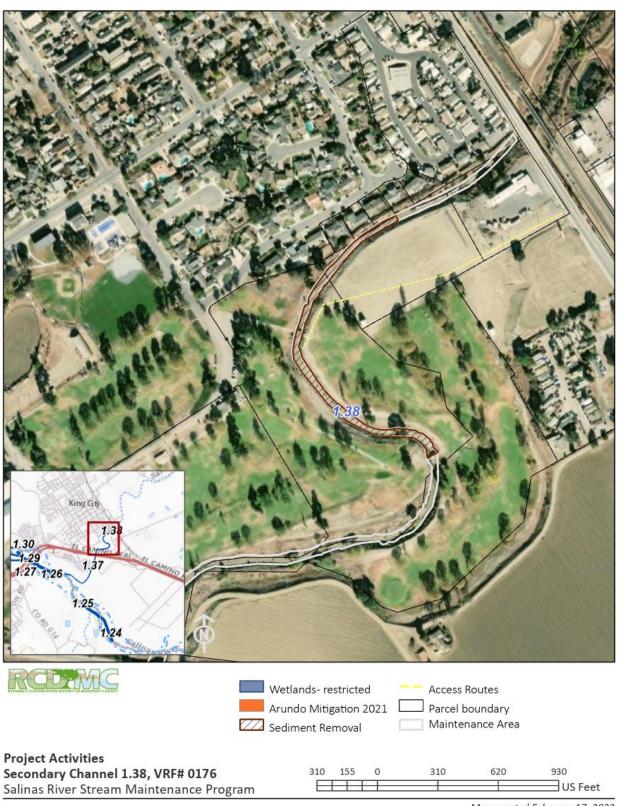


Map created February 17, 2022



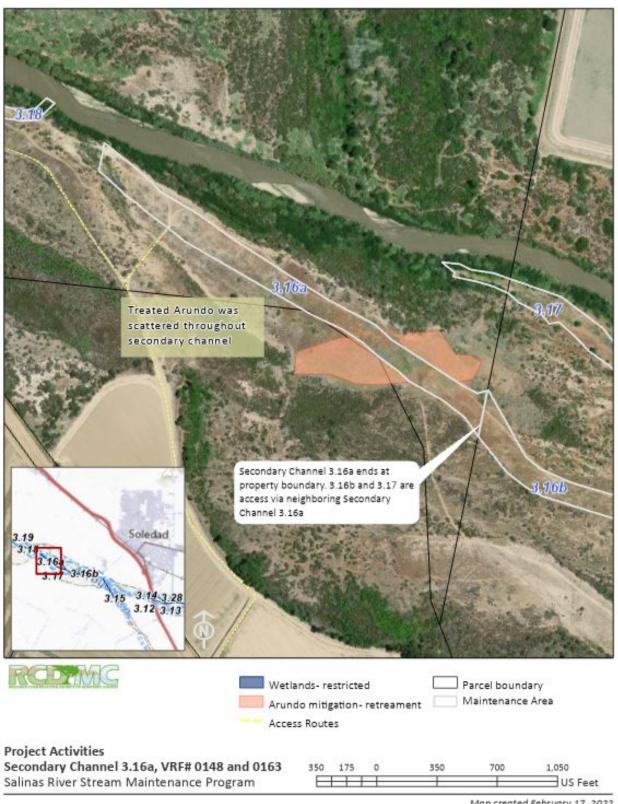


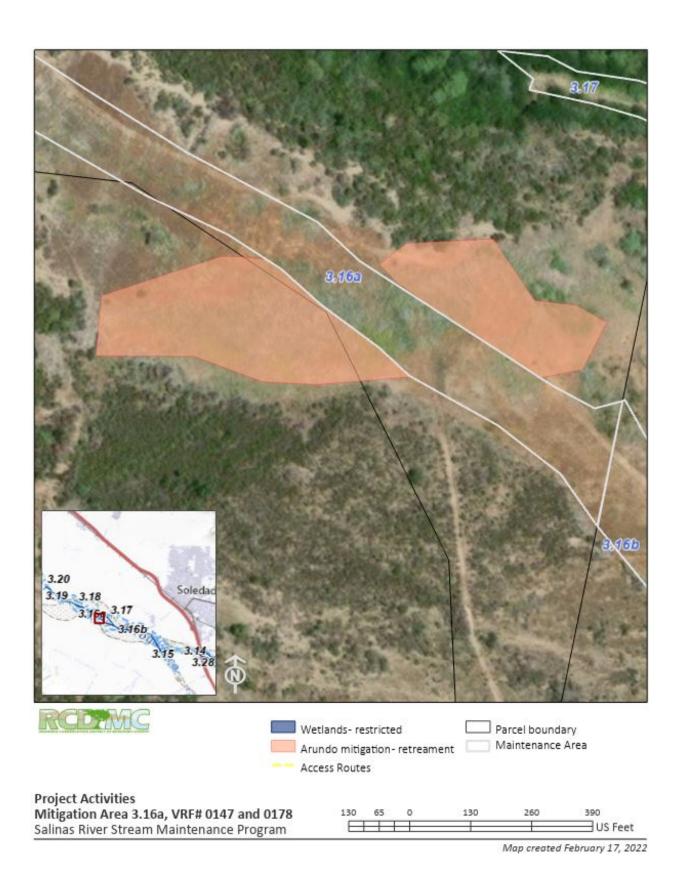


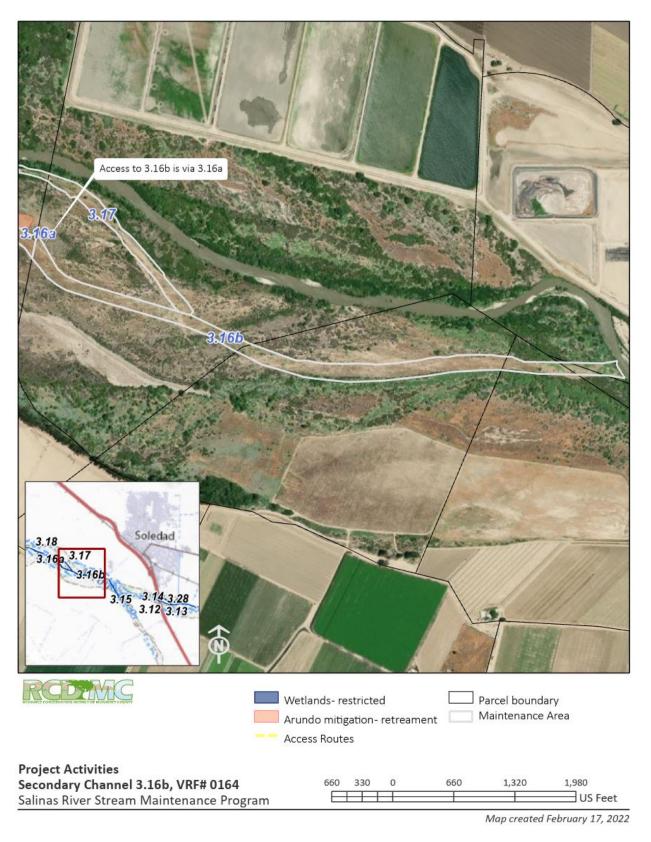


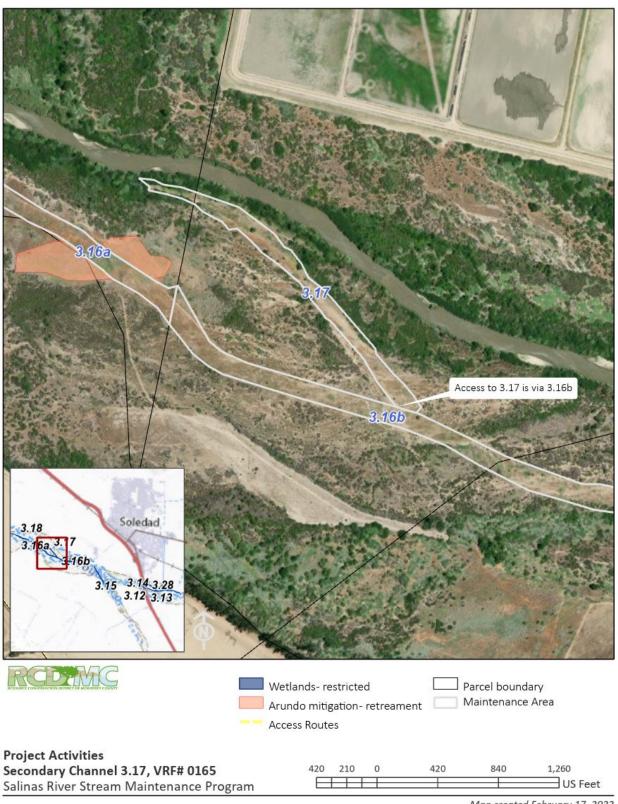


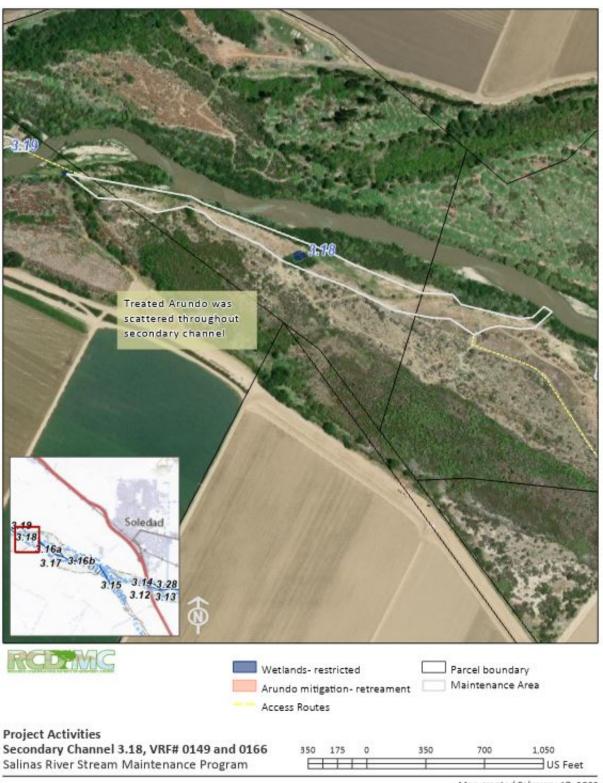


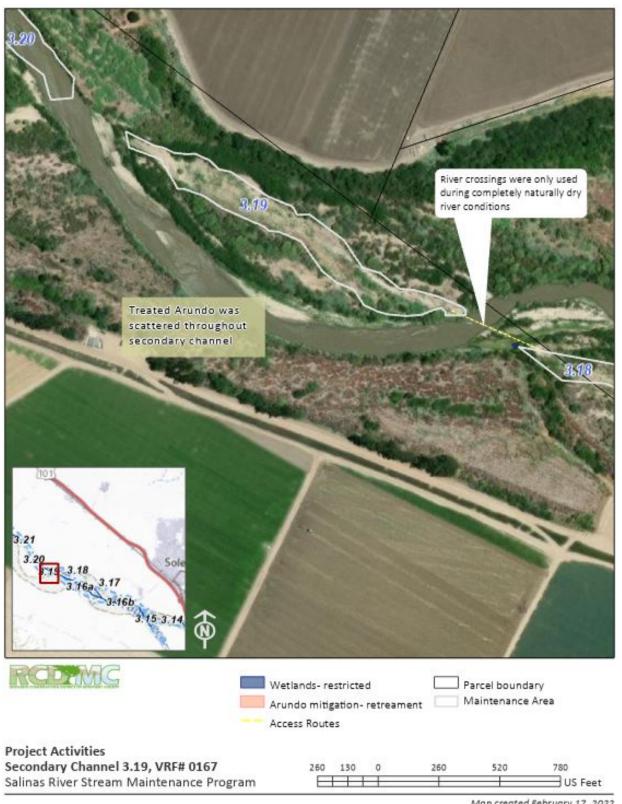


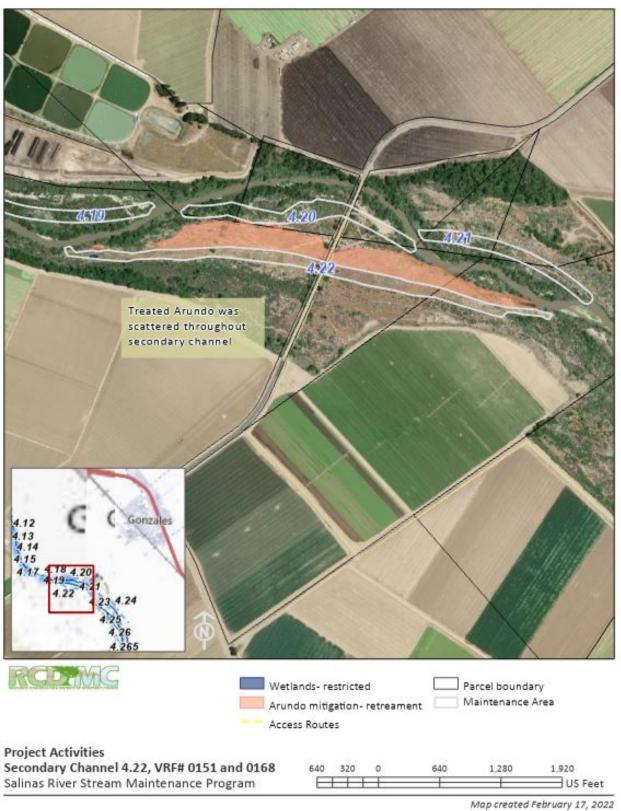


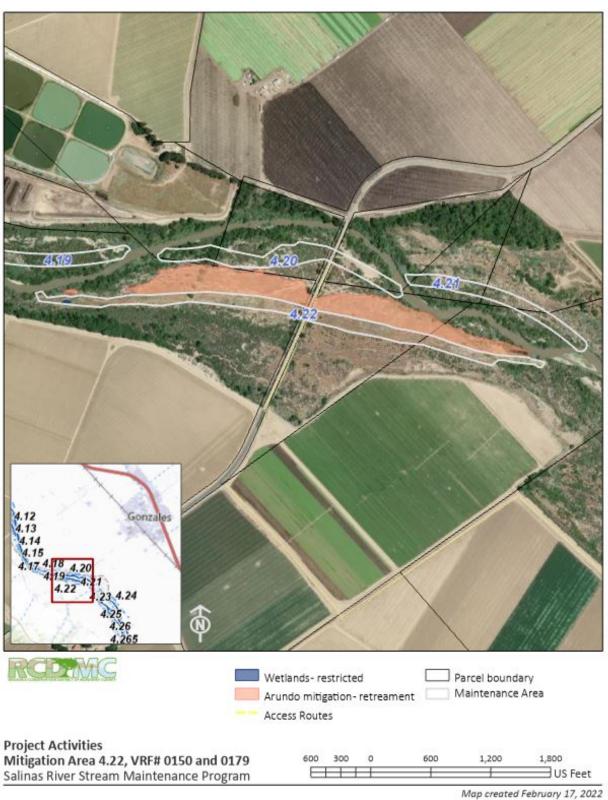


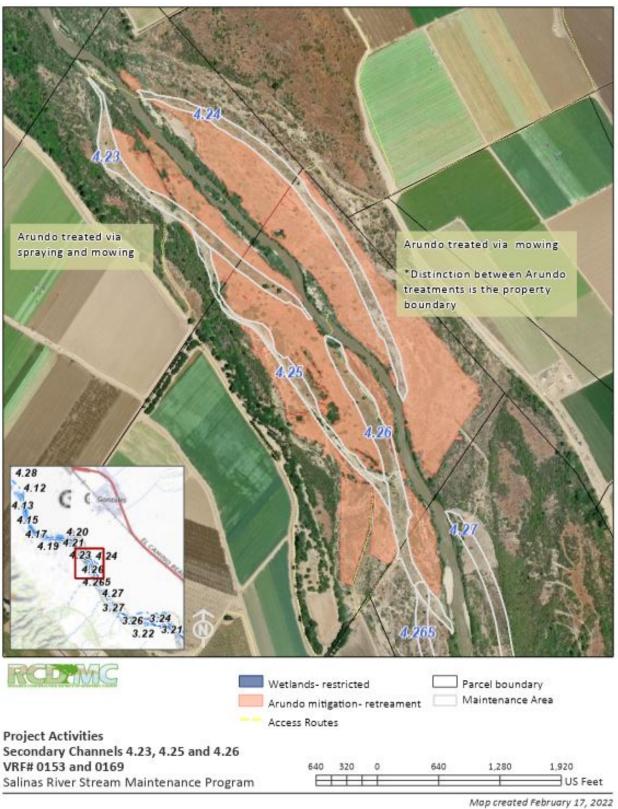


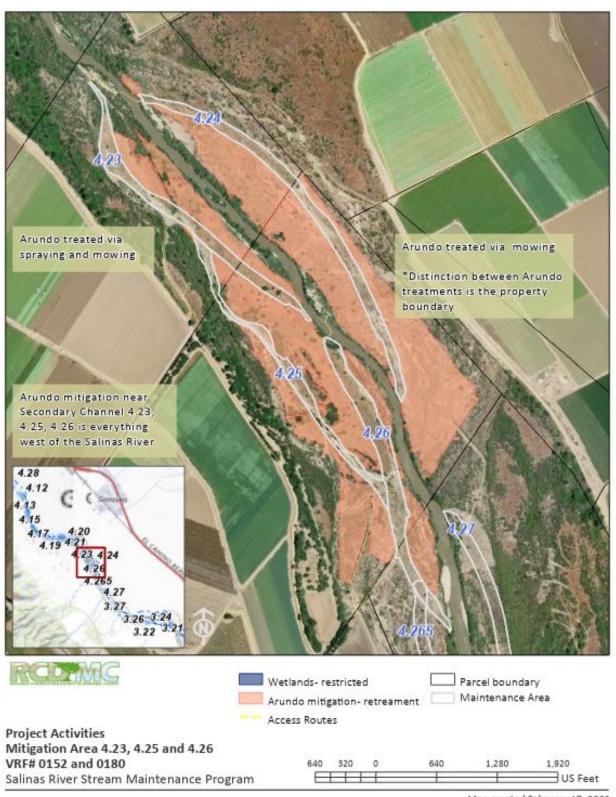


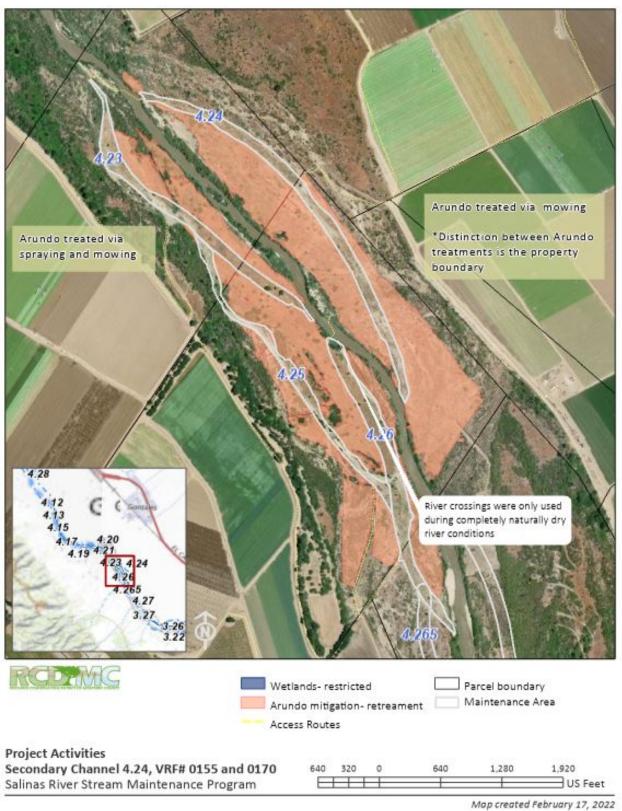


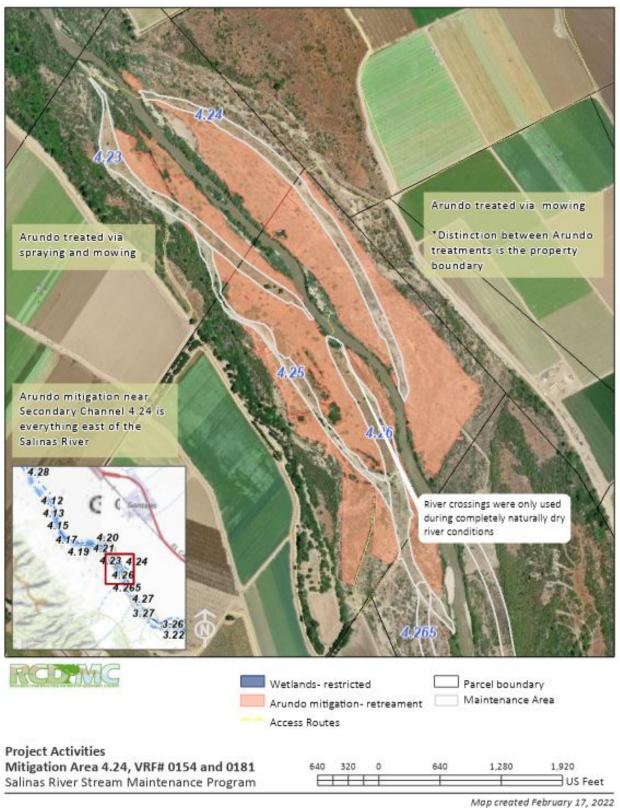




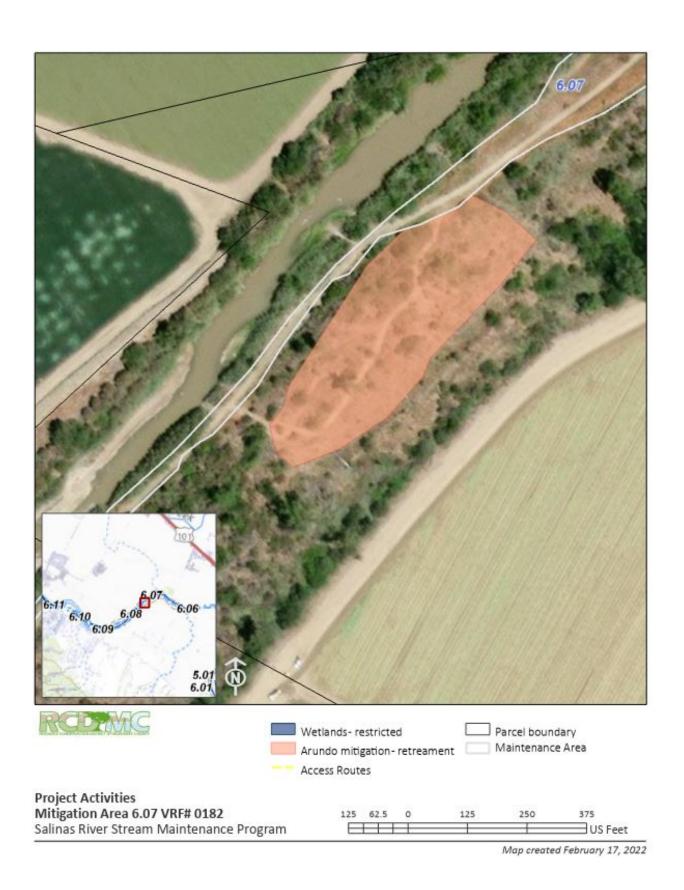












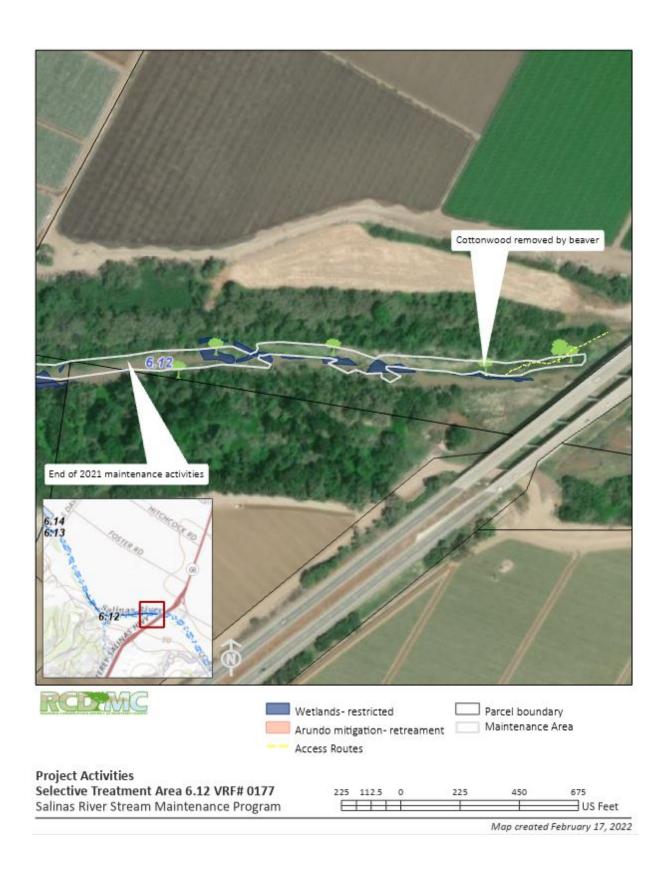




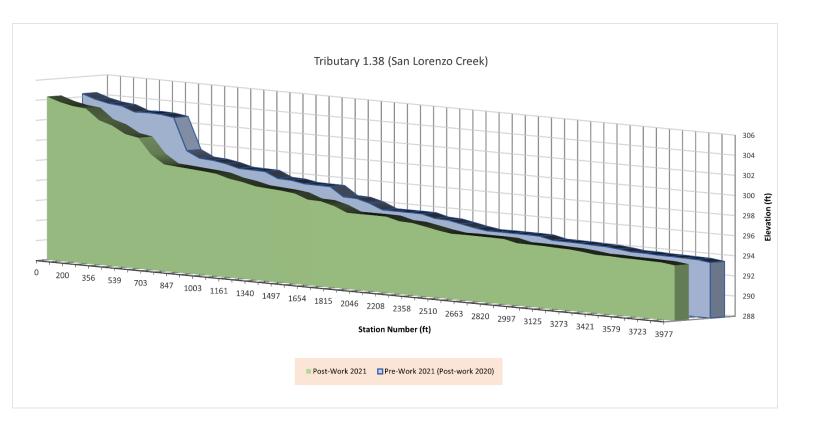








## 7 Longitudinal Profiles



**8 Certification of Compliance** 

## Enclosure 3

Permittee: Shaunna Murray, Monterey County Water Resources Agency

File Number: 1996-22309S (2021 SMP)

## Certification of Compliance for Regional General Permit 20

"I hereby certify that the work authorized by the above referenced File Number and all required mitigation have been completed in accordance with the terms and conditions of this Regional General Permit authorization."

S Smile	E-signed 3/29/2022
(Permittee)	(Date)

Return to:

Greg Brown U.S. Army, Corps of Engineers San Francisco District Regulatory Division, CESPN-R-S 1455 Market Street San Francisco, CA 94103-1398