User's Manual

A Field Guide for all Personnel including Operators and Participants
for
Pre-maintenance, Maintenance and Post-maintenance Activities

Salinas River Stream Maintenance Program

River Management Units (RMUs) 1 - 7

Monterey County Water Resources Agency
Updated: 2019

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1. Overview of the Salinas River Stream Maintenance Program:

The Monterey County Water Resources Agency (MCWRA), in cooperation with the Resource Conservation District of Monterey County (RCDMC) and other Project Partners, have developed a Stream Maintenance Program (SMP) for the Salinas River and select tributaries. 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 (River miles 2 to 94) and three tributaries: Gonzales Slough, Bryant Canyon Channel, and San Lorenzo Creek. 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. The stream maintenance activities are conducted voluntarily by the Responsible Parties (Participants) which include landowners, growers, lessees, municipalities, and others.

2. Purpose of This Manual:

To provide information to Participants to help guide their planning, preparation, and decision-making for stream maintenance activities.

The Salinas River SMP has year-round milestones in order to allow for two maintenance periods: spring/early and regular/fall. These are described below:

1. December to March: MCWRA monitors river conditions and determines adaptive management needs with assistance by Participants
2. March: Participant Work Plans due to MCWRA and RCDMC for summer work (Arundo spraying only)
3. April: Participant Work Plans due to MCWRA and RCD for fall work
4. June: Annual Work Plans including all necessary legal Agreements submitted for regulatory approval
5. June and/or August: Operators/Participants training
6. June and/or August: pre-maintenance site preparations by Participants
7. May to September: pre-maintenance biological surveys and Habitat Assessments conducted by RCDMC and Senior Biologists
8. June and/or September: authorization to work by Regulatory Agencies and final by MCWRA
9. June 1st to August 31st: Participants conduct early season Arundo spray Program, MCWRA performs inspections and RCDMC performs biological monitoring
10. Sept. 1st to Nov. 15th: Participants conduct all regular season maintenance activities, MCWRA performs inspections and RCDMC performs biological monitoring
11. Nov. 15th to January 15th: RCDMC performs site inspections and activity reporting
12. January 15th to March 15th: MCWRA and RCDMC analyze specific activities, effectiveness and determines permit compliance
13. March 31st to May 31st: Program reporting to regulatory agencies

3. Contacts:

RMU Association Contact:		**Biological Monitors/CDFW permits (RCDMC):**	
Donna Meyers	831-535-3979	Brandt Bates, Program Coordinator	831-238-4063 cell 831-975-7775 office Brandt.bates@rcdmonterey.org
404 & 401 Permits (MCWRA):		Emily Zefferman	850-443-3103 cell 831-975-7761 office
John Roitz	831-755-4819 office 831-261-4804 cell	**Lead Biologist (schedule through RCDMC):**	
Jennifer Bodensteiner	831-755-4970 office	Thor Anderson, Burleson Consulting	831-298-7633 ta@burlesonconsulting.com
Shaunna Murray	831-755-4865 office 831-521-4509 cell		

4. Normal Operating Hours:

Monday through Saturday during daylight hours. Nighttime work will not be allowed.

5. Paperwork Required On-site*:

- Copies of the Program's up-to-date regulatory permits (available for regulatory agency review, if requested)
    - California Department of Fish and Wildlife Amended and Restated Streambed Alteration Agreement, Routine Maintenance Agreement #1600-2016-0016-R4, approved October 14, 2016; amended and restated June 16, 2017; and amended April 10, 2018.
    - Central Coast Regional Water Quality Control Board, Water Quality Certification #32716WQ02, dated August 31, 2016
    - Department of the Army Regional General Permit 20, CORPS file #1996-22309S, dated September 28, 2016
- Copies of this Stream Maintenance Program User's Manual

* Additional information is included in the Permit Materials.

6. Pre-Maintenance Site Preparation:

Responsible Party: Participant or Designated Operator

- Attend the mandatory training: the training will cover topics such as biological species and their habitat, program guidelines, and permit conditions. The training will be offered just prior to the maintenance season beginning.
- Review maps of proposed work areas: Work can only occur in maintenance areas/secondary channels, selective treatment areas, tributaries, and mitigation areas included in the Work Plans and approved by the regulatory agencies. Access routes must follow existing roads, or new access routes must be approved in the Work Plans. The maps that were submitted along with the Verification Request Forms (VRFs) show authorized work areas, pending approval from the agencies.

7. Pre-Maintenance Surveys & Flagging:

All items must be completed PRIOR to work authorization issued.

Responsible Party: RCDMC Biological Monitors (Biomonitors)

- Biomonitors will flag all areas of proposed work in the approved VRFs: All areas proposed for maintenance during the current season must be flagged so that all personnel and inspectors can see the work areas clearly. The table below outlines the approved flagging techniques to be used.
- Biomonitors will use GPS to "groundtruth" location of maintenance area boundaries and to map existing vegetation types in the maintenance area including large native trees (cottonwood, alders, box elders, sycamores 2" or greater and willows 6" or greater in diameter at breast height), and create a database for calculating impacts and mitigation.
- Biomonitors may flag any large native trees or clumps of trees within the maintenance areas that should be avoided (larger cottonwoods, clumps of cottonwoods, sycamores, etc.) with RED flagging tape. Operators will have the opportunity to review avoidance areas and discuss with biologists, if concerns arise. Large native trees may be removed, but mitigation will be required.

Flagging Techniques:

Site Access	Mark with Yellow Ribbon
Existing	Stake the farm-side entrance, maintenance area entrance, and any intersections in between every 25 to 100 ft in order to maintain clear line-of-sight all the way to the maintenance area entrance.
New	Locate as close to work areas as possible, avoid 15% slopes and large mature native vegetation or other significant habitat features.
River Crossings (low flow channel):	Mark with Yellow Ribbon
Dry	One crossing per site, a minimum of three stakes (each bank, and center of channel)
Wet	**No water crossings are permitted**
Maintenance Areas:	Mark with Blue Ribbon
Boundary of Secondary Channel or Selective Treatment Area	Ground truth the mapped areas and determine the appropriate perimeter based on existing topography and vegetation. Bio Monitors and/or MCWRA will confirm the final placement.
	Width of maintenance area should be approximately 70 to 200 ft depending on site conditions and previous mapping. Exceptions are for adjacent large Arundo stands that can be incorporated into the work area.
	Stake the perimeter every 25 to 100 ft in order to maintain clear line-of-sight all the way around.
	A minimum 10 ft buffer must remain between Maintenance Areas and the low flow channel, except at tie-ins.

River Tie-ins:	Mark with Blue and Yellow Ribbon
Area where the secondary channel connects to the low-flow channel	This refers to the last 10 ft of either end of the maintenance area when it connects with the low flow channel. (See diagram below)
	Can be modified to focus vegetation removal to areas dominated by Arundo or sparsely vegetated areas. All Arundo within the tie-in area can be removed.
	If the location will impact native tree species, maintenance must be limited to smaller "punctures" with a maximum of 4 punctures up to 15 feet wide in each tie in. No more than 50% of native vegetation at a tie-in can be removed. The rest of the tie-in is considered an avoidance area and the staking is described below.
Arundo Mitigation Areas	Mark with Green Ribbon
	Mark the perimeter of mitigation areas every 25-100 ft in order to maintain line-of-sight all the way around.
	Arundo mitigation areas should be dominated by arundo. Any native vegetation mixed in should be avoided if possible, especially larger woody vegetation.
Avoidance Areas:	Mark with Red Ribbon (Biologists will assist with this)
	Avoid, if possible, large clumps or individual native trees (cottonwood, alders, sycamores 2" or greater and willows 6" or greater in diameter at breast height) within all work areas (if removed, mitigation will be required).
	Avoid key habitat elements (nests, wetlands, etc.).
	Avoid native tree or wetland species in the tie-ins (10 ft wide buffer adjacent to the low flow channel), except for the approved punctures described above.
	Stake avoidance areas to have clear line-of-site all the way around or just within the work area as applicable. (e.g. tie-ins, on the edge of the work area)
Grading/Sediment Removal:	Mark lathe and with White Ribbon (this may be done after vegetation has been removed)
	Set reference stakes of the proposed elevation at both upstream and downstream ends of the secondary channel.
	Secondary channels must be sloped downstream.
	Secondary channels must be at least 3 ft above the low flow channel and 9 inches above any standing water.
	Sediment removal may not exceed 2 ft of excavation over the length of the channel.
	Determine slope of channel and set necessary grade stakes throughout the length of the channel.

Diagram showing tie-in locations (yellow oval), secondary channel (pink polygon) and direction of flow within secondary channel (going downstream).

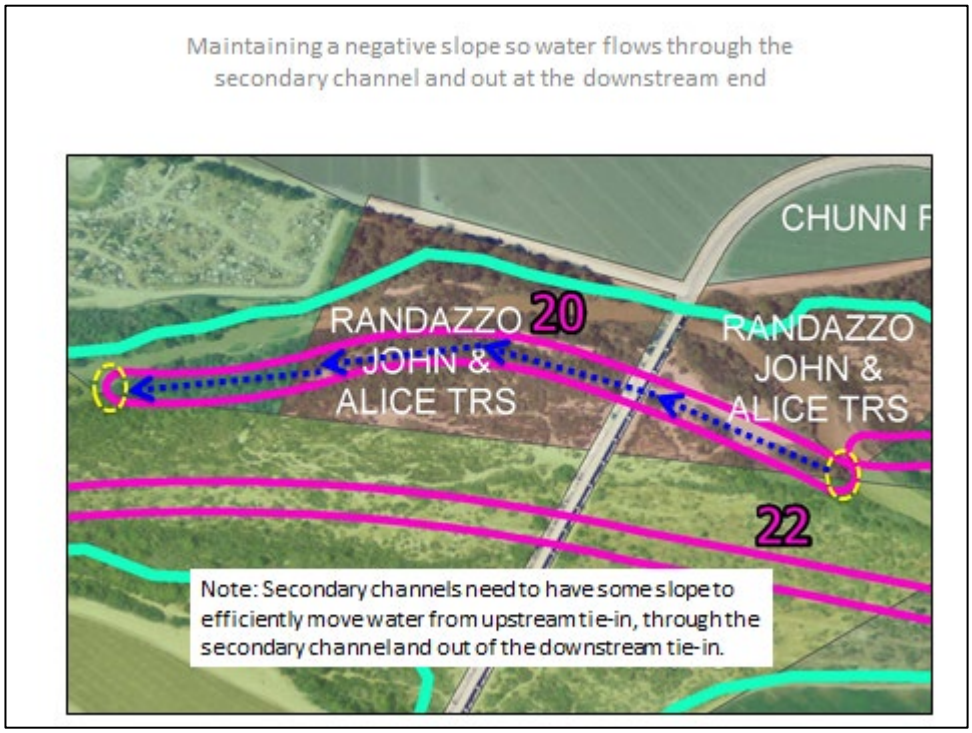
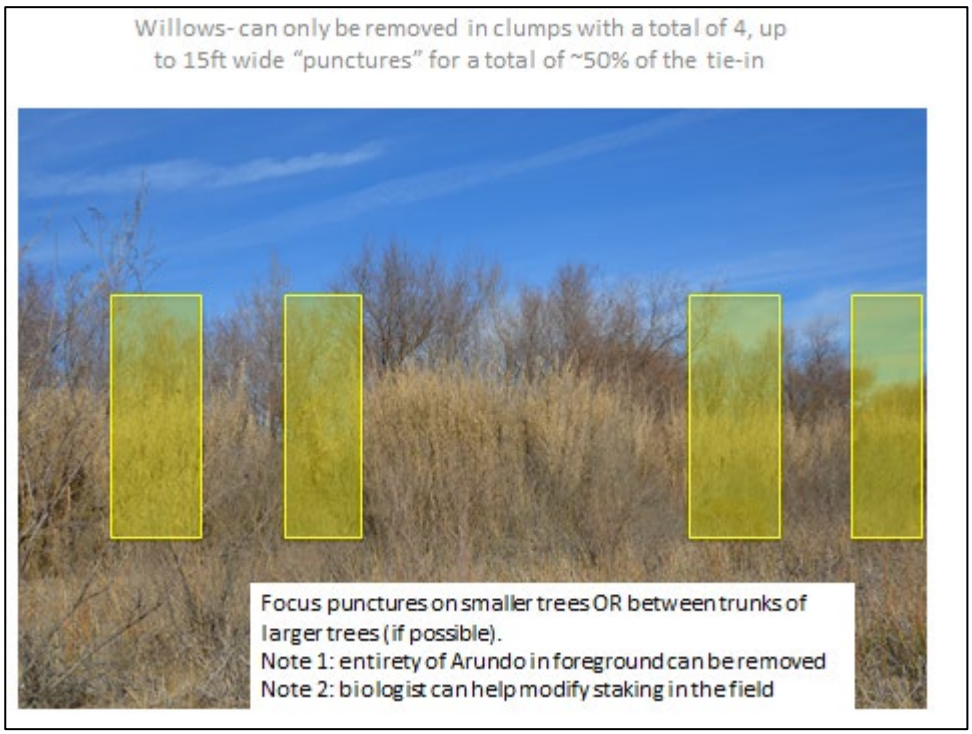


Diagram showing "puncture" locations in a tie-in.



8. Habitat Assessment Surveys:

All items must be completed PRIOR to work authorization issued.

Responsible Party: RCDMC-Contracted Senior Biologists

- Biologists will conduct habitat assessments of maintenance areas proposed for work that season and appropriate surrounding areas in accordance with U.S. Fish & Wildlife Biological Opinion and CA Dept. of Fish & Wildlife Routine Maintenance Agreement Requirements.
- Biologists will look for key habitat elements (wood rat nests, potential fox dens and bat roosts, wetlands, etc.) and flag any areas that need to be avoided with RED flagging tape.
- If Biologist determines there are impacts to listed species then maintenance activities may be redesigned to avoid direct and indirect impacts to listed species, with approval from MCWRA.
- In certain cases where potential habitat for a sensitive species is found (for example, a potential kit fox den or bat roost), additional surveys may be able to "rule out" the area as a habitat so that avoidance buffers can be eliminated or reduced. Wood rat houses can be moved out of the work area. Such follow-up surveys or wood rat removal can be conducted as the request and expense of the landowner.
- Note that "take" (harming, harassing, hunting, pursuing, capturing, killing, etc.) of any State- and Federally-listed species is not authorized under program permits.

8. Scheduling of Maintenance Work

Responsible Party: Participant or Designated Operator

Maintenance work will be scheduled through the RCDMC. Contact Brandt Bates at the numbers listed in Section 3. Work activities may occur during the following time periods:

June 1st to November 15th – Herbicide application to arundo
September 1st to November 15th - Sediment & Native Vegetation Management within Maintenance Areas and Herbicide & Mechanical Treatment of Arundo
September 1st to January 31st - Tree Planting for Compensatory Mitigation

9. Sediment Grading Inspections:

Must be completed AFTER vegetation has been removed.

Responsible Party: Participant or Designated Operator

- In preparation of grading/smoothing and sediment removal, Operators must place grade stakes every 50-100 feet in areas of proposed grading/smoothing and sediment removal.

- Grade stakes must also be placed to mark the depth of the river's thalweg, and the elevation of any surface water when the secondary channel is adjacent to the low-flow channel.
- Operator will use laser leveling equipment to mark stakes and ensure the depth of excavation does not exceed vertical setbacks.
- MCWRA must inspect and approve the staking before sediment removal or grading work may begin

Responsible Party: RCDMC-Contracted Land Surveyors

- Qualified professionals will perform longitudinal profiles of ground surface elevation of specified secondary channels after any vegetation has been removed and prior to sediment management activities.
- Data collection will be tied to a Temporary Benchmark (TBM) and may be performed via drone surveys or traditional on the ground surveys.
- Surveys will also be performed after all sediment management activities have occurred and the data will be reviewed for permit compliance.

9. During Maintenance – Best Management Practices

Responsible Party: Participant or Designated Operator

A. General Practices

1. If human remains are discovered, the operator shall halt all work immediately within 50 feet of the discovery, and notify the MCWRA, 831-755-4860 and the County Coroner, 831-755-3792.
2. If any paleontological resources (fossils) are discovered, the operator shall halt all work immediately within 50 feet of the discovery and notify the MCWRA, 831-755-4860.
3. No washing of vehicles will occur at job sites.
4. No fueling, repair, maintenance, washing, or storage of vehicles or equipment will occur in riparian areas (waterways, the adjacent floodplain, or top-of-bank areas). A hazardous materials spill prevention and response plan will be in place before work begins.
5. Prior to entering work areas, all vehicles and heavy equipment must be inspected for the presence of invasive weeds and cleaned off-site.
6. The Declining Amphibian Populations Task Force's Fieldwork Code of Practice (Appendix A) will be followed to minimize the possible spread of chytrid fungus and other amphibian pathogens and parasites. This measure is applicable to all construction personnel and equipment as well as to biologists. Decontamination procedures and stations will be established at all work areas near aquatic habitat as necessary.
7. In the event of any hazardous material emergencies or spills, personnel will call the Chemical Emergencies/Spills Hotline at 1-800-510-5151 and notify the RCDMC.
8. The work site, areas adjacent to the work site, and access roads will be maintained in an orderly condition, free and clear from debris and discarded materials. Upon completion of maintenance work, all debris, unused

materials, and other maintenance-related materials will be removed from the work site.

9. All food-related trash items will be disposed of in secure, closed containers and removed at least once per week to reduce the potential to impact wildlife. After construction, all trash and construction debris will be removed from work areas.
10. The limits of access and staging areas, locations designated for placement of removed sediment, and work areas adjacent to sensitive habitats to be avoided will be clearly marked.
11. Existing access ramps and roads will be utilized to the fullest extent feasible to access stream areas. No new routes may be created without prior approval.
12. Vehicles will observe a daytime speed limit of 20 mph on all roads in the Project area except county roads and State and Federal highways.
13. No pets of any kind will be permitted in the project area.
14. MCWRA staff will perform site inspections during each weekday to ensure compliance with permits.

B. Rainfall Protocols

Work may not occur during rain events. The following list outlines necessary site preparations and when work can be scheduled or cancelled due to rainfall forecasts.

1. At **2:00 p.m. on the day before** planned activities, if the National Weather Service forecast for the nearest municipality predicts a 25% or more chance of 0.25 inch of rain within 24 hours, Participant shall install effective erosion control, sediment control, and other protective measures and shall smooth active sediment removal and/or movement sites in anticipation of potential rain events. Participant may plan to conduct maintenance, mitigation, or restoration activities the following day subject to the other conditions.
2. At **2:00 p.m. on the day before** planned activities, MCWRA shall cancel the following day's work, and Participant shall smooth active sediment removal and/or movement areas and remove arundo debris piles (not including chipped arundo) outside the outer banks/levees, if flow conditions at any of the locations listed below indicate the possibility that standing or flowing water may occur in areas where maintenance is proposed the following day:
    a. Salinas River at the USGS flow gauge near Bradley;
    b. Salinas River at the USGS flow gauge at the Highway 101 bridge near Soledad; or
    c. Arroyo Seco River at the USGS flow gauge at the Arroyo Seco Road bridge near Soledad.
3. At **7:00 a.m. on the day** of planned activities, MCRWA shall cancel that day's work at any maintenance site if any of the following applies at the site:
    a. Rainfall is occurring. Includes rain, showers, or drizzle, but not fog or mist; or
    b. Standing or flowing water is present in work areas.
4. At **7:00 a.m. on the day** of planned activities, if the National Weather Service forecast for the nearest municipality predicts a 25% or more chance of rain

that day (regardless of amount) but rainfall is not presently occurring, Participant may conduct scheduled work activities subject to the following:

a. Participant shall keep equipment, trash, and non-plant-matter debris within the levees to a minimum.
b. Participant shall chip cut arundo debris in place.
c. Participant shall not drive equipment across the low- flow river channel or work in any location that requires access across the low - flow river channel.
d. Participant shall not conduct any sediment removal or movement activities beyond what is incidental to vegetation removal activities.

5. Participant shall cease work; install effective erosion control, sediment control, and other protective measures; and remove equipment, trash, and non-plant-matter debris outside the outer banks/levees at any time rainfall begins. Participant may resume work when rainfall ceases, provided that rainfall appears to be over for the day and subject to item 4 above and 6 below.
6. Prior to work commencing after a large rain event as defined above; work may resume after precipitation ceases, a drying-out period of 24 hours is observed, and a Service-approved biologist inspects all work areas to verify absence of listed species.
7. Immediate work area is defined as an area where work will be performed within 24 hours of start-up.
8. No herbicides will be applied within 24 hours of forecasted rain or within 24 hours following a rainfall event of 0.25 inches or greater. Best management practices will be followed to prevent unintended transport of herbicides by air or water into native habitats.

C. Smoothing/Sediment Removal

1. Grading activities prohibited during periods of high wind (over 15 miles per hour.)
2. Soil disturbance shall not exceed the minimum area necessary to complete the operations as described in application.
3. Excavation will not go deeper than three feet above the river's thalweg or less than nine inches above any standing water.
4. Sediment removal may not exceed 2 feet of excavation over the channel or exceed the annually approved extraction amount.
5. In Gonzales Slough, Bryant Canyon Channel, and San Lorenzo Creek, sediment excavation may not occur below the grade at the downstream end of the excavation.
6. Sediment management sites will be graded so that the transition between the existing channel both upstream and downstream of the maintenance area is smooth and continuous between the maintained and non-maintained areas and does not present a sudden vertical transition (wall of sediment) or other blockage that could erode once flows are restored to the channel. Downstream tie-in points can also be positively graded at the area joining the low flow channel to avoid potential fish stranding.

7. In preparation of grading/smoothing and sediment removal, grade stakes will be placed to mark the depth of the river's thalweg, and the elevation of any surface water. Stakes must be placed every 50-100 feet and laser leveling equipment will be used to mark stakes and ensure the depth of excavation does not exceed vertical setbacks. MCWRA must inspect and approve the staking before work may progress.
8. Cover all trucks hauling dirt, sand, and other loose materials and maintain at least 2'0" of freeboard.
9. Temporary stockpiles within the riparian area may only be placed in areas that are unvegetated or have herbaceous vegetation only. Barriers will be placed to ensure native soils or sediment are not removed from temporary stockpile locations.
10. Soil stockpile areas will be covered with plastic sheeting or visquine to prevent erosion and loss of material.
11. Stockpiled material must be placed outside of the greater river channel by November 15th as approved in the Annual Work Plan.
12. Sediment and spoils piles shall be deposited at least 100 feet away from any water wells to prevent potential bacterial contamination.
13. Water draining from stockpiles will not be allowed to flow back into the creek or into local storm drains that enter the creek or channel, unless water quality protections measures recommended by the CCRWQCB are implemented.

D. Arundo Protocols

1. Invasive species, including *Arundo*, will be disposed of in a manner that will not contribute to further spread of the species. All *Arundo* debris piles will be removed from the work area before the end of the work day. Invasive species including Arundo canes will be prevented from entering watercourses and be disposed of in a manner that will not contribute to further spread of the species.
2. Herbicides must be applied by a licensed applicator in accordance with label instructions.
3. Invasive vegetation removal must comply with proper techniques as outlined in the SMP Guidelines, so that the removal is effective.
4. Only herbicides approved for use in aquatic and wetland environments will be used for non-native vegetation removal (formulation of glyphosate, imazapyr, or tricolpyr). All mixing of herbicides will only occur in areas without native vegetation, adjacent to existing roads, that have compacted disturbed soils.
5. Herbicide spraying may occur from June 1st to November 15th. Mechanical reduction may occur September 1st to November 15th.
6. Herbicides will not be used in areas where listed species have been identified by a Service-approved biologist, and will be utilized in such a manner as to prevent poisoning of listed species or their habitat. Herbicide use may only occur after the biologist has relocated the species out of harm's way or has confirmed the species to no longer be at risk from direct or indirect impacts.

7. Herbicides will not be sprayed when wind speeds exceed 10 mph. All sprays shall contain a dye to prevent overspray.
8. Arundo treatment will not be conducted in the wetted low flow channel.
9. Discing may not occur over arundo to prevent fragmenting arundo rhizomes.
10. Success criteria for mitigation credit is that there are no additional re-sprouts detected in two consecutive years during the first five years of treatment and that the total arundo is reduced to 5% cover in areas of treatment. These criteria will be monitored annually until reached.

E. Native Vegetation Removal

1. Native Vegetation can only be removed in approved Maintenance Areas and their related Access Ways.
2. Maintenance activities will be minimized to the extent practicable in the root zone of existing woody vegetation to promote soil and bank stability.
3. Certain native vegetation types that are removed will need to be mitigated for in accordance with the table below:

Vegetation Type	**Required Mitigation**
Arundo-dominated	none
Sparse Herbaceous with or without Arundo	none
Early Successional Perennial Riparian (dominated by mulefat and willow saplings <2")	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
2" or greater of cottonwood, sycamore, box elder and alder trees	3:1 Planting of cottonwood, sycamore, box elder, or alder (based on individual trees)
Large Stature Willows (6" or greater)	2:1 Planting of cottonwood, sycamore, box elder, willow, or alder (based on individual trees)

4. Biological Monitors will determine whether or not a tree is dead. No mitigation is required for dead trees.
5. Limited limbing and removal of cottonwood trees in secondary channels would follow a decision protocol weighing flow conveyance benefits and safety considerations. No more than 25% of the canopy cover of a tree would be removed in a given year.
6. Large trees and branches (dead or live) may be removed from the riparian area, cut into lengths of 3 ft or less, or chipped in place.
7. Discing may occur after native vegetation removal as long as there is no arundo present.
8. Work is not permitted in water.
9. No permanent impact to federal wetlands is permitted. Accidental impacts must be mitigated through full restoration.

F. Selective Treatment Areas

1. A modified treatment approach will be used in maintenance areas 6.12 and 7.01.
2. Tree removal of up to 50 willows 6 inches dbh and greater would be allowed in 6.12, only 1/3 (i.e., seventeen) may be removed in the thalweg or within the 10-foot buffer around the thalweg, over the permit term.
3. Tree removal of up to 12 willows 6 inches dbh and greater would be allowed in 7.01, only 1/3 (i.e.,four) may be removed in the thalweg or within the 10-foot buffer around the thalweg, over the permit term.
4. Limbing of trees with a 4 inch and greater main stem dbh, up to 10 feet from the base of the trunk, using hand tools is allowed.
5. Cut material should be left in lengths no longer than 3 feet,chipped on site, or removed from the riparian area.
6. Up to 50 percent of the area may be mowed or disked in areas of sparse herbaceous (with and without arundo) and early successional willow in the thalweg and within the 10-foot buffer around the thalweg.
7. Sediment bar ripping would occur on up to 10 bars in 6.12 and 8 bars in 7.01.
8. Sediment bar ripping includes the use of heavy equipment to make three to five cuts perpendicular to the low flow channel in order to loosen existing sediment once vegetation is removed. The width of each cut will be approximately 8 feet, depending on equipment size.

G. Tree Planting

1. Tree planting for mitigation purposes may be conducted between September 1st and January 31st.
2. Tree planting shall be conducted with hand tools only.
3. Trees cannot be planted during rain events, in standing or flowing water or on a bank above standing or flowing water.
4. Planted trees should be native alder, sycamore, cottonwoods, or box elder.
5. Trees may be sourced from nurseries or from cuttings from within the Salinas River riparian area. If cutting are used, branches must be between ½ and 2" in diameter, and no more than 5% of the foliage from a single tree may be removed.
6. Creation of larger patches of vegetation is encouraged.
7. Plantings should be watered and managed to the point of establishment, but trees must be off of supplemental water for at least two years prior to assessment of success criteria.
8. Success Criteria is that 85% survival of trees must be achieved 5 years after planting and two years off irrigation They will be monitored annually until the success criteria is reached.

H. Biological Monitoring:

1. RCDMC Biological Monitors (biomonitors) or Senior Biologists will monitor stream maintenance activities to ensure no impact to listed species and to document significant habitat features. "Take" (harming, harassing, hunting,

pursuing, capturing, killing, etc.) of any State- and Federally-listed species is not authorized under program permits.

2. Biological Monitors will halt work if species of concern are found (seen or heard) in work area.
3. A US Fish and Wildlife Service-approved biologist will provide mandatory worker awareness training for all project personnel before work begins.
4. A Service-approved biologist will be on-site or on-call to visit maintenance areas at any time during work in the event a special-status species is encountered. An RCDMC biological monitor will be the contact for any employee or contractor who inadvertently kills or injures a listed species or who finds a dead, injured, or entrapped individual if the approved biologist is not present. The biologist or biological monitor will report the incident to the Service via electronic mail and telephone within one working day.
5. A Service-approved biologist will be present throughout all work in areas located near aquatic or riparian habitats where California red-legged frogs or California tiger salamanders have been observed or are likely to be present. The Service-approved biologist will have the authority to stop work if there is a threat of harm to California red-legged frogs, and will notify the Service within one working day of any work stoppage.
6. Each morning before work begins a Service-approved biologist or biological monitor will inspect all vehicles and heavy equipment for the presence of protected species.

10. Post Maintenance Activity Reporting:

Responsible Party: Participant through the RCDMC

The data shall be collected by RCDMC staff or contractors after the maintenance activities are completed and prior to winter flows.

A. <u>Annual Site Report (Data collected by Biological Monitors, RCDMC):</u>

- Brief evaluation to make sure maintenance was in designated work areas and that avoidance was implemented.
- Quantify any changes from pre-maintenance surveys.
- Map the locations and extent of the work completed (e.g. vegetation types, sediment quantities, stockpile locations, and mitigation areas)
- Mitigation planting areas, tree types, quantity of trees, and condition
- Document delineated wetlands
- Photographs

B. <u>Longitudinal Profiles (RCDMC consultant):</u>

- The same secondary channels that were surveyed prior to sediment management activities will be surveyed again once work in completed using the same means and methods.
- Data collection must be reproducible and should be tied to a TBM.

Appendix A: Declining Amphibian Populations Task Force's Fieldwork Code of Practice

A code of practice, prepared by the Declining Amphibian Task Force (DAPTF) to provide guidelines for use by anyone conducting field work at amphibian breeding sites or in other aquatic habitats. Observations of diseased and parasite-infected amphibians are now being frequently reported from sites all over the world. This has given rise to concerns that releasing amphibians following a period of captivity, during which time they can pick up unapparent infections of novel disease agents, may cause an increased risk of mortality in wild populations. Amphibian pathogens and parasites can also be carried in a variety of ways between habitats on the hands, footwear, or equipment of fieldworkers, which can spread them to novel localities containing species which have had little or no prior contact with such pathogens or parasites. Such occurrences may be implicated in some instances where amphibian populations have declined. Therefore, it is vitally important for those involved in amphibian research (and other wetland/pond studies including those on fish, invertebrates and plants) to take steps to minimize the spread of disease and parasites between study sites.

1. Remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires and all other surfaces. Rinse cleaned items with sterilized (e.g. boiled or treated) water before leaving each study site.
2. Boots, nets, traps, etc., should then be scrubbed with 70% ethanol solution (or sodium hypochlorite 3 to 6%) and rinsed clean with sterilized water between study sites. Avoid cleaning equipment in the immediate vicinity of a pond or wetland.
3. In remote locations, clean all equipment as described above upon return to the lab or "base camp". Elsewhere, when washing machine facilities are available, remove nets from poles and wash with bleach on a "delicates" cycle, contained in a protective mesh laundry bag.
4. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolates species, wear disposable gloves and change them between handling each animal. Dedicate sets of nets, boots, traps, and other equipment to each site being visited. Clean and store them separately and the end of each field day.
5. When amphibians are collected, ensure the separation of animals from different sites and take great care to avoid indirect contact between them (e.g. via handling, reuse of containers) or with other captive animals. Isolation from un-sterilized plants or soils which have been taken from other sites is also essential. Always use disinfected/disposable husbandry equipment.
6. Examine collected amphibians for the presence of diseases and parasites soon after capture. Prior to their release or the release of any progeny, amphibians should be quarantined for a period and thoroughly screened for the presence of any potential disease agents.
7. Used cleaning materials (liquids, etc.) should be disposed of safely and if necessary taken back to the lab for proper disposal. Used disposable gloves should be retained for safe disposal in sealed bags