



**Watersheds Coalition of Ventura County IRWMP
 Proposition 50 Grant Proposal, Step 2
 Attachment 15: Modification of River or
 Stream Channel**

Attachment 15 must be completed for any Proposal that includes a project that modifies a river or stream channel. The applicant must provide documentation that the environmental impacts resulting from such modification will be fully mitigated, considering all of the impacts of the modification and any mitigation, environmental enhancement, and environmental benefit resulting from the project. Also, the applicant should address whether, on balance, any environmental enhancement or benefit equals or exceeds any negative environmental impacts of the project. If DWR and the State Water Board determine that on-balance environmental impacts of such modifications will not be fully mitigated, the corresponding portion of the Proposal will not be eligible for grant funding.

The Proposal includes three projects (Calleguas Creek Watershed Arundo/Tamarisk Programmatic EIR/EA, Permits and Pilot Removal Project (C-10), Ventura River Watershed Protection Project (V-1), and San Antonio Spreading Grounds Rehabilitation [V-2]) that will include a modification to river or stream channel. In all instances, the impacts will be fully mitigated and the benefits from the modification significantly outweigh any negative impacts to the river or stream. A discussion of the environmental impacts for each project are provided below.

**Calleguas Creek Watershed
 Arundo/Tamarisk Programmatic EIR/EA,
 Permits and Pilot Removal Project (C-10)**

The Calleguas Creek Watershed Arundo/Tamarisk Programmatic EIR/EA, Permits and Pilot Removal Project (Calleguas Arundo Removal Project) will include removal of arundo and tamarisk species along Calleguas Creek and its tributaries. As arundo and tamarisk are invasive riparian species, removal activities will require modification of the stream channel.

Both arundo and tamarisk are listed as 'A-1' invaders (the most invasive and widespread wildland pest plants) by the California Invasive Plant Council and as noxious weeds by the California Department of Food and Agriculture (CDFA). While the degree and specifics of problems associated with these species vary, general negative effects associated with the establishment of arundo and tamarisk within the Watershed include the following:

- Water Quality: Reduction in the shading of surface water, thereby resulting in reduction of bank-edge river habitats, higher water temperature, lower dissolved-oxygen content, elevated pH, and conversion of ammonia to toxic unionized ammonia.

- Water Supply: Loss of surface and groundwater through heavy water consumption and rapid transpiration.
- Flooding: Obstruction of flood flows with associated damage to public facilities, including bridges and culverts, and to private property such as farmland.
- Erosion: Increased erosion of streambanks, associated damage to habitats and farmlands due to channel obstructions, and decreased bank stability associated with shallow-rooted arundo.
- Fire Hazards: Substantially increased danger of wildfire occurrences, intensity, and frequency, and a decrease in the role these channels play as firebreaks or buffers when infested with arundo.
- Native Habitats: Displacement of critical riparian habitat through monopolization of soil moisture by dense monocultures of arundo and tamarisk.
- Native Wildlife: Reduction in diversity and abundance of riparian-dependent wildlife due to decreased habitat quality, loss of food and cover, and increased water temperatures.
- Threatened and Endangered Species: Substantial reductions in suitable habitat available for state and federally listed species such as the least Bell's vireo.

Removal of arundo and tamarisk will help alleviate these negative effects.

Ventura County Resource Conservation District (VRCRD) will consult with U.S. Army Corps of Engineers (ACOE), the U.S. Fish and Wildlife Service



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(USFWS), and the California Department of Fish and Game (CDFG) to obtain the necessary permits for these activities, and any impacts to the stream channel will be fully mitigated.

In addition, as described above, the removal of invasive tamarisk and arundo will have significant benefits that far outweigh any impacts. Furthermore, as part of the project, a programmatic EIR/EA will be developed to identify and mitigate any potential adverse impacts from the removal. From this study, a set of methods for removal, disposal, and revegetation will be developed to ensure that removals are conducted with minimal adverse impacts. Best management practices will also be developed to reduce erosion and other impacts to the environment.

Ventura River Watershed Protection Project (V-1)

The Ventura River Watershed Protection Project will include some removal of arundo within the Ventura River Watershed. As arundo is an invasive riparian species, removal activities will require modification of the stream channel. Removal of arundo in the Ventura River Watershed will help alleviate the same types of negative effects described above for the Calleguas Arundo Removal Project (C-10).

Similar to the Calleguas Arundo Removal Project, Ventura County Watershed Protection District (VCWPD) will consult with the agencies described above to obtain the necessary permits for these activities and prepare the required CEQA documentation. Any impacts to the stream channel will be fully mitigated. In addition, as described above, the removal of invasive tamarisk and arundo will have significant benefits that far outweigh any impacts.

San Antonio Spreading Grounds Rehabilitation (V-2)

As part of the San Antonio Spreading Grounds Rehabilitation (V-2), the following work may impact the Gridley Canyon/Senior Canyon portion of the San Antonio Creek Sub -Watershed, tributary to the Ventura River:

- Fish passage improvements: The low-flow crossings will be modified to enhance fish passage to upstream spawning grounds in Gridley and Senior Canyons.
- Repair of diversion structure: The existing diversion structure will be repaired and modified to assure that low flows continue downstream through a fish-friendly passageway, while diverting higher flood flows to the intake structure.
- Construction of intake structure: The intake structure will be equipped with a National Marine Fisheries Service (NMFS)-approved fish screen and designed to preserve and enhance the natural landscape. The invert elevation will be set at a point to assure that only higher flows enter the system, while normal streamflows remain in the creek.
- Rehabilitation of diversion conveyance: Existing pipes will be salvaged or replaced. Open channel components will be re-excavated and drop structures added as necessary to stabilize the channel.
- Diversion of annual flows: Flows will be diverted, primarily during the wet season, after accommodating flows necessary to maintain riparian habitats, estimated to be 5 cubic feet per second (cfs) at the Grand Avenue Bridge, a point approximately 1 mile downstream of the diversion to the spreading grounds.

To mitigate impacts to the channel, all riparian areas will be revegetated with native species to preserve the natural landscape and to comply with regulatory guidelines.

The preservation and improvement of fish passage is also an important goal of the project. The existing diversion structure and two low-flow crossings, which act as partial barriers to upstream migration of steelhead and other fish species, will be modified to improve passage. Thus, the overall modification will benefit Southern Steelhead and other aquatic life. This improved fish passage for the Southern Steelhead far outweighs any temporary impacts that may result from



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the modification. The diversion intake structure will be equipped with a NMFS-approved fish screen to prevent fingerlings from entering the diversion canal. Conservation and enhancement of riparian habitat will be accomplished by designing structures to preserve the natural landscape, by revegetation of disturbed areas, and by working closely with regulatory agencies to assure that all environmental concerns are considered.

A hydrologic study prepared in June 2006 evaluated the annual flows at the point of diversion from the Gridley and Senior Canyons and determined the flow level appropriate for diversion while maintaining adequate flow for downstream riparian areas. By maintaining the 5 cfs flow at the Grand Avenue Bridge, approximately 1 mile downstream of the diversion point, the impacts of the diversion will be minimized and the mutual benefits of water supply for recharge and riparian habitat preservation will be achieved.

Appropriate consultation and permits from the USACOE, USFWS, NMFS, RWQCB, CDFG, and other agencies, as necessary, will be obtained prior to construction. Input from these agencies will also be obtained through the CEQA document preparation process.

Therefore, the impacts of stream channel modification will be fully mitigated and benefits of improved fish passage that will result from the modification will significantly outweigh the potential adverse impacts, since these impacts will be considered in design and operation, mitigated with revegetation, and discussed with regulatory agencies prior to implementation.