

Alternative 17: (1A , 2 A, 3 A, 4 A - MAX)

B-004870

Category	Actions Selected	Functional Basis for Inclusion	Specification for Action Implementation
	<b>Restoration of Delta Shallow Water (Tidal) Habitat</b>		
	-Protect existing shallow habitat from erosion	Improved habitat for all species	
	-Restore tidal action to existing diked wetlands	Improved habitat for all species	
	-Reconstruct levees to include shallow water habitat	Improved habitat for all species	
	-Fill deep water to produce shallow habitat	Improved habitat for all species	
	<b>Restoration of Delta Riverine Habitat</b>		
	-Reconstruct river banks and shallow areas	Improved habitat for fish species	Action not to impinge or alter existing land uses
	-Restore/preserve channel islands	Improved habitat for fish species	Action not to impinge or alter existing land uses
	-Restore natural channel configurations	Improved habitat for fish species	Action not to impinge or alter existing land uses
	-Modify construction practices to include riverine elements	Improved habitat for fish species	Action not to impinge or alter existing land uses
	<b>Restoration of Delta Riparian Habitat</b>		
	-Improve and protect degraded riparian habitats	Improved habitat for all species	Action not to impinge or alter existing land uses
	-Modify levee maintenance practices	Improved habitat for all species	Action not to impinge or alter existing land uses
	-Protect existing riparian habitat	Improved habitat for all species	Action not to impinge or alter existing land uses
	<b>Restoration of Delta Wetland Habitat</b>		
	-Expand wetland acquisition programs	Improved habitat for all species	Action not to impinge or alter existing land uses
	<b>Restoration of Delta Terrestrial Habitat</b>	Improved habitat for terrestrial species	Action not to impinge or alter existing land uses
	<b>Integrated Habitat Management Programs</b>	Improved habitat for all species	Action not to impinge or alter existing land uses
	<b>Control of Introduced Species</b>		
	-Remove or reduce nuisance species in key habitats	Improved habitat for all species	
	-Inspect for invasions of nuisance species	Improved habitat for all species	
	-Modify habitat to favor native species	Improved habitat for all species	
	<b>Delta Waterfowl Habitat Management</b>		
	-Improve management of public waterfowl areas	Improved habitat for terrestrial species	Action not to impinge or alter existing land uses
	-Implement terrestrial predator control programs	Improved habitat for terrestrial species	
	-Increase sources and availability of wildlife forage	Improved habitat for terrestrial species	Action not to impinge or alter existing land uses
	<b>Restoration of Upstream Anadromous Fish Habitat</b>		
	-Manage flows and temperatures in upstream habitats	Improvements for anadromous fish species	
	-Manage flows in upstream habitats	Improvements for anadromous fish species	
	-Manage temperatures in upstream habitats	Improvements for anadromous fish species	
	-Restore and replenish spawning gravels	Improvements for anadromous fish species	
	-Restore channel configurations	Improvements for anadromous fish species	
	-Restore shoreline habitat conditions	Improvements for anadromous fish species	
	-Improve floodway drainage to reduce fish stranding	Improvements for anadromous fish species	
	<b>Physical Improvements for Fish Passage</b>		
	-Modify passage at upstream dams/other barriers	Improvements for anadromous fish species	
	-Modify natural barriers to improve passage	Improvements for anadromous fish species	
	<b>Restoration of Upstream Riparian Habitat</b>		
	-Revegetate degraded riparian habitats	Improved habitat for all species	
	-Protect riparian lands through purchase/easements	Improved habitat for all species	
	-Restore flows to dewatered riparian habitats	Improved habitat for all species	
	<b>Increased Rates of Diversion Capacity</b>		

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	-Obtain approvals for expanded export capacities		
	-To generate yield	Reduce critical period demand from the Delta	Increase pumping capacities during non-critical periods
	-Enlarge export pumping capacities		
	-To generate yield	Reduce critical period demand from the Delta	Increase pumping capacities during non-critical periods
	Acquire Water Supplies for Fish and Wildlife		
	-Acquire water for refuge habitat use	Improvement for all fish species	
	-Modify water law to establish instream rights	Improvement for all fish species	
	Install Barriers to Guide Fish Movement		
	-Install barriers to keep fish in Sacramento River	Improvements for anadromous fish species	
	-Install barriers to divert fish from Sacramento to western channels	Improvements for anadromous fish species	
	Fish Hatchery Operations		
	-Expand hatchery capacities	Improvements in fish populations	
	-Construct new hatcheries on the San Joaquin R.	Improvements in fish populations	
	-Improve hatchery operations	Improvements in fish populations	
	-Reduce hatchery effects on wild fish populations	Improvements in fish populations	
	-Implement tagging of hatchery-bred fish	Improvements in fish populations	
	-Establish new captive breeding programs	Improvements in fish populations	
	Fish Harvest Management		
	-Improve regulation of commercial take	Improvements for anadromous fish species	
	-Improve regulation of recreational take	Improvements for anadromous fish species	
	-Improve enforcement of harvest regulations	Improvements for anadromous fish species	
	Desalination		
	-Expand desalination of Southern California supplies	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Improve desalination technologies and cost	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Educate users about desalination feasibility	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	Water Conservation		
	-Increase use of district-wide conservation practices	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Increase use of on-farm conservation practices	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Increase use of municipal conservation practices	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Increase use of industrial conservation practices	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Implement financial incentive policies	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Educate users about conservation technologies	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	Water Reclamation		
	-Recharge groundwater with reclaimed water	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Use reclaimed water for agricultural irrigation	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Reclaim saline agricultural drainage water	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Recycle and treat water for potable reuse	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Use reclaimed water for nonpotable urban uses	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Use reclaimed water for landscape irrigation	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Use reclaimed water for power plant cooling	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Use reclaimed water for industrial processes	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Use reclaimed water to repel salinity intrusion	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Improve reclamation technologies and cost	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Educate public about water reclamation	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	Water Pricing		

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	-Establish incentives for pricing to reduce demand	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Educate users about pricing feasibility	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Remove legal obstacles to pricing incentive programs	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	<b>Watershed Management</b>	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Manage vegetation cover to increase yield	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Modify weather to increase precipitation	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	<b>New or Expanded On-Stream Storage</b>		
	-Construct new storage south of Delta	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Enlarge existing on-stream storage reservoirs	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Modify operations of existing on-stream reservoirs	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	<b>New or Expanded Off-Stream Storage</b>		
	-Construct new storage south of Delta	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Enlarge existing off-stream storage reservoirs	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Modify operations of existing off-stream reservoirs	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	<b>Groundwater Banking and Conjunctive Use</b>	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Modify California Water Code to encourage conjunctive use	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Establish conjunctive use programs	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Store groundwater south of Delta	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	-Implement techniques to increase groundwater recharge	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	<b>Water Resources Data and Information Management</b>		
	<b>Institutions for Integrated Long-term Water Management</b>		
	-Establish long-term guarantees for management	Management for problem area	
	-Establish institution to implement guarantees	Management for problem area	
	<b>Integration of Land-Use and Water-Supply Planning</b>		
	-Coordinate land uses with water supplies	Reduce critical period demands from the Delta	Action to be implemented in the Delta export area only
	<b>Management of Agricultural Drainage</b>		
	-Implement source control regulations for pollutants	Reduce pollutant discharge	
	-Implement pollutant-load limits in San Joaquin R.	Reduce pollutant discharge	
	-Reduce or control volume of agricultural discharges	Reduce pollutant discharge	
	-Modify cropping and irrigation practices	Reduce pollutant discharge	
	-Export agricultural drainage to other watersheds	Reduce pollutant discharge	
	-Improve pest-control practices	Reduce pollutant discharge	
	-Avoid use of high-salinity irrigation water	Reduce pollutant discharge	
	-Manage irrigation tailwater to reduce pesticides	Reduce pollutant discharge	
	-Treat drainage to remove pollutants	Reduce pollutant discharge	
	<b>Management of Urban and Wastewater Discharge</b>		
	-Retain and manage stormwater runoff	Reduce pollutant discharge	
	-Treat discharges to remove problem constituents	Reduce pollutant discharge	
	-Construct wetlands to treat wastewater effluent	Reduce pollutant discharge	
	-Increase key nutrient inputs to estuary	Reduce pollutant discharge	
	<b>Dredged Material Management</b>		
	-Limit dredging to slack tides	Reduce pollutant discharge	
	-Limit dredging to avoid fish migration periods	Reduce pollutant discharge	
	-Use techniques to localize sediment movement	Reduce pollutant discharge	
	-Dispose dredged materials at nonaquatic sites	Reduce pollutant discharge	

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	-Remove contaminated sediments in critical habitat sites	Reduce pollutant discharge	
	-Ensure material used for levee maintenance is noncontaminated	Reduce pollutant discharge	
	<b>Management of Mine Drainage</b>		
	-Manage discharges from abandoned mines	Reduce pollutant discharge	
	-Remediate abandoned mining sites discharging pollutants	Reduce pollutant discharge	
	<b>Levee Maintenance and Stabilization</b>		
	-Modify agricultural practices to reduce subsidence	Preserve existing land uses	Actions should not impinge or alter existing land use patterns
	-Use infilling to correct past subsidence	Preserve existing land uses	Actions should not impinge or alter existing land use patterns
	<b>Improvement of Flooding &amp; Seismic Protections</b>		
	-Reconstruct levees to higher design standards	Preserve existing land uses	
	-Reconstruct levees to higher seismic standards	Preserve existing land uses	
	<b>Establishment of Long-Term Funding Mechanisms</b>	Establish funding for all management programs	

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