List of Action Categories and Actions

Comments on Action Categories and Actions

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	Importance 1 - 5	Core Action C
Action Categories to Restore Bay-Delta System Habitats		
Restoration of Bay-Delta System Shallow Water (Tidal) Habitat	5	C
Actions: -Convert existing leveed lands to tidal action	5	C
-Protect existing shallow habitat from erosion	5	C
-Restore tidal action to existing diked wetlands	5	C
-Reconstruct levees to include shallow water habitat	5	C
may not be feasible —Fill deep water to produce shallow habitat		
Restoration of Bay-Delta System Riverine Habitat	5	C
Actions: -Reconstruct river banks and shallow areas	5	C
-Restore and preserve channel islands	5	C
-Restore natural channel configurations	5	C
-Modify channel/levee construction practices to include riverine elements	5	
Restoration of Bay-Delta System Riparian Habitat	5	C
Actions: -Improve and protect degraded riparian habitats	5	C
restoration is preferred to construction -Establish new areas of riparian habitat		
-Reestablish historic riparian areas	5	C
-Modify levee maintenance practices		
-Protect existing riparian habitat	5	C

ADD: Restoration of Bay-Delta System Low Salinity Habitat

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	Importance 1 - 5	Core Action C
Restoration of Bay-Delta System Wetland Habitat	5	C
Actions: Restore, enhance, and create wetlands	5	C
-Expand wetland acquisition programs	5	C
-Convert agricultural lands to wetlands (where wetlands once existed)	5	C
-Protect existing wetland habitat	5	C
Restoration of Bay-Delta System Terrestrial Habitat	5	C
Actions: -Protect existing upland habitat	5	C
-Establish upland habitat on levees	5	C
-Establish upland habitat on fallowed croplands	5	C
-Establish oak woodlands on suitable soils	5	C
-Encourage wildlife-friendly agricultural practices	5	C
-Preserve agricultural land uses providing habitat		
-Clean up sites contaminated with toxic substances		
Implementation of Integrated Habitat Management Programs	5	C
Actions: -Establish regional ecosystem restoration guidelines	5	C
-Implement integrated regional habitat management	5	C
-Develop cooperative management agreements	5	C
-Establish mitigation banking program	1	
Establishment of Floodways and Meander Belts	5	C
Actions: -Relocate levees to widen floodways	5	C
-Allow river channels to meander	5	C
-Acquire Delta islands as overflow areas		
-Restore floodways as habitat corridors	5	C
Control of Introduced Species	4	
Actions: -Remove or reduce nuisance species in key habitats	4	
-Improve regulation of ballast-water releases	5	
-Improve border inspection practices	4	
-Inspect for invasions of nuisance species	5	
-Modify habitat to favor native species	4	

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	Importance 1 - 5	Core Action C
Delta Waterfowl Habitat Management	4	
Actions: -Manage agricultural crops for waterfowl forage production	3	
-Improve management of public waterfowl areas	5	C
-Implement terrestrial predator control programs	1	
-Increase sources and availability of wildlife forage	3	
Action Categories to Restore Upstream Habitat		
Restoration of Upstream Anadromous Fish Habitat	5	C
Actions: -Manage flows and temperatures in upstream habitats	5	C
-Restore and replenish spawning gravels	5	
-Restore channel configurations	5	
-Restore shoreline habitat conditions	5	
-Modify gravel mining practices		
-Improve floodway drainage to reduce fish stranding		
Improvements for Upstream Fish Passage	-	
Actions: -Modify passage at upstream dams and other barriers	5	C
-Modify natural barriers to improve passage	1	
Restoration of Upstream Riparian Habitat	5	C
Actions: -Restrict livestock grazing in riparian corridors	5	C
-Revegetate degraded riparian habitats	5	C
-Protect riparian lands through purchase/easements	5	C
-Restore flows to dewatered riparian habitats	5	C
Restoration of Upstream Wetland Habitat	5	C
Actions: -Modify floodways to support wetland habitats	5	C
-Reuse agricultural drainage to create wetlands	1	
-Reuse urban wastewater effluent to create wetlands	1	
-Manage groundwater recharge for wetland habitat		

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	Importance 1 - 5	Core Action C
Action Categories to Reduce Effects of Diversions		
Delta Inflow/Outflow/Export Management	5	C
Actions regarding Delta Inflows:		
-Modify upstream consumptive use	5	C
-Modify upstream reservoir operations criteria	5	
-Modify Delta inflow timing pattern	5	
-Provide instream pulse flows for fish passage	5	
-Provide instream flows for fish attraction	5	
Actions regarding Delta Diversions and Outflows:		
-Modify volumes and timing of exports	5	
-Modify in-Delta consumptive use	5	
-Modify central Delta channel operations	5	
-Modify export operations criteria	5	
-Establish a Delta watermaster to manage flows	3	
-Use real-time monitoring and adaptive management	2	
Modification of Diversion Timing Patterns	5	
Actions: -Modify diversion timing of in-Delta diversions	5	
-Modify diversion timing of export diversions	5	
-Coordinate SWP/CVP diversion timing	5	
-Modify diversion timing through Montezuma Salinity Control Gate	4	
-Use real-time monitoring and adaptive management	2	
Increased Rates of Diversion Capacity	1	
Actions: -Obtain approvals for expanded export capacities		
-Enlarge export pumping capacities		
-Increase diversion capability at Red Bluff Diversion Dam		
Acquisition of Long-Term Water Supplies for Fish and Wildlife	5	C
Actions: -Acquire water to augment instream flows	5	
-Obtain shifts in timing of instream flows	5	
-Obtain shifts in diversion timing patterns	5	

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	Importance 1 - 5	Core Action C
-Acquire water for refuge habitat use	5	
-Modify water law to establish instream rights	5	
Installation and Improvement of Fish Screens	5	C
Actions: -Improve screens at Delta export pumps	5	
-Improve other existing fish screen systems	5	
-Install screens on other in-Delta diversions	5	
-Install screens on upstream diversions	5	
-Consolidate and screen existing small diversions	3	
-Enforce screening requirements	1	
Improvement of Bay-Delta System Fish Migration	5	C
Actions: -Install barriers to block fish movement into Old River		
-Install barriers to keep fish in Sacramento River		
-Install barriers to divert fish from Sacramento River to western distributaries		
-Operate fish barrier on San Joaquin River at Merced River confluence in fall		
-Provide instream pulse flows for fish passage	5	
-Provide instream flows for fish attraction	5	
Improvement of Fish Salvage Operations		
Actions: -Improve design of salvage facilities		
-Improve operation of salvage facilities		
-Improve fish hauling and release procedures		
Removal and Control of Aquatic Predators	3	
Actions: -Harvest predators at Delta export pumps	3	
-Harvest predators in upstream habitats	3	

Action Categories to Manage the Enhancement of Anadromous Fish Populations

ADD: Water Project Operations 5 C

Fish Hatchery Operations	3	
Actions: -Expand hatchery capacities	1	
-Constrict new hatcheries on the San Joaquin River		
-Improve hatchery operations	5	C

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	Importance 1 - 5	Core Action C
-Reduce hatchery effects on wild fish populations	5	C
-Implement tagging of hatchery-bred fish	5	
-Establish new captive breeding programs	3	
Fish Harvest Management	5	C
Actions: -Improve regulation of commercial take	5	
-Improve regulation of recreational take	5	
-Improve enforcement of harvest regulations	5	
Action Categories for Reducing Reliance on Delta Exports		
Desalination	4	
Actions: -Expand desalination of Southern California supplies		
-Expand desalination of San Joaquin Valley supplies		
-Improve desalination technologies and cost		
-Educate users about desalination feasibility		
Water Conservation	5	C
Actions: -Increase use of district-wide conservation practices	5	C
-Increase use of on-farm conservation practices	5	C
-Increase use of municipal conservation practices	5	C
-Increase use of industrial conservation practices	5	C
-Implement financial incentive policies	5	C
-Implement conservation-oriented rate structures	5	C
-Educate users about conservation technologies	5	C
Water Reclamation	5	C
Actions: -Recharge groundwater with reclaimed water	3	
-Use reclaimed water for agricultural irrigation	3	
-Reclaim saline agricultural drainage water	3	
-Recycle and treat water for potable reuse	3	
-Use reclaimed water for nonpotable urban uses	5	C
-Use reclaimed water for landscape irrigation	5	C
-Use reclaimed water for power plant cooling	5	C
-Use reclaimed water for industrial processes	5	C
-Use reclaimed water to repel salinity intrusion	3	
-Improve reclamation technologies and cost	5	C
-Educate public about water reclamation	5	C

may be hard to get the toxics out

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	Importance 1 - 5	Core Action C
Land Retirement and Fallowing	5	C
Actions: -Encourage land fallowing during drought periods	5	C
-Develop incentive programs for land retirement	5	C
-Purchase lands or easements	5	C
-Retire lands with drainage problems	5	C
Water Pricing	5	C
Actions: -Establish incentives for pricing to reduce demand	5	C
-Educate users about pricing feasibility	5	
-Remove legal obstacles to pricing incentive programs	5	C
Action Categories to Enhance Water Supplies		
Watershed Management	4	
Actions: -Manage vegetation cover to increase yield		
-Manage riparian zones to protect water quality	5	C
-Manage land uses to reduce sedimentation		
-Modify weather to increase precipitation	1	
New or Expanded Onstream Storage	1	
Actions: -Construct new storage facilities south of the Delta	possibly	natural wetlands & lakes for storage
-Construct new storage facilities north of the Delta	1	
-Enlarge existing onstream storage reservoirs	1	
-Modify operations of existing onstream reservoirs	5	
New or Expanded Offstream Storage	1	
Actions: -Construct new storage facilities south of the Delta	possibly	
-Construct new storage facilities north of the Delta	1	
-Construct new storage facilities in Delta	1	
-Enlarge existing offstream storage reservoirs	1	
-Modify operations of existing offstream reservoirs	5	
Groundwater Banking and Conjunctive Use	5	
Actions: -Establish incentives for conjunctive use		
-Modify Water Code to encourage conjunctive use		
-Establish conjunctive use programs		

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	Importance 1 - 5	Core Action C
-Store groundwater south of the Delta	____	____
-Store groundwater north of the Delta	____	____
-Implement techniques to increase groundwater recharge	____	____
Improvement of Through-Delta Conveyance	3	____
Actions: -Increase capacities of existing east-side channels	____	____
-Increase flows from the Sacramento River to the central Delta	____	____
-Modify Delta levees to increase flow cross sections	____	
-Construct pump/siphon systems between Delta channels	____	____
-Expand existing intakes at the Delta export facilities	____	____
-Construct expanded export intake/forebay pumping system	____	____
Construction and Improvement of Conveyance Facilities	3	____
Actions: -Construct east-side isolated transfer system	____	____
-Construct west-side isolated transfer system	____	____
-Construct small isolated transfer facility	____	____
-Convert Delta islands to storage/conveyance system	____	____
-Construct conveyance to offstream storage	____	____
-Construct conveyance to groundwater storage	____	____
Changes in Locations of Diversions	3	____
Actions: -Relocate Delta export pumps from key habitats	____	____
-Relocate other in-Delta diversions for more reliable supplies	____	____
-Consolidate in-Delta agricultural diversions	____	____
-Relocate upstream diversions from key habitats	____	____
-Improve diversion designs when relocating		____
Action Categories to Increase Supply Predictability		
Water Transfers	3	____
Actions: -Modify Water Code to ease transfers	____	____
-Improve procedures for transfer permitting	____	____
-Coordinate diversion and conveyance of transfers	____	____

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	Importance 1 - 5	Core Action C
Long-Term Planning for Drought Contingencies	5	
Actions: -Increase water storage capacities at user locations		
-Establish incentives for long-term planning		
-Conduct Integrated Resources Planning		
-Establish incentives for long-term conservation		
-Develop alternate supplies for drought situations		
Water Resources Data and Information Management		
Actions: -Establish a comprehensive water data system		
-Implement real-time data management system		
-Integrate data for adaptive management decisions		
-Establish accessible data management system		
Establishment of Institution for Integrated Long-Term Water Management		
Actions: -Establish long-term guarantees for management	5	c
-Establish institution to implement guarantees	5	c
-Coordinate multiagency roles in management	5	
-Coordinate groundwater and surface water management	5	
-Establish incentives for cooperation/coordination	5	
-Establish a public awareness and education program	5	
Establishment of Export Capacity Market		
Actions: -Establish procedures for allocation of export capacity		
-Establish institution to allocate export capacity		
-Coordinate water transfers and export capacity		
-Market export capacity for environmental benefits		
Integration of Land Use and Water Supply Planning		
Actions: -Coordinate land uses with water supplies	5	
-Encourage local determination of supplies available		
-Encourage local assessment of water supply reliability		

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	Importance 1 - 5	Core Action C
Action Categories for Managing Water Quality		
Installation and Operation of Flow Barriers	3	
Actions: -Install flow barriers to manage south Delta quality	3	
-Install weirs to control salinity intrusion	3	
Management of Agricultural Drainage		
Actions: -Implement source control regulations for pollutants	5	C
-Implement pollutant-load limits in San Joaquin River	5	C
-Reduce ~~or~~ and control volume of agricultural discharges	5	C
-Modify cropping and irrigation practices	5	
-Export agricultural drainage to other watersheds	1	
-Retire lands with drainage disposal problems	4	
-Improve pest-control practices	4	
-Avoid use of high-salinity irrigation water	4	
-Manage irrigation tailwater to reduce pesticides	4	
-Manage drainage timing to reduce instream impacts	1	
-Treat drainage to remove salt or other pollutants		
-Dilute pollutants in Delta inflows from SJR using stored water	1	
-Use economic incentives to control drainage production	5	C
Management of Urban/Industrial Drainage and Wastewater Discharge		
Actions: -Retain and manage stormwater runoff	5	
-Implement urban awareness/education programs	5	
-Treat discharges to remove problem constituents		
-Construct wetlands to treat wastewater effluent	if not toxic	
-Increase key nutrient inputs to estuary		
-Enforce wastewater discharge requirements	5	
-Prevent toxic discharges from residence, public, and industrial plants	5	C
Dredged Material Management		
Actions: -Limit dredging to slack tides		
-Limit dredging to avoid fish migration periods		
-Use techniques to localize sediment movement		
-Dispose dredged materials at nonaquatic or other suitable sites	if non toxic	
-Remove contaminated sediments in critical habitat sites		
-Ensure material used for levee maintenance is noncontaminated	5	

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	Importance 1 - 5	Core Action C
Management of Abandoned-Mine Drainage	5	C
Actions: -Manage discharges from abandoned mines	5	C
-Remediate abandoned mining sites discharging pollutants	5	C
-Encourage investment in remediation via pollutant trading	5	C
Action Categories for Improving System Reliability		
Levee Maintenance and Stabilization	3	
Actions: -Maintain and stabilize existing levees		
-Modify agricultural practices to reduce subsidence		
-Use infilling to correct past subsidence		
-Implement uniform maintenance standards		
-Provide funding for maintenance and stabilization		
Improvement of Flood Protection Levels and Seismic Stabilities		
Actions: -Reconstruct levees to higher design standards		
-Reconstruct levees to higher seismic standards		
-Relocate levees to more stable sites		
-Widen floodways to increase flood conveyance	5	C
-Establish and manage flood overflow areas	5	C
Rerouting and Protection of Infrastructure from Flooding and Seismic Risk		
Actions: -Maintain/reconstruct levees around infrastructure		
-Reconstruct infrastructure to increase reliability		
-Relocate/reroute infrastructure		
Establishment of Long-Term Funding Mechanisms		
Actions: -Establish a disaster contingency funding program		
-Establish a Bay-Delta financing authority		
-Provide low-cost debt financing for local agencies		
-Establish a bond financing mechanism		
-Establish a statewide water utility surcharge		

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COMMENTS: Letter to follow.