

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	<u>5</u>	<u>C</u>
Actions:		
-Convert existing leveed lands to tidal action		
-Protect existing shallow habitat from erosion		
-Restore tidal action to existing diked wetlands		
-Reconstruct levees to include shallow water habitat		
-Fill deep water to produce shallow habitat	v	v
Restoration of Bay-Delta System Riverine Habitat	<u>5</u>	<u>C</u>
Actions:		
-Reconstruct river banks and shallow areas		
-Restore and preserve channel islands		
-Restore natural channel configurations		
-Modify channel/levee construction practices to include riverine elements	v	v
Restoration of Bay-Delta System Riparian Habitat	<u>5</u>	<u>C</u>
Actions:		
-Improve and protect degraded riparian habitats		
-Establish new areas of riparian habitat		
-Reestablish historic riparian areas		
-Modify levee maintenance practices		
-Protect existing riparian habitat	v	v

	Importance	Core Action
	1 - 5	C
Restoration of Bay-Delta System Wetland Habitat	<u>3</u>	<u>C</u>
Actions:		
-Restore, enhance, and create wetlands	_____	_____
-Expand wetland acquisition programs	_____	_____
-Convert agricultural lands to wetlands	_____	_____
-Protect existing wetland habitat	_____	_____
Restoration of Bay-Delta System Terrestrial Habitat	<u>3</u>	<u>C</u>
Actions:		
-Protect existing upland habitat	_____	_____
-Establish upland habitat on levees	_____	_____
-Establish upland habitat on fallowed croplands	_____	_____
-Establish oak woodlands on suitable soils	_____	_____
-Encourage wildlife-friendly agricultural practices	_____	_____
-Preserve agricultural land uses providing habitat	_____	_____
-Clean up sites contaminated with toxic substances	_____	_____
Implementation of Integrated Habitat Management Programs	<u>3</u>	<u>C</u>
Actions:		
-Establish regional ecosystem restoration guidelines	_____	_____
-Implement integrated regional habitat management	_____	_____
-Develop cooperative management agreements	_____	_____
-Establish mitigation banking program	_____	_____
Establishment of Floodways and Meander Belts		
Actions:		
-Relocate levees to widen floodways	_____	_____
-Allow river channels to meander	_____	_____
-Acquire Delta islands as overflow areas (also for storage)	<u>5</u>	<u>C</u>
-Restore floodways as habitat corridors	_____	_____
Control of Introduced Species	<u>5</u>	<u>C</u>
Actions:		
-Remove or reduce nuisance species in key habitats	<u>5</u>	<u>C</u>
-Improve regulation of ballast-water releases	_____	_____
-Improve border inspection practices	_____	_____
-Inspect for invasions of nuisance species	_____	_____
-Modify habitat to favor native species	_____	_____

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

	Importance 1 - 5	Core Action C
-Acquire water for refuge habitat use	<u>5</u>	<u>C</u>
-Modify water law to establish instream rights	<u>5</u>	<u>C</u>
Installation and Improvement of Fish Screens	<u>5</u>	<u>C</u>
Actions: -Improve screens at Delta export pumps		
-Improve other existing fish screen systems		
-Install screens on other in-Delta diversions		
-Install screens on upstream diversions		
-Consolidate and screen existing small diversions		
-Enforce screening requirements	↓	↓
Improvement of Bay-Delta System Fish Migration	<u>5</u>	<u>C</u>
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		
-Provide instream flows for fish attraction	↓	↓
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	_____	_____
Actions: -Harvest predators at Delta export pumps	_____	_____
-Harvest predators in upstream habitats	_____	_____
Action Categories to Manage the Enhancement of Anadromous Fish Populations		
Fish Hatchery Operations	_____	_____
Actions: -Expand hatchery capacities	_____	_____
-Construct new hatcheries on the San Joaquin River	_____	_____
-Improve hatchery operations	_____	_____

	Importance 1 - 5	Core Action C
-Reduce hatchery effects on wild fish populations	___	___
-Implement tagging of hatchery-bred fish	___	___
-Establish new captive breeding programs	___	___
Fish Harvest Management	___	___
Actions:		
-Improve regulation of commercial take	___	___
-Improve regulation of recreational take	___	___
-Improve enforcement of harvest regulations	___	___

Action Categories for Reducing Reliance on Delta Exports

Desalination	<u>1</u>	___
Actions:		
-Expand desalination of Southern California supplies	<u>1</u>	___
-Expand desalination of San Joaquin Valley supplies	<u>1</u>	___
-Improve desalination technologies and cost	<u>1</u>	___
-Educate users about desalination feasibility	<u>1</u>	___
Water Conservation	<u>5</u>	<u>C</u>
Actions:		
-Increase use of district-wide conservation practices	<u>5</u>	<u>C</u>
-Increase use of on-farm conservation practices		
-Increase use of municipal conservation practices		
-Increase use of industrial conservation practices		
-Implement financial incentive policies		
-Implement conservation-oriented rate structures		
-Educate users about conservation technologies	∇	∇
Water Reclamation	<u>4</u>	<u>C</u>
Actions:		
-Recharge groundwater with reclaimed water	<u>5</u>	___
-Use reclaimed water for agricultural irrigation	<u>5</u>	___
-Reclaim saline agricultural drainage water	<u>3</u>	___
-Recycle and treat water for potable reuse	<u>3</u>	___
-Use reclaimed water for nonpotable urban uses	<u>4</u>	___
-Use reclaimed water for landscape irrigation	<u>4</u>	___
-Use reclaimed water for power plant cooling	<u>4</u>	___
-Use reclaimed water for industrial processes	<u>4</u>	___
-Use reclaimed water to repel salinity intrusion	<u>4</u>	___
*Improve reclamation technologies and cost	<u>2</u>	___
-Educate public about water reclamation	<u>4</u>	___

↘ not Calif priority?

	Importance 1 - 5	Core Action C
Land Retirement and Fallowing	<u>5</u>	<u>C</u>
Actions:		
-Encourage land fallowing during drought periods	<u>↓</u>	<u>↓</u>
-Develop incentive programs for land retirement	<u>↓</u>	<u>↓</u>
-Purchase lands or easements	<u>5</u>	<u>C</u>
-Retire lands with drainage problems		
Water Pricing	<u>5</u>	<u>C</u>
Actions:		
-Establish incentives for pricing to reduce demand	<u>5</u>	<u>C</u>
-Educate users about pricing feasibility	<u>5</u>	<u>C</u>
-Remove legal obstacles to pricing incentive programs	<u>5</u>	<u>C</u>

Action Categories to Enhance Water Supplies

Watershed Management	<u>5</u>	<u>C</u>
Actions:		
-Manage vegetation cover to increase yield	<u>↓</u>	<u>↓</u>
-Manage riparian zones to protect water quality	<u>↓</u>	<u>↓</u>
-Manage land uses to reduce sedimentation	<u>1 !!</u>	
-Modify weather to increase precipitation		
New or Expanded Onstream Storage	<u>1</u>	
Actions:		
-Construct new storage facilities south of the Delta	<u>—</u>	<u>—</u>
-Construct new storage facilities north of the Delta	<u>—</u>	<u>—</u>
-Enlarge existing onstream storage reservoirs	<u>—</u>	<u>—</u>
-Modify operations of existing onstream reservoirs	<u>—</u>	<u>—</u>
New or Expanded Offstream Storage	<u>3</u>	
Actions:		
-Construct new storage facilities south of the Delta	<u>—</u>	<u>—</u>
-Construct new storage facilities north of the Delta	<u>—</u>	<u>—</u>
* -Construct new storage facilities in Delta	<u>3</u>	<u>—</u>
-Enlarge existing offstream storage reservoirs	<u>—</u>	<u>—</u>
-Modify operations of existing offstream reservoirs	<u>—</u>	<u>—</u>
* Flood specific islands for storage & wetlands creation	<u>5</u>	<u>C</u>
Groundwater Banking and Conjunctive Use	<u>5</u>	<u>C</u>
Actions:		
-Establish incentives for conjunctive use	<u>5</u>	<u>↓</u>
-Modify Water Code to encourage conjunctive use	<u>5</u>	<u>↓</u>
-Establish conjunctive use programs	<u>5</u>	<u>↓</u>

	Importance 1 - 5	Core Action C
-Store groundwater south of the Delta	<u>5</u>	_____
-Store groundwater north of the Delta	<u>5</u>	_____
-Implement techniques to increase groundwater recharge	<u>5</u>	_____
Improvement of Through-Delta Conveyance	_____	_____
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	_____	_____
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	<u>2 (see previous page)</u>	_____
-Construct conveyance to offstream storage	_____	_____
-Construct conveyance to groundwater storage	_____	_____
Changes in Locations of Diversions	_____	_____
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	<u>5</u>	<u>C</u>
* Actions:		
-Modify Water Code to ease transfers	<u>5</u>	_____
-Improve procedures for transfer permitting	_____	_____
-Coordinate diversion and conveyance of transfers	_____	_____
<i>* Provided 3rd party impacts are addressed/mitigated</i>		

	Importance 1 - 5	Core Action C
Long-Term Planning for Drought Contingencies	<u>5</u>	<u>C</u>
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	_____	_____
-Establish institution to implement guarantees	_____	_____
-Coordinate multiagency roles in management	_____	_____
-Coordinate groundwater and surface water management	_____	_____
-Establish incentives for cooperation/coordination	_____	_____
-Establish a public awareness and education program	_____	_____
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	<u>3</u>	<u>C</u>
Actions: *		
-Coordinate land uses with water supplies	_____	_____
-Encourage local determination of supplies available	_____	_____
-Encourage local assessment of water supply reliability	_____	_____

* These actions of course require changes in existing state law. ? how to rank as an action category -

	Importance 1 - 5	Core Action C
Action Categories for Managing Water Quality		
Installation and Operation of Flow Barriers	_____	_____
Actions:		
-Install flow barriers to manage south Delta quality	_____	_____
-Install weirs to control salinity intrusion	_____	_____
Management of Agricultural Drainage	<u>5</u>	<u>C</u>
Actions:		
-Implement source control regulations for pollutants	_____	_____
-Implement pollutant-load limits in San Joaquin River	_____	_____
-Reduce or control volume of agricultural discharges	_____	_____
-Modify cropping and irrigation practices	_____	_____
-Export agricultural drainage to other watersheds	_____	_____
-Retire lands with drainage disposal problems	_____	_____
-Improve pest-control practices	_____	_____
-Avoid use of high-salinity irrigation water	_____	_____
-Manage irrigation tailwater to reduce pesticides	_____	_____
-Manage drainage timing to reduce instream impacts	_____	_____
-Treat drainage to remove salt or other pollutants	_____	_____
-Dilute pollutants in Delta inflows from SJR using stored water	_____	_____
Management of Urban/Industrial Drainage and Wastewater Discharge	<u>5</u>	<u>C</u>
Actions:		
-Retain and manage stormwater runoff	_____	_____
-Implement urban awareness/education programs	_____	_____
-Treat discharges to remove problem constituents	_____	_____
-Construct wetlands to treat wastewater effluent	_____	_____
-Increase key nutrient inputs to estuary	_____	_____
-Enforce wastewater discharge requirements	_____	_____
-Prevent toxic discharges from industrial plants	_____	_____
Dredged Material Management	<u>4</u>	<u>C</u>
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	_____	_____
-Remove contaminated sediments in critical habitat sites	_____	_____
-Ensure material used for levee maintenance is noncontaminated	_____	_____

	Importance 1 - 5	Core Action C
Management of Abandoned-Mine Drainage	<u>5</u>	<u>C</u>
Actions:		
-Manage discharges from abandoned mines	_____	_____
-Remediate abandoned mining sites discharging pollutants	_____	_____
Action Categories for Improving System Reliability		
Levee Maintenance and Stabilization	<u>5</u>	<u>C</u>
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	<u>5</u>	<u>C</u>
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	_____	_____
-Establish and manage flood overflow areas (<i>see previous</i>)	_____	_____
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	_____	_____