

1A

- **Conflict/Approach 1A - Maximum Level of Implementation**
- **Fisheries/Diversion Conflict**
- **Fish Productivity Approach**

**Potential Actions**

- **Restoration of Delta Shallow Water (Tidal) Habitat**
  - 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
- **Restoration of Delta Riverine Habitat**
  - Reconstruct river banks and shallow areas
  - Restore/preserve channel islands
  - Restore natural channel configurations
  - Modify construction practices to include riverine elements
- **Restoration of Delta Riparian Habitat**
  - Improve and protect degraded riparian habitats
  - Modify levee maintenance practices
  - Protect existing riparian habitat
- **Restoration of Delta Wetland Habitat**
  - Expand wetland acquisition programs
- **Restoration of Delta Terrestrial Habitat**
- **Integrated Habitat Management Programs**
- **Control of Introduced Species**
  - Remove or reduce nuisance species in key habitats
  - Inspect for invasions of nuisance species
  - Modify habitat to favor native species
- **Delta Waterfowl Habitat Management**
  - Improve management of public waterfowl areas
  - Implement terrestrial predator control programs
  - Increase sources and availability of wildlife forage

- **Restoration of Upstream Anadromous Fish Habitat**
  - Manage flows and temperatures in upstream habitats
    - manage flows in upstream habitats
    - manage temperatures in upstream habitats
  - Restore and replenish spawning gravels
  - Restore channel configurations
  - Restore shoreline habitat conditions
  - Improve floodway drainage to reduce fish stranding
  
- **Physical Improvements for Fish Passage**
  - Modify passage at upstream dams/other barriers
  - Modify natural barriers to improve passage
  
- **Restoration of Upstream Riparian Habitat**
  - Revegetate degraded riparian habitats
  - Protect riparian lands through purchase/easements
  - Restore flows to dewatered riparian habitats
  
- **Acquire Water Supplies for Fish and Wildlife**
  - Acquire water for refuge habitat use
  - Modify water law to establish instream rights
  
- **Install Barriers to Guide Fish Movement**
  - Install barriers to keep fish in Sacramento River
  - Install barriers to divert fish from Sacramento to western channels
  
- **Fish Hatchery Operations**
  - Expand hatchery capacities
  - Construct new hatcheries on the San Joaquin River
  - Improve hatchery operations
  - Reduce hatchery effects on wild fish populations
  - Implement tagging of hatchery-bred fish
  - Establish new captive breeding programs
  
- **Fish Harvest Management**
  - Improve regulation of commercial take
  - Improve regulation of recreational take
  - Improve enforcement of harvest regulations

**1B**

**Conflict/Approach 1B - Maximum Level of Implementation  
Fisheries/Diversion Conflict  
Diversion Approach**

**Potential Actions**

- **Control of Introduced Species**
  - Inspect for invasions of nuisance species
- **Delta Waterfowl Habitat Management**
  - Improve management of public waterfowl areas
  - Implement terrestrial predator control programs
  - Increase sources and availability of wildlife forage
- **Restoration of Upstream Anadromous Fish Habitat**
  - Restore and replenish spawning gravels
  - Restore channel configurations
  - Restore shoreline habitat conditions
  - Improve floodway drainage to reduce fish stranding
- **Physical Improvements for Fish Passage**
  - Modify passage at upstream dams/other barriers
  - Modify natural barriers to improve passage
  - Provide instream pulse flows for fish passage
  - Provide instream flows for fish attraction
- **Delta Outflow/Export Management**
  - Modify volumes and timing of exports
  - Establish a Delta water master to manage flows
- **Modification of Diversion Timing Patterns**
  - Modify diversion timing of export diversions
  - Coordinate SWP/CVP diversion timing
- **Increased Rates of Diversion Capacity**
  - Obtain approvals for expanded export capacities
    - To reduce diversion impacts
  - Enlarge export pumping capacities
    - To reduce diversion impacts

- **Acquire Water Supplies for Fish and Wildlife**
  - Obtain shifts in diversion timing patterns
- **Installation and Improvement of Fish Screens**
  - Improve screens at Delta export pumps
  - Improve other existing fish screen systems
  - Improve screens on other in-Delta diversions
  - Install screens on upstream diversions
  - Consolidate and screen existing small diversions
  - Enforce screen requirements
- **Install Barriers to Guide Fish Movement**
  - Install barriers to block fish movement into Old River
  - Install barriers to keep fish in Sacramento River
  - Install barriers to divert fish from Sacramento to western channels
- **Improvement of Fish Salvage Operations**
  - Improve design of salvage facilities
  - Improve operation of salvage facilities
  - Improve fish hauling and release procedures
- **Removal and Control of Aquatic Predators**
  - Harvest predators at Delta export pumps
  - Harvest predators in upstream habitats
  - Construct pumps/siphons between Delta channels
- **Change in Locations Diversion**
  - Relocate Delta Export pumps from key habitats
  - Relocate other in-Delta diversions
  - Relocate upstream diversions from key habitats
  - Improve diversion designs when relocating

2A

- **Conflict/Approach 2A Maximum Level of Implementation**
- **Habitat and Land Use/Flood Protection Conflict**
- **Improve habitat and sustain flood protection**

**Potential Actions**

- **Levee Maintenance and Stabilization**
  - Modify agricultural practices to reduce subsidence
  - Use infilling to correct past subsidence
- **Improvement of Flooding & Seismic Protections**
  - Reconstruct levees to higher design standards
  - Reconstruct levees to higher seismic standards
- **Establishment of Long-term Funding Mechanisms**
- **Restoration of Delta Wetland Habitat**
  - Expand wetland acquisition programs
- **Restoration of Delta Terrestrial Habitat**
- **Integrated Habitat Management Programs**
- **Control of Introduced Species**
  - Inspect for invasions of nuisance species
- **Delta Waterfowl Habitat Management**
  - Improve management of public waterfowl areas
  - Implement terrestrial predator control programs
  - Increase sources and availability of wildlife forage
- **Institutions for Integrated Long-term Water Management**
  - Establish Long-term guarantees for management
  - Establish institution to implement guarantees
- **Integration of Land-use and Water Supply Planning**
  - Coordinate land uses with water supplies

## 2B

- **Conflict/Approach 2B - Maximum Level of Implementation**
- **Habitat and Land use/Flood Protection Conflict**
- **Improve habitat and improve flood protection by modifying land use approach**

**Potential Actions**

- **Integrated Habitat/Flood Protection Management Plan**
  - Maintain and stabilize existing levees
  - Implement uniform maintenance standards
  - Provide funding for maintenance and stabilization
  - Relocate levees to more stable sites
  - Widen floodways to increase flood conveyance
  - Establish and manage flood overflow areas
  - Maintain/reconstruct levees around Infrastructure
  - Reconstruct infrastructure to increase reliability
  - Relocate/reroute infrastructure
  - Establishment of Long-term Funding Mechanisms
  - Relocate levees to widen floodways
  - Allow river channels to meander
  - Acquire Delta islands as overflow areas
  - Restore floodways as habitat corridors
  - Remove or reduce nuisance species in key habitats
  - Improve regulation of ballast-water releases
  - Improve border inspection practices
  - Inspect for invasions of nuisance species
  - Modify habitat to favor native species
  - Improve management of public waterfowl areas
  - Implement terrestrial predator control programs
  - Increase sources and availability of wildlife forage
  - 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
  - Reconstruct river banks and shallow areas
  - Restore/preserve channel islands
  - Restore natural channel configurations
  - Modify construction practices to include riverine elements
  - Improve and protect degraded riparian habitats
  - Establish new areas of riparian habitat

- Reestablish historic riparian areas
  - Modify levee maintenance practices
  - Protect existing riparian habitat
  - Restore and enhance existing wetlands
  - Expand wetland acquisition programs
  - Convert agricultural lands to wetlands
  - Protect existing wetland habitat
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- **Restoration of Delta Terrestrial Habitat**
    - Restrict livestock grazing in riparian corridors
    - Revegetate degraded riparian habitats
    - Protect riparian lands through purchase/easements
    - Restore flows to dewatered riparian habitats
    - 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
    - Use real-time monitoring and adaptive management
    - Acquire water for refuge habitat use

## 3A

- **Conflict/Approach 3A - Maxim Level of Implementation**
- **Water Supply Availability and Beneficial Uses**
- **Reduce Demands**

**Potential Actions**

- **Restoration of Delta Wetland Habitat**
  - Convert agricultural lands to wetlands
- **Establishment of Floodways and Meander Belts**
  - Acquire Delta islands as overflow areas
  - Restore floodways as habitat corridors
- **Delta Waterfowl Habitat Management**
  - Manage crops for waterfowl forage production
  - Improve management of public waterfowl areas
  - Increase sources and availability of wildlife forage
- **Restoration of Upstream Anadromous Fish Habitat**
  - Manage flows and temperatures in upstream habitat
    - Manage flows in upstream habitats
    - Manage temperatures in upstream habitats
- **Restoration of Upstream Wetland Habitat**
  - 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
- **Delta Inflow Management**
  - Decrease upstream diversions
  - Modify upstream reservoir operations
- **Delta Outflow/Export Management**
  - Modify volumes and timing of exports
  - Modify in-Delta consumptive use
  - Modify Central Delta channel operations
  - Establish a Delta watermaster to manage flows
  - Use real-time monitoring and adaptive management

- **Modification of Diversion Timing Patterns**
  - Modify diversion timing of in-Delta diversions
  - Modify diversion timing of export diversions
  - Coordinate SWP/CVP diversion timing
  - Modify diversion timing through Montezuma SCG
  - Use real-time monitoring and adaptive management
  
- **Desalination**
  - Improve desalination technologies and cost
  - Educate users about desalination feasibility
  
- **Water Conservation**
  - Increase use of district-wide conservation practices
  - 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
  
- **Water Reclamation**
  - Recharge groundwater with reclaimed water
  - Use reclaimed water for agricultural irrigation
  - Reclaim saline agricultural drainage water
  - Recycle and treat water for potable reuse
  - Use reclaimed water for nonpotable urban uses
  - Use reclaimed water for landscape irrigation
  - Use reclaimed water for powerplant cooling
  - Use reclaimed water for industrial processes
  - Use reclaimed water to repel salinity intrusion
  - Improve reclamation technologies and cost
  - Educate public about water reclamation
  
- **Land Retirement and Fallowing**
  - Encourage land fallowing during drought periods
  - Develop incentive programs for land retirement
  - Purchase lands or easements
  
- **Water Pricing**
  - Establish incentives for pricing to reduce demand
  - Educate users about pricing feasibility
  - Remove legal obstacles to pricing incentive program

- **New or Expanded On-Stream Storage**
  - Modify operations of existing on-stream reservoirs
- **New or Expanded Off-stream Storage**
  - Modify operations of existing off-stream reservoirs
- **Groundwater Banking and Conjunctive Use**
  - Establish incentives for conjunctive use
  - Modify California Water Code to encourage conjunctive use
  - Establish conjunctive use programs
  - Store groundwater south of Delta
  - Store groundwater north of Delta
  - Implement techniques to increase groundwater recharge
- **Water Transfers**
  - Modify California Water Code to ease transfers
  - Improve procedures for transfer permitting
  - Coordinate diversion and conveyance of transfers
- **Long-Term Planning for Drought Contingencies**
  - Establish incentives for long-term planning
  - Conduct integrated Resources Planning
  - Establish incentives for long-term conservation
- **Institutions for integrated Long-term Water Management**
  - Coordinate groundwater/surface water management
  - Establish incentives for cooperation/coordination
  - Establish a public awareness/education program
- **Establishment of Export Capacity Market**
  - Establish procedures for allocation of export capacity
  - Establish institution to allocate export capacity
  - Market export capacity for environmental benefits
- **Integration of Land-Use and Water Supply Planning**
  - Coordinate land uses with water supplies
  - Encourage local determination of supplies available
  - Encourage local assessment of water supply reliability
- **Establishment of Long-term Funding Mechanisms**

3B

- **Conflict/Approach 3B - Maxim Level of Implementation**
- **Water Supply Availability and Beneficial Uses**
- **Reduce Demands**

**Potential Actions**

- **Restoration of Delta Wetland Habitat**
  - Convert agricultural lands to wetlands
  - Protect existing wetland habitat
- **Restoration of Upstream Anadromous Fish Habitat**
  - Manage flows and temperatures in upstream habitat
    - Manage flows in upstream habitats
    - Manage temperatures in upstream habitats
- **Delta Inflow Management**
  - Decrease upstream diversions
  - Modify upstream reservoir operations
  - Provide instream pulse flows for fish passage
  - Provide instream flows for fish attraction
- **Delta Outflow/Export Management**
  - Use real-time monitoring and adaptive management
- **Acquire Water Supplies for Fish and Wildlife**
  - Acquire water to augment instream flows
  - Acquire water for refuge habitat use
  - Obtain shifts in timing of instreams flows
  - Obtain shifts in diversion timing patterns
  - Modify water law to establish instream rights
- **Desalination**
  - Expand desalination of San Joaquin Valley supplies
  - Improve desalination technologies and cost
  - Educate users about desalination feasibility
- **Water Conservation**
  - Educate users about conservation technologies
  - Implement conservation-oriented rate structures

- **Water Reclamation**
  - Improve reclamation technologies and cost
  - Educate public about water reclamation
- **Land Retirement and Fallowing**
  - Encourage land fallowing during drought periods
  - Develop incentive programs for land retirement
  - Purchase lands or easements
- **Water Pricing**
  - Establish incentives for pricing to reduce demand
  - Educate users about pricing feasibility
  - Remove legal obstacles to pricing incentive program
- **Watershed Management**
  - Manage vegetation cover to increase yield
  - Manage riparian zones to protect water quality
  - Manage land uses to protect water quality
  - Modify weather to increase precipitation
- **New or Expanded On-stream Storage**
  - Construct new storage north of Delta
  - Enlarge existing on-stream storage reservoirs
  - Modify operations of existing on-stream reservoirs
- **Groundwater Banking and Conjunctive Use**
  - Establish incentives for conjunctive use
  - Modify California Water Code to encourage conjunctive use
  - Establish conjunctive use programs
  - Store groundwater south of Delta
  - Store groundwater north of Delta
  - Implement techniques to increase groundwater recharge
- **Improvement of Through-Delta Conveyance**
  - Increase flows from the Sacramento River to the Central Delta
- **Water Transfers**
  - Modify California Water Code to ease transfers
  - Improve procedures for transfer permitting
  - Coordinate diversion and conveyance of transfers

- **Long-Term Planning for Drought Contingencies**
  - Establish incentives for long-term planning
  - Develop alternate supplies for drought situations
  
- **Institutions for Integrated Long-term Water Management**
  - Establish long-term guarantees for management
  - Establish institution to implement guarantees
  - Coordinate multiagency roles in management
  - Coordinate groundwater/surface water management
  - Establish incentives for cooperation/coordination
  - Establish a public awareness/education program
  
- **Integration of Land-use and Water Supply Planning**
  - Coordinate land uses with water supplies
  
- **Management of Agricultural Drainage**
  - Retire lands with drainage disposal problems
  - Dilute pollutants in Delta inflows from SJR using stored water
  
- **Management of Urban and Wastewater Discharge**
  - Retain and manage stormwater runoff
  - Implement urban awareness/education programs
  
- **Management of Mine Drainage**
  - Manage discharges from abandoned mines
  - Remediate abandoned mining sites discharging pollutants
  
- **Establishment of Long-term Funding Mechanisms**

## 4A

- **Conflict/Approach 4A - Maxim Level of Implementation**
- **Water Quality and Land Use**
- **Manage Instream Water Quality**
  
- **Delta Waterfowl Habitat Management**
  - Manage crops for waterfowl forage production
  - Improve management of public waterfowl areas
  
- **Restoration of Upstream Anadromous Fish Habitat**
  - Manage flows and temperatures in upstream habitat
    - Manage flows in upstream habitats
    - Manage temperatures in upstream habitats
  
- **Restoration of Upstream Riparian Habitat**
  - Restrict livestock grazing in riparian corridors
  
- **Restoration of Upstream Wetland Habitat**
  - Reuse agricultural drainage to create wetlands
  - Reuse urban wastewater effluent to create wetlands
  - Manage groundwater recharge for wetland habitat
  
- **Delta Inflow Management**
  - Decrease upstream diversions
  
- **Delta Outflow/Export Management**
  - Modify in-Delta consumptive use
  - Establish a Delta water master to manage flows
  - Use real-time monitoring and adaptive management
  
- **Modification of Diversion Timing Patterns**
  - Use real-time monitoring and adaptive management
  
- **Desalination**
  - Expand desalination of San Joaquin Valley supplies
  - Improve desalination technologies and cost
  - Educate users about desalination feasibility
  
- **Water Conservation**
  - Increase use of district-wide conservation practices
  - Increase use of on-farm conservation practices
  - Increase use of municipal conservation practices

- Increase use of industrial conservation practices
- Implement financial incentive policies
- Educate users about conservation technologies
- Implement conservation-oriented rate structures
  
- **Water Reclamation**
  - Recharge groundwater with reclaimed water
  - Use reclaimed water for agricultural irrigation
  - Reclaim saline agricultural drainage water
  - Recycle and treat water for potable reuse
  - Use reclaimed water for nonpotable urban uses
  - Use reclaimed water for landscape irrigation
  - Use reclaimed water for powerplant cooling
  - Use reclaimed water for industrial processes
  - Improve reclamation technologies and cost
  - Educate public about water reclamation
  
- **Land Retirement and Fallowing**
  - Encourage land fallowing during drought periods
  - Develop incentive programs for land retirement
  - Purchase lands or easements
  
- **Water Pricing**
  - Establish incentives for pricing to reduce demand
  - Educate users about pricing feasibility
  - Remove legal obstacles to pricing incentive program
  
- **Watershed Management**
  - Manage riparian zones to protect water quality
  - Manage land uses to protect water quality
  
- **New or Expanded On-stream Storage**
  - Modify operations of existing on-stream reservoirs
  
- **New or Expanded Off/Stream Storage**
  - Modify operations of existing off-stream reservoirs
  
- **Groundwater Banking and Conjunctive Use**
  - Implement techniques to increase groundwater recharge
  
- **Institutions for Integrated Long-term Water Management**
  - Establish long-term guarantees for management
  - Establish institution to implement guarantees

- Coordinate multiagency roles in management
- Coordinate groundwater/surface water management
- Establish incentives for cooperation coordination
- Establish a public awareness/education program
  
- **Integration of Land-use and Water Supply Planning**
  - Coordinate land uses with water supplies
  
- **Management of Agricultural Drainage**
  - 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 water sheds
  - Retire lands with drainage disposal problems
  - Improve pest-control practices
  - Avoid use of high-salinity irrigation water
  - Manage irrigation tailwater to reduce pesticides
  - Treat drainage to remove pollutants
  
- **Management of Urban and Wastewater Discharge**
  - Retain and manage stormwater runoff
  - Implement urban awareness/education programs
  - Treat discharges to remove problem constituents
  - Enforce wastewater discharge requirements
  - Prevent toxic discharges from industrial plants
  
- **Dredged Material Management**
  - Use techniques to localize sediment movement
  - Dispose dredged materials at nonaquatic sites
  - Ensure material used for levee maintenance is noncontaminate
  
- **Management of Mine Drainage**
  - Manage discharges from abandoned mines
  - Remediate abandoned mining sites discharging pollutants
  
- **Establishment of Long-term Funding Mechanisms**

4B

- **Conflict/Approach 4B - Maximum Level of Implementation**
- **Water Quality and Land Use**
- **Manage Instream Water Quality**
  
- **Restoration of Delta Wetland Habitat**
  - Restore and enhance existing wetlands
  - Expand wetland acquisition programs
  - Convert agricultural lands to wetlands
  - Protect existing wetland habitat
  
- **Restoration of Upstream Anadromous Fish Habits**
  - Manage flows and temperatures in upstream habitat
    - Manage flows in upstream habitats
  - Modify gravel mining practices
  
- **Restoration of Upstream Wetland Habitat**
  - Modify floodways to support wetland habitats
  
- **Delta Inflow Management**
  - Provide instream pulse flows for fish passage
  - Provide instream flows for fish attraction
  
- **Delta Outflow/Export Management**
  - Establish a Delta water master to manage flows
  - Use real-time monitoring and adaptive management
  
- **Modification of Diversion Timing Patterns**
  - Use real-time monitoring and adaptive management
  
- **Acquire Water Supplies for Fish and Wildlife**
  - Acquire water to augment instream flows
  - Obtain shifts in timing of instream flows
  - Modify water law to establish instream rights
  
- **Water Conservation**
  - Educate users about conservation technologies
  
- **Water Reclamation**
  - Use reclaimed water to repel salinity intrusion
  - Educate public about water reclamation

- **Water Pricing**
  - Establish incentives for pricing to reduce demand
  - Educate users about pricing feasibility
  - Remove legal obstacles to pricing incentive program
  
- **New or Expanded On-Stream Storage**
  - Construct new storage south of Delta
  - Construct new storage north of Delta
  - Enlarge existing on-stream storage reservoirs
  - Modify operations of existing on-stream reservoirs
  
- **New or Expanded Off-Stream Storage**
  - Construct new storage south of Delta
  - Construct new storage north of Delta
  - Construct new storage facilities in Delta
  - Enlarge existing off-stream storage reservoirs
  - Modify operations of existing off-stream reservoirs
  
- **Groundwater Banking and Conjunctive Use**
  - Establish incentives for conjunctive use
  - Modify California Water Code to encourage conjunctive use
  - Establish conjunctive use programs
  - Store groundwater south of Delta
  - Store groundwater north of Delta
  - Implement techniques to increase groundwater recharge
  
- **Improvement of Through-Delta Conveyance**
  - Increase capacities of existing east-side channels
  - Increase flows from the Sacramento R. to the Central Delta
  - Modify Delta levees to increase flow cross-sections
  
- **Construction & Improvement of Conveyance Facilities**
  - Construct eastside isolated transfer system
  
- **Water Transfers**
  - Modify California Water Code to ease transfers
  - Improve procedures for transfer permitting
  - Coordinate diversion and conveyance of transfers
  
- **Long-Term Planning for Drought Contingencies**
  - 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
- **Institutions for Integrated Long-term Water Management**
  - Establish long-term guarantees for management
  - Establish institution to implement guarantees
  - Coordinate multiagency roles in management
  - Coordinate groundwater/surface water management
  - Establish incentives for cooperation/coordination
  - Establish a public awareness/education program
- **Establishment of Export Capacity Market**
  - 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
- **Installation and Operation of Flow Barriers**
  - Install flow barriers to manage South Delta quality
  - Install weirs to control salinity intrusion
- **Management of Agricultural Drainage**
  - Manage drainage timing to reduce instream impacts
  - Dilute pollutants in Delta inflows from SJR using stored water
- **Management of Urban and Wastewater Discharge**
  - Construct wetlands to treat wastewater effluent
- **Dredged Material Management**
  - Use techniques to localize sediment movement
  - Remove contaminated sediments in critical habitat sites
- **Establishment of Long-term Funding Mechanisms**