

Delta Vision Alternatives

Inventory and Audit

Part I: Inventory

KEY – In alpha order

AFG = Allied Fishing Groups
CCC – Contra Costa Council
DC = Delta Corridors (Russ Brown)
EJCW = Environmental Justice Coalition for Water
PS = Peer Swan
RTD = Restore the Delta
RSS = Regional Self Sustaining (Tom Zuckerman)
SEO = Seven Environmental Organizations
SDWA = South Delta Water Agency

Solution Area

Watershed
Delta
Delta
Delta (external influences)
Delta
Watershed and Delta
Watershed and Delta
Delta and adjacent areas
Delta and watershed

1. *Ecosystem - aquatic and terrestrial functions and biodiversity*

AFG: Recover and restore watershed fisheries to their historical abundance.

AFG: Establish a science-based flow regime for the Delta that incorporates the interrelationship between water operations and conveyance, fish populations and abundance, and ecosystem functions.

AFG: Establish a comprehensive non-native aquatic species prevention program with effective enforcement and including minimizing the existing undesirable exotic species.

CCC: Improve and enhance aquatic and terrestrial habitats and improve ecological functions in the Bay Delta watershed to support sustainable native populations of plant, aquatic and terrestrial species.

DC: Restore natural functions of the river-estuary habitat by separating the San Joaquin River-estuary (SJR) corridor which will eliminate all entrainment of SJR fish and provide other engineering measures to separate designated channels build rock barriers, locks and fish screens which would improve water quality and avoid entrainment.

EJCW: A sustainable Delta must provide necessary water flows to maintain the ecosystem, and must have the flexibility to amend these flows as circumstances dictate.

EJCW: Ecosystem impacts, beyond flow must be considered and altered to improve ecosystem health.

PS: Reverse subsidence on certain islands along the Sacramento River, and re-establish critical habitats.

PS: Return as much as the Delta as is feasible to more natural condition. Provide an interconnected, contiguous restoration area that allows movement and prevents isolation of fish, wildlife and plant species.

PS: Restore a substantial portion of the Delta ecology by creating conditions that allow the re-establishment of significant tidal marsh, wetland, riparian woodland and riverine habitats;

PS: Provide for a wetland ecosystem that has naturally fluctuating water quality; Facilitate the re-establishment of the anadromous fish species and species of concern by providing a key habitat restoration area that is completely isolated from the Delta export pumps;

PS: Provide areas for resident bird species as well as migrant species such as waterfowl using the Pacific Flyway during the winter;

PS: Provide an interconnected, contiguous restoration area that allows movement and prevents isolation of fish, wildlife and plant species.

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PS: Provide areas for resident bird species as well as migrant species such as waterfowl using the Pacific Flyway during the winter;

PS: Provide an interconnected, contiguous restoration area that allows movement and prevents isolation of fish, wildlife and plant species.

RTD: The Delta is first and foremost an estuary.

RSS: Restore enough of the historical Delta outflow pattern necessary to return the mixing zone to the Suisun Bay to reclaim the ecological vitality of the Bay-Delta Ecosystem.

RSS: Easement programs should be developed, perhaps through creation of a Conservancy, to target critical habitat areas, both aquatic and terrestrial, not already in

public ownership, and to help compensate for loss of farming and development opportunities.

RSS: Return the null or mixing zone to Suisun Bay by reducing exports from the system during the drier years. Re-establish the water supply offshore from Suisun Marsh at the quality necessary to grow preferred plants in the Marsh to enhance the “nursery function” of Suisun Bay.

SEO: Protect, enhance and restore a mosaic of habitats and habitat corridors throughout the Delta to offset historic and future habitat loss. Create habitat refugia upstream of current Delta habitat locations in anticipation of sea level rise.

SEO: Prohibit new urban developments outside of existing settlements on deep floodplains and along floodway corridors, and acquire potential habitat restoration areas at risk of urbanization.

2. Land Use and Land Use Patterns

EJCW: Impacts on low-income homeowners, such as threats to public safety and lowered home values must be addressed as part of any proposed land use changes called for by the new Delta Vision.

EJCW: Affordable housing opportunities must be maintained as land use changes are implemented.

EJCW: The impacts on existing communities of alterations in land use plans must be evaluated, particularly the potential for increased vulnerability to flooding.

RTD: The Delta is an agricultural region deserving of protection.

PS: Provide for an orderly phase-out of farming in the west and central Delta.

RSS: Based on the future Central Valley Flood Management Plan determine how to operate flood control features of water storage projects, where to build levees, and which portions of the historical flood plain is needed to reactivate or recreate “to provide room for the rivers.” Direct urbanization development to safe locations based on the Plan.

RSS: Maintain the existing land patterns in the Delta to appropriate risk levels given the protected use. Seismic concerns would be stressed in the westernmost Delta and for levees that protect urban areas Flood some of the levees in the Delta.

SEO: Prohibit new urban developments outside of existing settlements on deep floodplains and along floodway corridors, and acquire potential habitat restoration areas at risk of urbanization.

3. *Transportation*

CCC: Protect critical infrastructure in the Delta, including highways, pipelines, utility distribution systems, railroads and deep water ports that serve the interests of the state by taking actions to avoid catastrophic levee failure.

PS: The Delta Vision Plan should augment and build new “protected” corridors to provide sustainable water conveyance, transportation and utility service system.

RSS: Maintain the existing land patterns [in conjunction with transportation, including streets roads, highways, waterways, and ship channels] in the Delta to appropriate risk levels given the protected use.

4. *Utilities*

PS: Utilize the strongest assets and beneficial attributes of the Delta system by augmenting and building new “protected” corridors to provide sustainable water conveyance, transportation and utility service system.

PS: Consolidate infrastructure and urban uses in specific areas and corridors in the Delta. Use the Sacramento ship channel as the main stem of a water conveyance facility and pumping forebay for exportable supplies.

RSS: Levee systems that protect at-risk infrastructures should be maintained to less at-risk standards.

5. *Water supply, uses and quality*

AFG: Exports must be reduced by several million-acre feet annually or more for ecological restoration needs. Establish goals for substantially increasing regional water self-sufficiency.

AFG: Increase the residence time of water in Delta and Suisun to generate an abundant, sustainable food supply as ecologically needed.

CCC: Protect public health and safety (death, illness or injury), including the public’s supply of quality drinking water, against levee failures.

CCC: Provide a reliable supply of high quality water for California to meet the needs of California’s residents, farms, commerce and recreation through, but not limited to, investing in critical western and central Delta levees necessary to protect beneficial uses and resources of the Delta.

DC: Reduce annual salinity load of the CVP and SWP exports by 20 percent by diverting the entire SJR flow into Old River with a flood-gate located just downstream of the Head of Old River, and with other channel configurations, connecting siphon, barriers, and associated engineering changes.

EJCW: Drinking water quality and supply, both groundwater and surface water, must be adequate for all California residents

EJCW: The public health impacts on subsistence fishers from eating unsafe amounts of contaminated fish must be addressed through efforts to improve water quality and to reduce exposure to mercury and other harmful bioaccumulative contaminants

EJCW: The continuing deterioration of groundwater quality within the Delta and its source watersheds must be of concern.

EJCW: Improvement in water supply reliability should be made, in part, through groundwater conjunctive use.

EJCW: Agricultural and stormwater discharges should be limited to protect water quality.

EJCW: Remediation of mine sites and stream beds are to be prioritized and ecosystem restoration projects are to be prioritized, sited, and designed so as to limit the potential for additional methylation of mercury and the related health impacts to wildlife and human health.

RTD: Restoring groundwater tables throughout the Central Valley invites an intriguing possibility for flood management and potential water storage of water that could be used for agricultural purposes, thereby reducing the demand for Delta exports.

RTD: Conservation, reclamation, desalinization, and recycling are the keys to meeting the state's water needs without exporting every last drop of water from the California Delta in order to meet those needs.

SDWA: Management outside the Delta is necessary for flood protection and water supply and quality. Additionally, (1) recognize the importance of managing water in the Delta in such a way that there are no stagnant reaches in any channels that are not blind channels; and, (2) any plan to keep San Joaquin flows separate from Sacramento flows within the Delta would have to assure an adequate downstream flow and quality throughout each segregated system.

SEO: Establish more natural flow conditions, including likely reduced total diversion in and upstream of the Delta, to provide adequate habitat for flow-dependent native species and communities.

SEO: Identify reliable alternative water supplies for communities that currently export Delta water.

SEO: Initiate actions to eliminate water quality degradation from in-Delta and upstream sources.

RSS: Water supply should not be dependent upon transfers of water from North to South, especially during periods of lease supply (dry years).

RSS: Recognize that meeting water needs in the Central Valley will be dependent upon controlling and conserving portions of flood flows for future use. Such conservation will serve, in part, as wet year storage for south of the Delta water needs.

RSS: Improve the efficiency of passage of water through the interior of the Delta based on “reversibility” and political reality, to wit, the peripheral canal may be too costly and too controversial.

RSS: The current system of regulation is adequate to meet existing and emerging public health and safety objectives, and to incorporate new technologies as they appear.

6. Recreation and tourism

AFG: These [fish] resources must be provided the habitat to restore them to self sustaining levels capable of supporting recreational...fishing.

CCC: Protect and enhance recreation and tourism opportunities, including boating, hunting and fishing that enhance our quality of life.

PS: Provide deep water areas in appropriate locations for recreational access by fishermen [sic] and boaters. Economically Enhanced land use nodes should be developed as tourist/ recreation/marina uses catering to people wanting to enjoy the beauty of the Delta.

RSS: Enhance aquatic and terrestrial resources throughout the Central Valley and specifically preserve and support recreation and tourism through appropriate land-use designations established by a Central Valley Flood Management Plan, and by the restoration of robust fresh water environment in the Delta consistent with its history.

RSS: Since these westernmost islands are also the closest and most accessible to the Bay Area population, there is significant opportunity to meet recreational and education needs if portions of these lands need to be converted from agriculture to attain seismic protection.

7. Flood risk management

CCC: Protect public health and safety...against levee failures through: flood routing and management; protective land-use policies; and, a program to retrofit and strengthen strategic elements of the existing levee system [especially] the western and central Delta levees...focusing on levees that protect water quality, other levees and public health/safety.

CCC: Invest in critical western and central Delta levees necessary to protect beneficial uses and resources of the Delta...focusing on critical levees that protect water quality, other levees and public health and safety.

EJCW: The disproportionate impacts of flooding on renters must be mitigated for all residents of the Delta, including those who work and live in the Delta, but do not own land.

PS: Acquire existing land in the west and central Delta, limit the number of levees that need to be maintained by the State, limit future State liability caused by levee failure in the west and central Delta.

PS: Protect or develop flood bypasses and floodplain corridors to reduce risk of island failure and create habitat benefits.

RSS: Protect and expand local sources of scarce material, such as dredged materials from deep water channel maintenance activities and the rock revetment material from nearby quarried deposits, which are under constant regulatory pressure.

RSS: Based on the “Dutch” solutions join groups of islands together behind common levees (polders”) to reduce the miles of levees which need major improvement. Locks would be appropriate to retain waterway access for recreational and commercial uses.

RSS: If sea level rise trends toward the highest estimates, closable surge barriers west of the Delta may be needed.

RSS: Reduce seismic vulnerability on the westernmost islands.

RSS: Prepare a Central Valley Flood Management Plan based on the “design flood” and include future climate change possibilities so that “room for the rivers” and appropriate flood works expansions can be reserved in flood management plans.

RSS: Use the future Central Valley Flood Management Plan to determine nature and extent of protection of legacy communities, roads, and other Delta infrastructure by strengthening existing levees or by constructing ring levees or consolidating and armoring utility corridors....retain storm waters on the valley floor in historical flood plains for carry-over use and ground water recharge...[using] flood easements...on currently farmed acreages for temporary flooding.

SEO: Institutes subsidence management and reversal on central and western Delta islands to reduce the risk and effects of levee failure.

SEO: Develop a comprehensive flood plan for the Delta...anticipate levee failure and prepare islands accordingly to minimize impact and maximize benefits of flooding.

8. *Emergency response*

CCC: A coordinated emergency response program [should included] strategic stockpiling of emergency repair materials.

EJCW: Emergency response plans must address the needs of the low-income and Latino populations at disproportionate risk from flood events.

EJCW: ...Delta Vision must account for protection of communities remaining in the Delta and [have] expedited emergency evacuation plans with special focus on educating EJ communities to be aware of the plan and with the resources necessary to actually evacuate these communities.

RSS: There must be a robust Emergency Response Plan, including quick financial response capability.

9. Local and state economies

AFG: One of the main reasons there is a crises in the Delta is due to the lack of appropriate recognition of the economic importance of recreational fishing to the state's economy (\$7 billion in economic output; \$800/year in state and federal income taxes). Add to this the estimated 1983 value for our commercial fishery of \$2.3 billion.

CCC: Protect economic assets of the Delta which in turn will protect the local, regional and state economic vitality by taking steps outlines above to avoid catastrophic failure of Delta levees.

EJCW: Proposed changes in agricultural practices or other economic activities must evaluate the potential impacts of those changes on Delta residents, particularly farmworker and other disadvantaged communities.

EJCW: Implementing the Delta Vision should provide economic opportunities to current Delta Residents.

PS: Restoration of the natural ecological attributes of the Delta combined with the creation of enhanced economic "nodes" should maintain and enhance the tax revenue to the various counties and to the state, and could be used to offset losses of state and local government revenues from former agricultural uses.

RSS: To protect the economy, the long-term loss of any significant portion of the Delta land mass or the levees that provide its protection should be avoided.

SEO: In this vision, the Delta's ecosystem would be improved...while not diminishing the viability of the agricultural industry in the Delta.

10. Governance

AFG: State and Federal governments are the public's trustees of Delta-Suisun watershed fishers and their aquatic environment. Existing governmental organizations should properly discharge this legal responsibility for these resources which must be restored to self sustaining levels capable of supporting recreational and commercial fishing.

AFG: Establish a water quality compliance program to ensure they meet the water quality standards established by law.

AFG: Identify or create a single entity to oversee the management of the Delta, with the participation of and based on peer reviewed science, for the protection of the Delta-Suisun ecosystem and its tributary rivers, and all of the affected fishers.

CCC: Identify an independent governmental body with the legal authority and accountability to regulate and assure applicable water quality and environmental standards are met in the Delta. Other stakeholders, including appropriate state and federal agencies, must be participants and held accountable for implementing needed actions.

EJCW: The Delta decision-making structure must recognize and address the differing capacity for participation among interested stakeholders in order to ensure a fair and balanced Vision.

Planning and implementation of the Delta Vision must incorporate meaningful stakeholder engagement through education and other means that contributes to and impacts the outcome of the Vision.

RTD: Local Delta stakeholders would need ironclad assurances that such a flexible conveyance system would not be altered into a permanent alternative conveyance system that would reroute Sacramento River water away from the Delta.

RTD: Create a conservancy governed primarily by local Delta interests for creating programs for ecological and levee restoration that could tackle the problems associated with subsidence, water quality, seismic threat, and sea level rise.

RTD: One governing agency should enforce numerous state and federal laws.

RSS: Flood Management strategies based on the future CVFMP should be a sound basis for dividing governance responsibility between local, regional and state agencies on the basis of designated uses.

SEO: Create new institutional arrangements for managing the Delta:

Recognizing the special status of the Delta in governance, and improving governance mechanisms for controlling urbanization, flood management, water operations and habitat restoration: (1) Protecting...critical ecological areas in the Delta as state and federal reserves under the state and National Park systems...potentially including designation of the entire Delta as a National Park or Reserve; (2) Promoting legislative changes...to prevent urbanization in the Delta primary and secondary zones, including strengthening the Delta Protection Commission's authority over [these] zones; (3) reforming flood management decision making at the local level and at the California Reclamation Board; (4) establishing clear and measurable performance targets; (5) creating a new Delta Conservation and Development Commission...on the pattern of the existing Bay conservation and Development Commission; AND, (6) a NEW Delta conservancy to assist with rapid efforts to acquire and manage habitat...

SEO: Reforming the State Water Project and improving oversight of all water project operations by: (1) Creating a private enforcement agreement to better control Delta water management; (2) subjecting the SWP to normal state legislative oversight; (3) establish ecosystem enhancement as a project priority; (4) creating a new Delta Water Management Commission...to better integrate the SWP and CVP, [and] to wield authority to approve water project operations.

It may be necessary to provide additional regulatory mechanisms and incentives to facilitate the transfer and exchange of water from outside of Delta-dependent areas to Delta users.

SEO: The DV Blue Ribbon Task Force should recommend that the State Water Resources Control Board revise the permit conditions for non-project water rights holders to require releases to meet Delta flow objectives.

11. Finance

AFG: New conveyance or water storage necessary to achieve a sustainable Delta and direct beneficiaries of exported water should pay the financial costs.

CCC: ...[M]ake investments...that reduce conflict between fish and water project operations such as [for] fish screens at export facilities and modification to Delta channels that reduce fish densities near water diversion facilities.

PS: Invigorate a vibrant economy based upon a healthy ecosystem, provide for an orderly phase-out of farming in the west and central Delta.

PS: Restoration of the natural ecological attributes of the Delta combined with the creation of enhanced economic “nodes” would maintain or potentially boost the tax revenue to the various counties and to the State.

RSS: Public funding needs to be available to address unusual issues, emergencies and environmental justice concerns.

RSS: To protect the economy, there long-term loss of any significant portion of the Delta land mass or the levees that provide its protection should be avoided.

SEO: Establish a realistic, “beneficiary pays” financing plan to implement the Delta Vision plan.

12. Cross cutting

AFG: Establish a comprehensive solution for State Water Project operation that includes the operation of the Central Valley Project to achieve Delta Vision goals.

EJCW: A sustainable Delta that provides for the needs of environmental justice communities, currently spread broadly across the legally defined Delta, will provide a safe, livable environment for all current and future residents of the Delta.

EJCW: Data gaps relevant to disadvantaged and environmental justice communities must be identified and addressed.

EJCW: Decisions based upon inconclusive data should be made in a provisional and reversible manner,

EJCW: Enabling meaningful engagement and statewide investment in Delta restoration and management will require education and capacity building around the state.

EJCW: The most important element of a new Delta Vision is a governance structure that will be flexible, and able to make decisions in a timely fashion and in the face of uncertainty, but will also provide full opportunity for participation and review of previous decisions and course change as necessary to achieve a sustainable delta.

EJCW: Delta Vision must recognize the impact of upstream source control and flood attenuation activities on the health and viability of the Delta.

EJCW: To ensure that community health and the environment are protected in the Delta Vision process, we recommend that decisions on changes in conveyance and operation of Delta water infrastructure be incremental and reversible, dependent upon the measured impact on the ecosystem.

PS: There is no perfect way to fix the Delta – only some ways that will satisfy more needs for a longer duration than others; however, waiting for a catastrophic failure of the Delta could substantially limit the ability of the State to undertake a post-failure fix and may have the effect of permanently downgrading the quality of life in the entire State.

RTD: Only surplus water that is not essential for protecting the estuary and local agriculture can be shared with other parts of the state.

RSS: All functions of the Delta that includes those outside the “legal” Delta should be utilized as solution area.

RSS: Water storage more than likely would be best provided by flood plain management on the valley floor, more like it was 150 years ago.

SEO: More natural flow conditions, integrating flood management for restoration goals, and including likely reduced total diversions in and upstream of the Delta, to provide adequate habitat for flow-dependent native species

SEO: A phased, experimental approach to evaluate alternative Delta conveyance options on the basis of reversibility and ecological compatibility, focused on the least intrusive and more reversible actions first.