

Early Action Application
of
Semitropic Water Storage District for the Delta Wetlands Project
to the
Delta Stewardship Council

1. Applicant Information

Request:

Consideration as an early action

Name: Semitropic Water Storage District

Legal status (City, special district, firm, individual, etc.) Special District and Lead Agency

Address of Applicant:
1101 Central Avenue
Wasco, CA 93280-0877

Contact Information:

Name of responsible individual:	Anson Moran
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Plan or project purpose narrative, including legal authority. If an action is "urgent," provide the rationale for urgency.

The Delta Wetlands Project consists of four islands in the central Delta. The project proposes to convert two heavily subsided islands into reservoirs and to preserve two others as managed open space. Delta Wetlands Properties owns all of the land required by the project, funds the four reclamation districts that maintain the levees, and holds water rights that support on-going agricultural operations on the islands. The project's in-Delta water storage will be managed in conjunction with the south-of-Delta groundwater storage operations of the Semitropic Water Storage District (Semitropic). Semitropic and Delta Wetlands Properties have partnered to jointly implement the project.

Development of the project is urgent because it can provide immediate progress toward meeting the State's "co-equal goals" without conflict with the BDCP, the Delta Protection Act, or the Blue Ribbon Task Force Strategic Plan.

Consideration of the project as an early action by the Delta Stewardship Council is urgent in order to facilitate the on-going regulatory permitting of the project and enable project construction to commence as soon as possible. The project obtained nearly all regulatory approvals including water right permits, a Clean Water Act Section 404 dredge and fill permit, and state and federal endangered species act approvals in 2001 before being directed by the Court of Appeal in 2004 to identify specific

places of use in its water right applications and obtain amended water right permits. The project has made substantial progress toward amending its water right permits and updating its environmental impact analyses. The project expects to certify a Final Environmental Impact Report at the end of 2010, and to obtain various regulatory approvals including updated state and federal endangered species act approvals throughout 2011. As such, many key decisions about the project will be made prior to the Council's adoption of a Delta Plan. Designating the project as an early action will provide clear direction and encouragement to regulatory agencies to diligently continue the current permitting process in consultation with the Council. If the project is not designated as an early action, regulatory agency attention to the project could lessen, which would delay the permitting process for the project.

Plan or project physical location and description (include geo-referencing latitude and longitude for projects):

The Delta Wetlands Project consists of four islands located in the central Delta. Webb Tract and Bacon Islands will be converted to reservoir islands by reinforcing levees and installing pumping facilities. Bouldin Island and Holland Tract will be preserved as managed open space under the terms of a Habitat Management Plan that is negotiated with the California Department of Fish and Game.

2. Plan or Project Review by Public Agencies

Local Government Discretionary Approval(s):

Yes _____ No If yes, describe:

State Lands Commission:

Yes No _____

State Water Resources Control Board:

Yes No _____

Regional Water Quality Control Board:

Yes No _____ Regional Board Number: 5 (Central Valley)

California Department of Toxic Substances Control:

Yes _____ No

DF&G Take Authorization:

Yes No _____

U.S. Army Corps of Engineers:

Yes No _____ Public Notice Number: TBD

U.S. Fish and Wildlife Service

Take Authorization: Yes No _____

Biological Opinion: Yes No _____

NOAA Fisheries Service

Take Authorization: Yes No _____

Biological Opinion: Yes No _____

U.S. Coast Guard:
Yes _____ No

Federal Funding:
Yes _____ No

Describe any history of consideration by any other governmental agency and provide documentation of any action taken.

An exhaustive project history is provided in Chapter 1 of the Delta Wetlands Project's Draft Place of Use Environmental Impact Report dated April 2010. The following major events characterize the Project history (in chronological order):

- 1987 water right applications to State Water Resources Control Board
- 1987 application for Clean Water Act (CWA) Section 404 permit for the discharge of dredged or fill material to US Army Corps of Engineers (USACE)
- 1990 Draft Environmental Impact Statement/ Environmental Impact Report by USACE and State Water Board
- 1995 revised Draft Environmental Impact Statement/ Environmental Impact Report Fisheries Consultation and Biological Opinions issued by USACE and State Water Board
- 1997 Biological Opinions and Incidental Take Statements issued pursuant to Endangered Species Act by US Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS)
- 1997 Section 106 Historical Preservation Consultation
- 2000 updated Biological Opinions by FWS and NMFS
- 2000 Revised Draft Environmental Impact Report/ Environmental Impact Statement
- 2000 State Water Board Water Right Hearing
- 2001 Final Environmental Impact Report, Water Right Decision 1643, and water right permits by State Water Board
- 2001 CWA section 401 certification issued by State Water Board
- 2001 Final Environmental Impact Statement and CWA section 404 Permit by USACE
- 2001 California Endangered Species Act Incidental Take Permit and Habitat Management Plan by California Department of Fish and Game
- 2004 Court of Appeal decision directing State Water Board to set aside the Final Environmental Impact Report and Decision 1643
- 2008 Notice of Preparation of Place of Use Environmental Impact Report by Semitropic
- 2010 Draft Place of Use Environmental Impact Report by Semitropic

3. Environmental Impact Documentation (must be completed by all applicants)

- a. Is the project statutorily or categorically exempt from the need to prepare any environmental documentation?

Yes _____ No

If "yes," please attach a statement that identifies and supports this statutory or categorical exemption.

- b. Has a government agency other than the Council, serving as the lead agency, adopted a negative declaration or certified an environmental impact report or environmental impact statement on the project?

Yes_____No___X___

If "yes," attach a copy of the document. If the environmental impact report or statement is longer than ten pages, also provide a summary of up to ten pages. If "no," provide sufficient information to allow the Council to make the necessary findings regarding all applicable policies. The certified document must be submitted prior to action on the application.

Semitropic issued a Draft Place of Use Environmental Impact Report for the project in April 2010. The comment period closed on June 28, 2010. Staff and consultants are preparing responses to comments received and expect to certify the Final Place of Use Environmental Impact Statement by the end of 2010.

General information about the project can be found at <http://www.deltawetlands.com>. Links to the DEIR and associated documents can be found at <http://www.deltawetlandsproject.com>.

4. Assessment against Delta Reform Act Policy Objectives

Assess the proposed plan or project against the eight policy objectives listed below which "the legislature declares are inherent in the coequal goals for management of the Delta" (WC Section 85020).

Provide a brief summary for the rationale for each assessment and reference to any supporting documentation (including URL links as appropriate).

- a. Manage the Delta's water and environmental resources and the water resources of the state over the long term.

Positive__X__Negative_____Neutral_____Unknown_____

Rationale, magnitude of effect (if positive or negative) and documentation:

The Delta Wetlands Project reservoir islands will store up to 215 Kaf (thousand acre-feet) on two islands that have subsided to elevations that are now more than 20 feet below sea level. On average, operation of the reservoir islands can deliver about 160 (thousand acre-feet) Kafa of new water. In partnership with the Semitropic Water Storage District, the project can reliably deliver 91 Kafa to places of use south of the Delta. Conversion of these islands from agriculture to water storage will reduce carbon dioxide emissions by 150,000 tons per year, the equivalent of emissions from 30,000 automobiles.

The Delta Wetlands Project habitat islands will provide 9,000 acres of managed wetland, wildlife habitat and open space in the central Delta, on the Pacific Flyway. Conversion of these islands from intensive agriculture will produce similar, if somewhat smaller, carbon benefits.

Together, development of the islands as planned will strengthen 56 miles of Delta levees

- b. Protect and enhance the unique cultural, recreational, and agricultural values of the California Delta as an evolving place.

Positive Negative Neutral Unknown

Rationale, magnitude of effect (if positive or negative) and documentation:

Delta Wetlands Project features include recreational opportunities for hunting, fishing, boating and eco-tourism. Improvements to 56 miles of levees will stabilize 20,000 acres of central Delta land mass. These strengthened, "good neighbor" islands will protect surrounding properties from the threat of failed islands creating inland seas with long fetch and higher waves. Wildlife-friendly agriculture will be a component of the habitat islands.

- c. Restore the Delta ecosystem, including its fisheries and wildlife, as the heart of a healthy estuary and wetland ecosystem.

Positive Negative Neutral Unknown

Rationale, magnitude of effect (if positive or negative) and documentation:

Delta Wetlands Project habitat islands create 9,000 acres of managed wetland, wildlife habitat and open space in the central Delta, on the Pacific Flyway. This land will be managed under a Habitat Management Plan developed in conjunction with the California Department of Fish and Game and will complement other habitat projects on Staten and Twitchell Islands. Levee improvements will create opportunities for water side habitat improvements, and releases from the reservoir islands in the fall will improve Delta water quality.

- d. Promote statewide water conservation, water use efficiency, and sustainable water use.

Positive Negative Neutral Unknown

Rationale, magnitude of effect (if positive or negative) and documentation:

Location of the reservoir islands proximate to the state and federal export pumps will support the time-shifting of exports to minimize their environmental impacts. Environmental releases from the reservoir islands will be more efficient, and their effects more certain, compared with releases from Oroville and Shasta that are 3 and 5 days transit time away from the Delta.

All levee improvements, especially on Bacon Island and Holland Tract, improve the reliability of through-Delta conveyance.

- e. Improve water quality to protect human health and the environment consistent with achieving water quality objectives in the Delta

Positive Negative Neutral Unknown

Rationale, magnitude of effect (if positive or negative) and documentation:

Water not released for export will be available for release into the Delta during the fall when Delta water quality is at its worst. Water impounded on the reservoir islands will be available for release after flood and seismic events in order to repel salt water intrusion and freshen the Delta.

- f. Improve the water conveyance system and expand statewide water storage

Positive Negative Neutral Unknown

Rationale, magnitude of effect (if positive or negative) and documentation:

Delta Wetlands Project reservoir islands will provide up to 215 Kaf of additional water storage. This storage can be managed to produce an average of 160 Kafa of new water and about 91 Kafa of additional firm export yield.

The project levee improvements, especially the significant buttressing and armoring on Bacon Island and Webb Tract, will make through-Delta conveyance more reliable. Storage proximate to the export pumps will provide for flexible management of conveyance to meet increasingly constrained export opportunities.

- g. Reduce the risks to people, property, and state interests in the Delta by effective emergency preparedness, appropriate land uses, and investments in flood protection.

Positive Negative Neutral Unknown

Rationale, magnitude of effect (if positive or negative) and documentation:

All 56 miles of Delta Wetlands Project levees will be improved to or beyond PL 84-99 standards. Bacon Island and Webb Tract levees will be built to a "seismically resilient" standard. These islands will provide a strong center for the Delta to secure channels critical for export conveyance and successful irrigated agriculture on neighboring islands.

Storage capacity on the reservoir islands can be used in emergency situations either to store and isolate salty water, or to release fresh water to repel salinity intrusion and improve Delta water quality.

Conversion of the four Delta Wetlands islands will increase the economic value of Delta land uses without incurring the risks associated with residential development.

- h. Establish a new governance structure with the authority, responsibility, accountability, scientific support, and adequate and secure funding to achieve these objectives.

Positive Negative Neutral Unknown

Rationale, magnitude of effect (if positive or negative) and documentation:

The association of the Delta Wetlands Project with the Semitropic Water Storage District will create an entity that Delta interests can trust to be a reliable and responsible project operator.

5. Assessment of Administration and Implementation Processes

Cost of Project/Plan: Please provide your best estimate of the total cost of the project or plan you are proposing. If this is a Plan, please provide an estimate of the annual operational or enforcement costs projected for the activity. Please list all sources used for developing the cost estimates.

Several project cost estimates have been made and are in the public record. The most recent was made by the CALFED Integrated Storage Investigation of In-Delta Storage, and is available on their web site.

Project proponent cost estimates and budget are proprietary. Of importance to public policy is the project's commitment to self finance (i.e., without reliance on state or federal funding) and to recover costs through payments from subscriber-beneficiaries.

Financing (provide information on public and private sources of funding, including funds on hand or legally pledged or obligated and the sources of those funds):

Project financing will be secured by payments for water delivered to project beneficiaries.

Identify any public agencies (federal, state and local) whose actions or decisions are essential for the proposed action to succeed. Provide evidence of their approval and support of the proposed action:

Project approvals will be required from the entities listed in Section 2 of this application. A number of approvals have been issued but must be updated to address new information (e.g., USFWS, NMFS, and DFG approvals). The next approval expected is the Final Environmental Impact Report in December 2010. Other approvals are anticipated throughout 2011. Future actions of permitting agencies cannot be telegraphed or reliably predicted. But the project is fully engaged with all permitting agencies in positive and productive activities.

If real property must be acquired or use altered for the success of the proposed action, identify the owners of that property and information on how ownership or use change will occur:

No real property needs to be acquired for project development.

Provide a time line for the proposed plan or project, including major milestones through completion:

- December 2010 – FEIR
- Fall 2011
 - Updated NMFS Biological Opinion and Incidental Take Statement (issued in 1997)
 - Updated USFWS Biological Opinion and Incidental Take Statement (issued in 1997)
- Winter 2011
 - Reissued USCOE 404 Permit (2002 permit expired in 2007)
 - SWRCB Water Rights reinstated (2001 permits set aside pending identification of places of use and certification of Final EIR)
 - Updated CDFG Incidental Take Permit (issued in 2001)
- Spring 2012 – DSC Consistency Certification

Describe how success or failure of the plan or project will be determined, including measures proposed, time frame and public agency responsible for judging success:

The most fundamental measure of success will be for the project to deliver water to its beneficiaries and thereby produce revenues sufficient to retire debt and cover operating costs.

Describe the major benefits that can result from the proposed plan or project, including identification of beneficiaries and any information on the magnitude and timing of benefits received:

As stated previously, the project's major benefits include: provision of approximately 91 Kafa of new water supply to places of use south of the Delta; provision of approximately 69 Kafa of water for Delta water quality enhancement; strengthening of 56 miles of levee; and substantial reduction of carbon emissions. These benefits will be provided following project construction, which is anticipated three years following obtainment of regulatory approvals.

If the proposed plan or project fails, what is done? What additional costs could be incurred and how will they be financed? Identify any lasting effects or changed options for future policy making:

If the project does not obtain the approvals necessary for construction and operation, the islands will remain in intensive agricultural production. Intensive agriculture on the Delta Wetlands islands is likely unsustainable over the long term due to increased subsidence and increasing levee maintenance costs.

If the project is constructed but later fails or is discontinued, project financing will include funds to return Delta Wetlands Project islands to a condition suitable for the resumption of farming. It is anticipated that project improvements, primarily levee improvements, would make farming more sustainable in the long term if the islands had to be returned to farming.

6. Scientific justification (to address requirement for Council use best available science, Water Code section 85302(g)):

Describe any scientific justification for the proposed plan or project and provide all related documents:

The Delta Wetlands Project has been the subject of exhaustive engineering and scientific investigations over the past two decades. California Environmental Quality Act and National Environmental Policy Act investigations have included the following: a Draft Environmental Impact Report and Statement (JSA 1995); a Revised Draft Environmental Impact Report and Statement (JSA 2000); a Final Environmental Impact Statement (JSA 2001) adopted by the U.S. Army Corps of Engineers; a Final Environmental Impact Report certified by the State Water Resources Control Board; a Draft Environmental Impact Report (ICF 2010) prepared by Semitropic. The State Water Resources Control Board held over 20 days of hearing on the project whereby it considered evidence from multiple parties before issuing water right permits in 2001. CALFED's Integrated Storage Investigations (ISI) for In-Delta Storage were conducted by the California Department of Water Resources and addressed a broad range of both Delta-wide and project specific issues in the 2004 In-Delta Storage Feasibility Study (DWR 2004) and 2006 Supplemental Report (DWR 2006). While the Delta Wetlands Project is not fundamentally a science based project (its purpose is not to modify biological conditions) the analysis of project impacts and mitigation measures, and the development of operating criteria has incorporated best available science throughout. The environmental review and permitting documents include significant scientific references and documentation (see Exhibit A).

Throughout the evaluation of the Delta Wetlands Project, the primary areas of engineering and scientific concern included levee system integrity, water quality, wildlife, fisheries, and conveyance which are more fully described below.

LEEVE SYSTEM INTEGRITY

In their paper Subsidence, Sea Level Rise, and Seismicity in the Sacramento-San Joaquin Delta, Drs. Mount and Twiss of the University of California concluded that “There is a two-in-three chance that 100-year recurrence interval floods or earthquakes will cause catastrophic flooding and significant change in the Delta by 2050.” (Mount and Twiss 2004) The Delta Risk Management Strategy (DRMS) Phase I Report concludes that “...under business-as-usual practices, the Delta Region as it exists today is unsustainable. Seismic risk, high water conditions, sea level rise and land subsidence threaten levee integrity.” (URS 2009, emphasis added) The DRMS report identifies risks to water quality, aquatic and terrestrial species, as well as public health and safety, associated with the existing Delta levee system.

The Delta Wetlands Project is a subscriber-financed scientifically sound departure from business-as-usual. Stabilizing the Delta levees is a significant undertaking. There are over 1,330 miles of levees in the Delta of which a couple of hundred miles are critical. Financing these improvements is a significant challenge for the Delta Stewardship Council. The Delta Wetlands Project will strengthen and protect four critical islands in the heart of the Delta region and can become the core of a sustainable Delta. In addition, the new widened and buttressed reservoir island levee design will greatly improve levee integrity over existing conditions. (Hultgren-Tillis 2003) The Delta Wetlands Project, and its levee improvements, will be paid for with subscriber fees, reducing the DSC’s challenge by 56 miles.

Land Subsidence

A century of drainage and cultivation has exposed peat soils in the Delta to rapid oxidation which is the principal cause of Delta island subsidence. Historic subsidence rates of 2 to 3 inches per year have resulted in the current island elevations significantly below sea level and the need for Delta Levees. Recent subsidence rates of 1 to 1.5 inches per year continue to threaten the Delta. (Deverel 2010) Keeping soils undisturbed and wet is a proven antidote. Managing wetlands to promote accretion appears to be an effective method of reversing subsidence. The Delta Wetlands Project incorporates both remedies.

Climate Change and Sea Level Rise

Recent data suggest the rate of sea level rise has increased in the last century. Studies for Department of Water Resources (DWR) and Reclamation District No. 2026 have evaluated the threat of sea level rise on Delta islands. (Hultgren-Tillis 2009a) The study concludes that the existing safety and reliability of the levees can be maintained for a predicted sea level rise of ¼ inch to 1 inch per year (less than the rate of soil subsidence). This increase in levee crest height is well within the capacity of the Delta island reclamation districts.

Seismic Risk

Delta levees are at risk of liquefaction and deformation during an earthquake. Although it may be cost prohibitive to eliminate all seismic risk for Delta levees, the DRMS study identifies a “seismically repairable levee” with a wider crest of 50 feet and a broader toe berm. (Hultgren-Tillis 2009b) The Delta Wetlands Project proposes a similar geometry for the reservoir island levees.

WATER QUALITY

Delta waters serve several beneficial uses, each of which has specific water quality requirements and concerns. The Delta is a major habitat area for fisheries, wildlife, and other aquatic species; as well as a water supply for municipal, agricultural, and industrial use. Key water quality parameters include salinity, nutrients and organics, turbidity, dissolved oxygen, temperature, and contaminants. Flows are also important as they govern transport and mixing within the Delta.

Salinity

Salinity in the Delta is impacted primarily by hydrology and is well understood. An extensive monitoring program has existed in the Delta since 1975 in accordance with the Environmental Monitoring Program (EMP) as required by SWRCB Decision 1641 with decades of salinity data, including electrical conductivity, chloride, bromide, and total dissolved solids (DWR Jan-2009). We have made extensive use of a variety of well-documented, widely accepted models to analyze salinity impacts of the Delta Wetlands Project, including CALSIM II, G-Model, DSM2-HYDRO and DSM2-QUAL. Modeling included in Chapter 4.2 of the 2010 Place of Use DEIR confirms that the reservoir island operations have little impact on Delta salinity and often provide a slight improvement because the reservoir islands store low salinity water during winter and release back to the adjacent channels in summer when Delta salinity is higher. (ICF 2010)

DOC

Organics and nutrients in the Delta are beneficial to the aquatic ecosystem but municipal water treatment facilities can be impacted by the presence of organics, especially dissolved organic carbon (DOC). Disinfection by-products are developed when waters with high concentrations of organics in combination with high salinity levels are treated for drinking water use. DOC loading within the Delta has been the topic of extensive study. The direct contact of stored water with the peat soils of the reservoir islands has been identified as an area of concern and study. As organics cannot be reliably predicted, operational constraints for the reservoir islands have been established to protect Delta drinking water quality. A Water Quality Management Plan (WQMP) has been developed as part of protest dismissal agreements with California Urban Water Agencies and Contra Costa Water District to minimize potential impacts on exports and municipal water quality and is described more fully in the 2010 Place of Use DEIR, Chapter 4. (ICF 2010)

DOC levels are monitored at the Delta export pumps by the Municipal Water Quality Investigations branch of DWR. The DSM2-QUAL model can track DOC sources and loading to predict concentrations at Delta exports. This model was used extensively in the ISI feasibility studies for a range of DOC loading rates and the 2006 Supplemental ISI Report concluded that "simulated operations conducted for this report comply with short-term annual water quality regulations and agreements." (DWR 2006) Initial DOC loading may be high because of the presence of high amounts of soluble DOC in the soil but the rate of DOC leaching is expected to decrease over time in accordance with an independent analysis from the University of Florida. (Reddy 2005) In addition, DWR's mesocosm tank studies for the ISI feasibility study of peat soil contact with Delta water confirmed Dr. Reddy's conclusions that initial organic carbon loading rates decrease over time with a reduction of 68 percent over a two year period. (DWR 2006)

The Jones Tract flooding offered real-time data on water quality impacts of DOC and the effects of direct contact of Delta water with peat soils. DWR concluded that "changes in water quality directly outside of

Jones Tract due to the pump-out did not rise to the level of concern that would have threatened the environment or the continued pump-out operations.” (DWR Jan-2009) This data provided valuable new information that has been included in Chapter 4.2 of the Place of Use DEIR. Even under the Jones Tract DOC loading rates, reservoir islands would only reach “moderate DOC concentrations for the Project storage water that can be discharged for exports within the WQMP criteria and guidelines.” (ICF 2010)

Temperature and DO

Temperature and dissolved oxygen levels are of concern to Delta fisheries. Unlike salinity and DOC, these parameters are more difficult to model and can be episodic in nature. Operational constraints have been established to protect Delta fisheries during reservoir island diversion and discharge periods. Final Operating Criteria (FOC) have been developed as part of our consultations with the fishery agencies to minimize potential impacts and are described in Chapter 4.5 of the 2010 Place of Use DEIR. (ICF 2010) A concern raised during the ISI study was that reservoir stratification could significantly impact water quality and temperature levels. As part of the ISI feasibility study, Flow Science analyzed the reservoir islands for DWR with DYRESM-WQ, a one-dimensional model to predict reservoir stratification. Flow Science concluded that reservoirs would be well mixed with only short-lived, minor stratification during worst case, low wind speed conditions. (Flow Science 2003)

Methylmercury

The Delta has been identified as impaired by elevated levels methylmercury, which even at low levels can accumulate in aquatic organisms. The Central Valley Regional Water Quality Control Board (RWQCB) is developing and implementing draft recommendations to reduce methylmercury concentrations in the Delta. Existing farming practices in the Delta produce methylmercury at varying levels but are currently not subject to regulation or control. (Heim, Deverel 2009) Wetlands and open water can also produce methylmercury loads. However, in some cases wetlands act as methylmercury sinks. (Wood 2010) Certain actions such as permanent inundations and wetland design may help reduce the formation of methylmercury in the Delta. The Delta Wetlands Project will follow proposed TMDL Basin Plan requirements to avoid methylmercury impacts.

WILDLIFE

The Delta is a maze of meandering waterways and 738,000 acres of land that is predominantly farmed but includes a mosaic of wetland and wildlife habitat for a variety of terrestrial and waterfowl species. The Delta Wetlands Project is consistent with the State’s coequal goals for the Delta of a more reliable water supply and protecting, restoring, and enhancing the Delta ecosystem. The project includes two habitat islands managed primarily to offset wildlife impacts resulting from reservoir island operations. A habitat management plan has been developed in partnership with the Department of Fish and Game. The two habitat islands provide 9,000 acres of wetland and wildlife habitat in the heart of the central Delta that is consistent with and complimentary to the ecosystem restoration goals for the region. Neither the BDCP nor the Blue Ribbon Task Force’s Strategic Plan have proposed alternatives that conflict or compete with proposed uses of the four Delta Wetlands Project islands.

FISHERIES

Many fish species depend on the Delta for survival. Salmon species travel through the Delta to the Pacific Ocean and back to complete their life history. Pelagic species like delta smelt and longfin smelt rear and spawn within the Delta channels and Suisun Bay. The recent collapse of fishery resources represents one of the greatest challenges facing California. Dramatic declines in populations have resulted in significant reoperation of the Delta, legal challenges, and a threat to the economic viability of the state. The Delta Wetlands Project provides a unique opportunity to operate within the windows of availability to store surplus winter water and deliver this water back into the Delta for beneficial use later in the year. The reservoir islands are adaptively managed to avoid operations during the presence of critical species and spawning periods.

Fish Screens

The Delta Wetlands Project removes 92 unscreened diversions from the Delta and includes state-of-the-art positive barrier screens on all diversions to both reservoir islands and habitat islands. The new fish screens will meet USFWS criteria for delta smelt (0.2 fps approach velocity), are continuously cleaned, and a drum design to minimize length of exposure. The fish screen designs will be similar to the ISI retrievable screen system operated by Reclamation District 999 on the Sacramento River in Clarksburg.

Final Operating Criteria

The USFWS, NMFS, and DFG have already reviewed the Delta Wetlands Project and issued biological opinions and authorized take permits, which are currently being updated. The reservoir island operating criteria for the biological opinions require an extensive monitoring program described in the Chapter 4.5 of the 2010 Place of Use DEIR (ICF 2010). The reservoir islands divert water during December to March. The operating criteria identify minimum outflow and X2 criteria, temperature and DO constraints, monitoring and avoidance requirements, April and May operational prohibitions, conservation and mitigation funding. Water is released in July to November for export or in-Delta benefits. Releases for export are also constrained by available capacity at the SWP and CVP pumping plants and OCAP biological opinions. During years with little or no export capacity from the Delta, the reservoir islands will provide fall releases for water quality and fishery benefits.

DELTA CONVEYANCE ALTERNATIVES

The potential future operations of the Delta are uncertain. Changes in future Delta conditions involve new regulatory objectives, changes in the Delta channel configuration, wetland and wildlife restoration, and even new hydrology resulting from climate change. There is an obvious need for new water supply to meet the needs of California. The potential operations of the Delta Wetlands Project have been evaluated for many changes to Delta operations. New groundwater banking partnerships and places of use described in the 2010 Place of Use DEIR (ICF 2010) improve the projects flexibility and delivery of new water. The flexibility of the reservoir island operations have allowed the project to adapt to a variety of "baseline" Delta conditions and operate opportunistically, compatibly, and without conflict with other Delta programs and visions.

The Delta Wetlands Project water supply operations have been modeled under a variety of scenarios. DWR incorporated in-Delta storage into the CALSIM II model for the ISI feasibility study. (DWR 2004) Both monthly and daily versions of the model confirmed that it produces significant amounts of new water. MBK Engineers developed a post-processing module for CALSIM II results called IDSM that has

been included in Appendix A of the 2010 Place of Use DEIR. (MBK 2010) The existing Delta configuration is assumed as part of the existing conditions (environmental baseline) for this Place of Use EIR. A range of possible future Delta scenarios can be modeled to address new hydrology, regulations, or conveyance pathways.

The most often imagined or discussed new Delta configuration is an isolated conveyance facility connecting the Sacramento River to the SWP and CVP exports from the south Delta. Either a new canal, corridor, or pipeline would isolate the water supply through the Delta from the ecosystem and fishery habitat. The Delta Wetlands Project would still have considerable value under this new regime. Surplus water would still pass through the Delta and be available for storage; releases in the summer and fall could provide water quality, fishery, or water supply benefits; and the project could be connected to the new conveyance system. The operational flexibility of the project will serve as a useful tool to adaptively manage Delta water resources to improve streamflow, water supply and water quality.

7. Applicant certifications and authorizations

I certify that all of the information submitted is complete and accurate to the best of my knowledge and that all attached exhibits are full, complete and correct. I certify that I understand that omitted or insufficient information can delay consideration of this application. I certify that this application is not complete until accepted by the council at a regularly scheduled meeting. I authorize the Council, its staff or other authorized personnel to share this information publicly and authorize their collection of additional information relevant to this application.



October 5, 2010

Signature of applicant or applicant's representative

Date

Printed Name: Will Boschman Title: General Manager, Semitropic Water Storage District

EXHIBIT A

REFERENCES

- Department of Water Resources, January 2004. Draft In-Delta Storage Program, State Feasibility Study
- Department of Water Resources, May 2006. Supplemental Report to 2004 Draft State Feasibility Study In-Delta Storage Program
- Department of Water Resources, January 2009. Water Quality Conditions in the Sacramento-San Joaquin Delta and Suisun and San Pablo Bays during 2007
- Department of Water Resources, July 2009. Jones Tract Flood water Quality Investigations
- Deverel & Leighton, Hydrofocus Inc., August 2010. Historic, Recent, and Future Subsidence, Sacramento-San Joaquin Delta, California, USA
- Flow Science, July 2003. Reservoir Stratification Study, In-Delta Storage Program, prepared for Department of Water Resources
- Heim, Deverel, et al, 2009. Assessment of Methylmercury Contributions from Sacramento-San Joaquin Delta Farmed Islands
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- Jones and Stokes Associates, July 2001. Delta Wetlands Project Final Environmental Impact Statement, prepared for U.S. Army Corps of Engineers
- MBK Engineers, April 2010. Delta Wetlands Project In-Delta Storage Model

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