NORTH DELTA WATER AGENCY

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Melinda Terry, Manager

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SENT VIA EMAIL TO: cdibble@dfg.ca.gov

Mr. Chad Dibble
CA Department of Fish and Game
830 S Street
Sacramento, CA 95811

Dear Mr. Dibble:

The North Delta Water Agency (NDWA) appreciates the opportunity to review and comment on the "Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions" (Delta Strategy).

The North Delta Water Agency was formed by a special act of the State Legislature in 1973 to negotiate, enter into, administer, and enforce an agreement with the federal and state government to: (a) ***protect the water supply of the lands within the NDWA against intrusion of ocean salinity*** and; (b) assure the lands within the NDWA of a dependable supply of water of suitable quality sufficient to meet present and future needs. The NDWA successfully negotiated and approved a contract with the CA Department of Water Resources (DWR) in 1981 (Contract) "for the assurance of a dependable water supply of suitable quality."

Under the 1981 Contract, DWR is required to operate the State Water Project (SWP) to provide water qualities at least equal to the better of either the Contract criteria or standards adopted by the State Water Resources Control Board (SWRCB). If the water quality in the North Delta channels falls below the salinity criteria in the Contract, then at the request of the NDWA, the State (DWR) shall cease all export by the SWP from Delta channels.

General Comments

Given the importance of the Delta Strategy document to ongoing Delta planning efforts by the Delta Stewardship Council (DSC) and the Bay Delta Conservation Plan (BDCP), we believe it is imperative to assure it is based on the best available science and not unsubstantiated hyperbole and opinion.

The Delta Strategy does a good job of providing general descriptions and a diversity of options to allow it to be flexible based on factors such as immediate species' needs, available funding, and feasibility. It also provides a balanced discussion of the needs of terrestrial and avian species as well as the aquatic, which is important to assure ecosystem complexity and diversity are maintained over time.

However, the Delta Strategy also includes recommendations based on statements of opinion without scientific evidence or publications to support them. In particular, the NDWA has concerns regarding the unsupported discussion on increasing salinity as a means of improving conditions for native species.

We request that this opinion-based discussion either be removed or peer reviewed references be cited that support this hypotheses. If scientific peer-review literature can be provided, then the discussion must include the range of salinities that would be sought (not to exceed the salinity criteria in the 1981 NDWA Contract with DWR), the required flow conditions to meet those salinities, and the expected outcomes.

Consistency with Other Delta Plans/Agreements/Contracts

NDWA 1981 Contract – The salinity criteria contained in the NDWA Contract was developed based upon numerous historical reports regarding salinity levels, which depict the Delta as a freshwater estuary with the salinity gradient only moving into the interior Delta during the most extreme drought years. DWR is required to operate the SWP in order to maintain suitable water quality in the North Delta and must cease all export of water from the Delta channels if the water quality (salinity) falls below the criteria in the Contract. However, the Delta Strategy promotes increasing fall salinity to benefit the ecosystem or 'restore' a salinity regime, without providing any scientific justification or documentation of the assumption that salinity was much higher in the Delta prior to 1850. Again, the government reports used to develop the salinity criteria in the 1981 Contract refutes such an erroneous conjecture. The NDWA would therefore recommend the Delta Strategy refrain from proposing any change in salinity levels that cause water quality in the North Delta to fail to meet the Contract criteria.

DPC Land Management Plan - Section II, Habitats, under 'Development of the Delta Conservation Strategy Map' indicates that the map (Figure 4) does NOT include "existing non-urban land uses, infrastructure, and other constraints at these locations" is a serious flaw and omission of information important to preparing a conservation blueprint. Since agriculture (non-urban) is the primary land use in the Delta, it is critical that the agricultural infrastructure and other constraints be identified before finalizing any Delta Strategy. In addition, we would recommend the Delta Strategy be consistent with the Delta Protection Council's Land Use & Resource Management Plan (DPC Management Plan). The Delta Strategy's goals should share the goal of the DPC Management Plan to: "protect, maintain, and where feasible, enhance and restore the overall quality of the Delta environment, including but not limited to agriculture, wildlife habitat, and recreational activities; assure orderly, balanced conservation and development of Delta land resources and improve flood protection by structural and nonstructural means to ensure an increased level of public health and safety."

Credible Science Versus Unsubstantiated Opinion

Delta Salinity – The Delta Strategy promotes the idea that increasing fall salinity will benefit the ecosystem or 'restore' a salinity regime, without providing any scientific justification. If there is any factual basis for claiming that increased salinity would benefit native species, the scientific references should be cited.

On page 15, the Delta Strategy states a *hypothesis* that a 'variable flow' regime, patterned to vary by season would *likely* favor native species. However, Moyle and Bennett (2008) do not provide a quantitative or qualitative description of the salinity regimes necessary to test this hypothesis, how the flows would be achieved, or what the expected outcomes for native species would be. The NDWA strongly discourages the Delta Strategy from promoting increased salinity in the Delta as a restoration measure without first identifying the species that would benefit from such an action, expected outcomes, and scientific justification supporting the measure.

On page 28, the Delta Strategy suggests increasing fall salinity intrusion to improve conditions for native species, by referencing a document by Dr. Jay Lund which was not peer reviewed and contains erroneous information regarding historical salinity levels in the Delta that is contradicted by peer-reviewed publications and historical data. Historical documents and government reports used by the NDWA to develop the salinity criteria in the 1981 Contract in fact show the Delta was historically much fresher than what it is today. The NDWA strongly discourages the Delta Strategy from promoting increased salinity in the Delta that would conflict with water quality requirements in our 1981 Contract with DWR.

On page 29, the Delta Strategy claims salinity fluctuations would also help control invasive organisms, without providing a scientific citation to support this idea or even explain how the hypothesized premise could be accomplished. The NDWA strongly discourages the Delta Strategy from promoting increased salinity in the Delta as a restoration measure without proper scientific justification.

Delta Vision – The Delta Strategy should not rely on findings from the Delta Vision Strategic Plan for the basis for recommendations, as they are not scientifically valid. The Delta Vision process was a great exercise in convening interested parties and experts to develop a vision for the sustainable management of the Delta. However, it primarily represents policy ideas, positions, and opinions of various stakeholders rather than scientifically verified and peer reviewed recommendations. For instance, the Delta Strategy's reference, on pages 21 and 31, to the restoration of 100,000 acres of interconnected habitats in the Delta is an arbitrary, round number not based on any scientific justification, therefore it should NOT be used as an objective or goal in the Delta Strategy. In order to protect the economy of the Delta, the goal of any restoration strategy should be based on species response and the ability to maintain viable populations, NOT the number of acres converted from current uses such as productive agricultural to aquatic habitat.

Future Flows – On page 33, in the 'Delta Agricultural Lands' section, the Delta Strategy states in a declarative, factual manner that "There simply will not be enough freshwater in the future to continue maintaining all parts of the Delta as a freshwater pool year-round." Statements of fact should provide scientific reference in order to clearly distinguish them from unsupported opinion. We believe this statement to be a hypothesis, not a fact based on science, and therefore should be revised to say some scientists have speculated and hypothesized. This speculation is based on 'expected' climate changes to precipitation and earthquake-induced levee breaches. In light of recent seismic tests done on the peat layer of Delta levees that showed the material to be quite strong, flexible, and resilient to intense seismic activity, the future flows hypothesis on page 33 may lack scientific validation. The NDWA believes the freshwater pool can be maintained in the future for agricultural use in the Delta, but may not be able to continue to meet agricultural uses in export areas of the State in the future, *if* precipitation patterns drastically change.

Floodplain Restoration – At the top of page 35, the 'Delta Upland Areas' section mentions the level of uncertainty associated with restoring seasonally-inundated floodplains is decreasing. However, all of the BDCP Conservation Measures and supporting documents for creating this habitat in upland areas that the NDWA has reviewed, still indicate a *high level of uncertainty* of fishery benefits regarding the seasonally-inundated floodplain habitat creation. Therefore, this statement should be modified and include reference to any scientifically valid references to support the statement that the uncertainty is decreasing. In fact, due to the high level of uncertainty for these habitat restoration measures, the BDCP indicated the need for monitoring and adaptive management on habitat projects; and therefore, should be mentioned in the Delta Strategy especially in light of the cautions related to restoring seasonal floodplains mentioned on page 37 of the Delta Strategy.

Flood Safety

Yolo Bypass – On page 79, in the 'Yolo Bypass' section: wording needs to be added to this section clarifying that public safety and the flood protection provided by the Yolo Bypass must remain the top priority and therefore any habitat projects must not reduce the flood capacity or increase flood risk, since the Yolo Bypass is the primary work horse of the State Plan of Flood Control.

USACE Levee Vegetation Policy – On page 96, in the 'Riparian and Riverine Aquatic' section: should mention the current limitations of riparian habitat on Project Levees due to the U.S. Army Corps of Engineer's policy prohibiting vegetation on portions of levees. It will be a significant limiting factor in terms of feasibility in achieving goals for increasing riparian vegetation, and in fact may result in loss of additional riparian habitat if Corps' policy is strictly enforced. The Strategic Plan should consider how the future removal of existing levee vegetation pursuant to USACE criteria will impact the goals for riparian and riverine habitat. The USACE policy should also be mentioned on page 132. DWR has written excellent white papers on this issue that could be used to add language on the subject to this section.

Protecting Delta's Prime Farmland

According to the CA Dept. of Conservation's website on Fast Facts on California Farmland Conversion Summary, http://www.consrv.ca.gov/dlrp/fmmp/trends/Paes/FastFacts.aspx, farm and grazing lands statewide in California decreased by more than 1.3 million acres between 1984 and 2008. This loss of farmland is larger than the size of Sacramento and Solano Counties combined. This loss averages just under 55,000 acres per year, or about one square mile every four days.

The type of farmland with the largest decrease has been Prime Farmland, which has the best soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management. Prime Farmland losses were just under 560,000 acres between 1984 and 2008, nearly the size of Solano County.

Urbanization accounts for the vast majority of this loss, with more than 1.04 million acres converted over the 1984-2008 timeframe. This is the size of Solano and Contra Costa Counties combined. Other major causes for farmland loss include low density rural residences, mining, **and ecological restoration**. These totaled more than 255,000 acres between 1984 and 2008; nearly one quarter of the scale of urbanization, or about half of Solano County. The Primary Zone of the Delta is protected from farmland conversion due to urbanization pursuant to the Delta Protection Act of 1992, but is ***not*** protected from farmland conversion due to ecological restoration projects. In fact, the entire Delta region is targeted for significant farmland

conversion (more than 100,000 acres potentially, when conveyance mitigation added) pursuant to recommendations proposed in various Delta planning efforts such as Delta Vision, BDCP, Biological Opinions, and the Delta Plan by the Delta Stewardship Council.

The CA Dept. of Conservation numbers regarding the permanent loss (conversion) of farmland statewide since the voters of California said no to the Peripheral Canal in 1982 are sobering and disturbing. Since the largest land use in the Delta is agriculture; since these Delta farmlands are of exceptional quality and productivity due to their soils and riparian water availability; and since the Delta farmlands are already protected from development/urbanization; it is important that the DFG Delta Strategy be respectful and cognizant of avoiding significant conversion of productive Prime Farmland that contributes to the Delta's economy, to non-agricultural uses such as aquatic habitat. This can be done by focusing habitat restoration efforts on existing government owned lands and protected habitat areas that could be modified to benefit aquatic species of concern.

Suggested Additions to the Delta Strategy

Planning for All Scenarios - Page 48, the 'Water Diversions and Barriers' section mentions depending on the alternative conveyance chosen in the BDCP planning process. The Delta Strategy should not base its blueprint on actions which have not happened and may never happen. Since this Strategic Plan is intended to be the blueprint for several years, it seems wise for the Plan to also identify strategies for improving aquatic species if the BDCP new conveyance facilities *are not* constructed. It should plan for actions and strategies for both new conveyance and no new conveyance, particularly since the BDCP is a few years away from permitting and several years away from actual construction due to likely delays from legal challenges and available funding. We recommend the Delta Strategy prepare a blueprint that provides recommendations based on various future conditions in order to remain flexible to what may or may not happen, or be built, in the future.

Fund Existing Restored Habitat Needs First - The Strategic Plan should add a new section describing the habitat restoration work that has occurred in CALFED Phase 1 and before, with an update on the success of money spent on these projects. It is well known that dollars to fund the ongoing management, maintenance, and monitoring of existing restored habitat areas are often lacking in the years after the project is constructed. Therefore, a blueprint for conservation should not only focus on the amount of additional habitat to be restored, but should first prioritize increased management and functionality of existing habitat restoration areas that were completed in the preceding years. We must make sure that the existing framework of restored habitats has the necessary funding to maintain its management and monitoring before converting more lands to restored habitat. This should include identification of restoration areas in the Delta done by other agencies/entities outside of CALFED, as they all are intended to contribute to the protection of valuable Delta species.

Delta Water Quality - Page 61, in the 'Key steps in successfully improving Delta water quality' section, the bullet: 'Implementing BMPs and source control necessary to meet water quality objectives' the following language should be added to the end of the bullet, ',including for habitat restoration projects.' It is also important for habitat restoration projects to have these BMPs developed and approved prior to project construction and implementation.

BDCP - Page 71, in the 'BDCP' section at the top of the page, it seems a glaring omission that this report fails to mention the findings of the National Academy of Sciences in 2010.

The NAS' review of BDCP mentioned the following criticisms: a critical gap in the science in the BDCP and the corresponding conservation actions; putting the cart before the horse in terms

of choosing a solution *before* evaluating alternatives to reach a preferred outcome; unclear how DRERIP or DRMS were incorporated in the draft BDCP; considerable uncertainties surrounding the degree to which different aspects of flow management in the Delta, especially management of the salinity gradient, would affect the survival of listed fish species; lack of clarity concerning annual total volume of water to be diverted as a major shortcoming; little more than a list of ecosystem restoration tactics and scientific efforts with no clear over-arching strategy to tie them together; scientific elements within the BDCP itself are not clearly related to each other; the inherent uncertainty and variability of natural ecosystems and the lack of clear mechanisms for incorporating scientific findings into decision making; and a lack of clear goals and integrated goals.

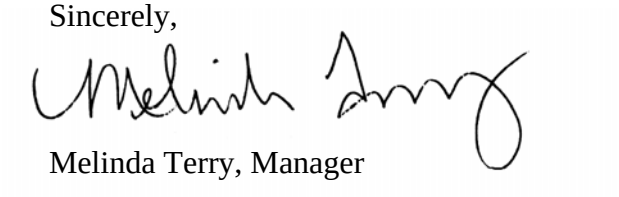
The NAS report also recommended the BDCP should have an effective monitoring program with a clear purpose to establish reference or baseline conditions, to detect trends, to serve as an early-warning system, and to monitor management regimes for effectiveness, but pointed out those elements are not clearly described in the draft BDCP. A mention of the conclusions of the NAS review of BDCP should be added to this section.

Concluding Comments

In conclusion, the NDWA recommends the Delta Strategy avoid promoting recommendations that do not comply with the NDWA 1981 Contract, identify statements of fact with scientific citations (peer-reviewed), avoid using unsupported opinions, balance protection of Prime Farmlands with habitat needs, include references to the NAS findings on BDCP and the USACE's levee vegetation policy, and expand the Delta Strategy to provide recommendations based on various future Delta conditions in order to remain flexible to what may or may not happen (or facilities that may or may not be constructed) in the future.

Please contact me if you have any questions regarding NDWA's comments and suggestions.

Sincerely,



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