

Comments on Delta Vision Draft Strategic Plan

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My perspective is that of someone who has not participated in the process. Therefore, there may be background information that is generally understood of which I am unaware. Perhaps some of my comments have been addressed in the process but are not discussed in the Plan. Also, since I did not participate, I do not fully understand the intended audience. I presume that the intended audience is someone who also did not participate, but who has a good level of understanding about California water history and policies.

Most of my effort has focused on water supply reliability and Strategy 9, the wet-period concept, in particular, but I have some concerns about the scope of the recommendations relative to the Delta Vision long-run planning mandate and the jurisdictions of other State and federal agencies. I provide text that I think would help. I provide text because if I were the author it is what I would prefer. Some of my recommended text may be incorrect or inappropriate. I expect you will use or discard as you see fit.

General Comments (GCs). I refer to these general comments by number in the detailed comments section.

1. The document is generally well-written and presented. More use of sidebars, tables and figures might make the document more readable.
2. The document should acknowledge the limits of the Delta Vision process vis-à-vis the other important processes that must continue. I recommend an additional paragraph in the introduction, see below.
3. I think the recommendations try to go too far in some places. I'm not clear on the exact Delta Vision mandate or its subsequent interpretation, but some proposals seem too ambitious or too specific for a long-run plan. Some recommendations for actions should more clearly defer to other ongoing processes (recovery plan, BDCP) or to your own CDEW planning process.
4. There is a lack of discussion regarding the institutional context; in particular, the factors that govern Delta flows and export levels, especially ESA, CWA and SWRCB decisions, and how these relate to future ecosystem, export conditions, strategies and actions.
5. It is not clear what water management for ecosystem should look like and how that is different from current management.
6. It is not clear how water export levels may be different from current levels in consideration of 5.

Introduction and summary

Page 1. Insert a paragraph after the existing first paragraph to address GC 2.

Recommended text:

The Delta Vision process was created to develop a durable vision for sustainable management of the Delta with the goal of managing the Delta over the long term. The Delta Vision process, and this strategic plan in particular, are not intended to limit, condition or replace a variety of ongoing actions, programs and responsibilities that must be completed and fulfilled. Rather, the strategic plan provides long-run strategies and actions which are intended to ultimately restore identified functions and values and enhance sustainable management of the Delta. Since the strategic plan is a long-term plan, many of the strategies, actions and performance measures are necessarily vague. They will be refined over time as part of the improved planning and governance process described below. In particular, the CDEW Plan will coordinate many related plans and specify how strategies will be implemented in terms of specific actions to be implemented by federal and State agencies, local governments and private interests.

Page 2. I suggest that the performance measures and (even more so) target schedules should not be part of the strategic plan. Rather, the measures and target schedules should be collapsed into an initial cut at performance measures and target schedules which will be developed and refined by the Council as part of the CDEW Plan. Perhaps the strategic plan should include only the more general ideas for the measures and leave the target schedules to the Plan.

I recommend an additional paragraph under each of the 4 headers in the summary (p. 3, 5, 8, and 11) to quickly justify the strategies:

Page 3. In the governance and finance section, most of my questions involve how the strategies and actions add value in relation to existing processes and plans.

Under Governance and Finance, address GC 4.

Recommended text:

Under the current governance system the co-equal goals of ecosystem and reliable water supply are governed by a maze of federal, state and local laws, regulations, jurisdictions and authorities. The Delta Vision process identified areas where lines of responsibility and coordination among agencies could be improved. In particular, a cohesive plan to achieve the co-equal goals is required that considers the many competing authorities, assures that they are not working at cross-purposes, and avoids use of limited resources in redundant efforts. In addition, some agencies lack the political or scientific support, the flexibility, the financial resources or the authority to accomplish their missions. A new governance structure is needed to coordinate operations, plans, agencies and actions, provide clear responsibilities and financial

capabilities, prioritize research and resources, and to monitor and evaluate accomplishments.

Page 5, Under Ecosystem, address GC 5.

Recommended text:

The status of pelagic and migratory species has been linked to a variety of ecosystem features including flow and export levels. Ecosystem flows, operations and habitat investments are being provided at considerable expense to the public and water users. The Delta Vision process can not replace ongoing efforts to identify and improve flow, water quality and export changes for the ecosystem. Some general flow-related strategies and actions can be recommended, but these may be modified or replaced by strategies and actions being developed as part of the Delta smelt recovery plan, the CBDP, SWRCB processes, and other processes and initiatives. The CDEW Plan will coordinate these efforts and improve the use of science and monitoring to develop a more effective water management strategy. In addition to flow, a variety of desirable habitats should be restored, and a variety of stressors should be removed at an accelerated pace.

Page 5. Performance Measures. No Anadromous fish? There may be performance measures already being collected. Again, I'm not sure you want to go this far in the Strategic Plan.

Page 6. Top line. Related to GC 3, add to #5. "Flow levels must be determined by mandated processes and agencies and coordinated through the CDEW Plan."

Page 6. Actions. Some of these actions are not realistic. Action 4.1. ". . . as physically feasible. . ." Action 4.2 "as many years as possible" Physically feasible may be very expensive in terms of water, so is that reasonable?

Page 6. Action 4.4. should this read "Create new open water areas in the fall within. . ."

Page 8 Under Water Supply Reliability address GC 6.

Recommended text:

The reliability and amount of water supply exported from the Delta has recently declined. Exports have been cut by court decisions and more water has been provided for ecosystem purposes. Supplies must be stretched by water use efficiency, and the value of the available supply can be increased by transfers. Reliability will be enhanced by a stable, healthy ecosystem and by flow and structural measures to reduce entrainment. The Delta Vision process can not replace ongoing efforts to determine ecosystem water flows, improved conveyance and export limits, but some general strategies can still be recommended. In particular, increased attention to more capture of water during wet periods is recommended. More supply can be captured in

wet years by more intensive use of existing storage and conveyance facilities and by development of new facilities. Local supplies can be increased by more capture of return flows, wastewater and rainfall. More attention to water quality for urban uses is needed.

Page 8. Action 7.3. Rather than “Require” I’d prefer “Provide more incentives for”

Page 9. Action 7.5. “Increase locally generated supplies beyond current plans. . . “

Page 9. Action 8.8 “Develop programs to encourage infiltration or direct. . .”

Page 9. Action 9.2 “Develop strategies and facilities to shift export diversion timing. . .”

Page 10. Under the performance target schedules, “Water use per capita” and “water use per unit economic output” it will be important to define WHERE this would be measured. If it is measured at the service area level, then water captured or recycled within the boundary, and reduced losses within the system, may reduce the measure of use. If it is measured at the end-user level, then only end-user conservation can reduce the measure.

Page 11. Delta as Place

Insert a paragraph of introductory text. I don’t have one for you. I’m not going to review Delta as Place in any detail.

The second goal, tourism and recreation, is possibly in conflict with some water supply and ecosystem goals. For example, the POD study notes that largemouth bass fishing in the Delta is now a big deal, but this non-native species is a predator of delta smelt. Perhaps “Enhance tourism, recreation and local economies in ways that are consistent with the co-equal goals.”

Main Document

Governance

Might want to include more context in terms of specific agencies. Why are the the existing responsibilities not discussed? Something like this:

The overlapping, competing and inter-related authorities include water rights and water quality standards administered by the SWRCB; SWP and CVP water allocations, certain ecosystem actions and water use efficiency programs administered by DWR and Reclamation; Endangered Species Act compliance overseen by NOAA, the USFWS, CDFG and others, and ecosystem restoration actions funded by Calfed.

In general, why will this governance system do better? For example, what does the California Delta Ecosystem and Water Council do, and what does the Delta Science Program and the Delta Science and Engineering Board do, that is not already done by State or federal agencies? What can the Delta Operations Team and the California Water Utility do that is not already done by DWR and the SWP?

On page 25, regarding the fees, what is the justification? From page 23, "water required to support and revitalize the Delta will not be purchased but will be provided within. . . reasonable use and public trust." So the fees will not be used to provide ecosystem water, right? You may want to state that the fees will be used primarily for water supply reliability rather than "management of the co-equal goals."

Ecosystem

Regarding the Ecosystem Recommendations, water users will focus on potential water supply implications. Pre SWP and CVP, the natural Delta sometimes experienced much more seawater intrusion. Do any of the recommendations allow for a return to the more natural regime? On page 59 bottom, might some of the flows under the first bullet be LESS than current requirements? If so, this could benefit water supply by allowing more water to be retained in storage in dry years.

Water Supply and Reliability

Under Action 7.1, may want to note that riparians and pre-1924s in the Delta are not required to submit a statement of water diversion and use.

For Action 7.2, the main action should be to determine why Californians are not adopting urban conservation measures more quickly.

For Action 7.3, I would substitute "Provide incentives for" rather than "Require"

For Action 7.7, make this "Streamline the water transfer approval process and expand the basis for transferable water." See Economic efficiency paper for examples.

Strategy 9

I have a hard time understanding quite how this would work relative to recent conditions. Basically, Delta exports are fairly constant relative to hydrologic conditions because 1) demands are relatively constant and 2) the main storage – Shasta and Oroville, is upstream of the Delta. The major change that would be required to shift exports to wetter conditions would be to provide more storage south of the Delta. More exports in wet years would be used to fill the new storage and meet demands in dry years, so less export from the Delta would be needed in those years. I don't think this point gets enough attention in the text; on page 59 “. . . as well as upstream and export area ground and surface storage.” See my notes below.

I had a look at data on SWP and CVP deliveries for the 1981 to 2004 period. I used deliveries that are based on exports only, and no exchange contracts. This measure tends to be less in really wet years as well as dry years (available on request). SWP M&I, SWP agriculture and total CVP deliveries each show a very significant positive relationship to the Sacramento Valley index and a negative relationship to the San Joaquin Valley index. This suggests that exports increase with wet conditions north of Delta and with dry conditions south. Not surprising, but important.

Additional South-of-Delta storage

South of Delta storage would be needed to shift exports to wet years, and it may be possible to make more use of the south-of-Delta storage. The major storage that can be operated to make more use of Delta supplies is San Luis Reservoir (2 MAF capacity, Kern County groundwater (up to 3.9 MAF¹), south coast groundwater basins (up to 0.8 MAF²) and Eastside reservoir (0.6 MAF usable). The annual supply that can be made available from this storage is limited. For example, only about 500,000 AF can be recovered from the Kern County banks, and 285,000 from the south coast banks, each year. Even with San Luis and Eastside storage, the potential for use of carryover storage for dry years is currently a fraction of demand (6 MAF average exports).

In addition, individual groundwater users could help shift water use by using more groundwater in-lieu of surface water in dry years and more surface water in wet years. The amount of potential is unknown. There may be under-utilized groundwater storage capacity south-of-Delta, but the costs of additional recharge and extraction, and potential capacity constraints, need to be confirmed. There may be studies available.

Factors that Limit Exports in Wet Years

To understand the potential feasibility and implications of Strategy 9, we need to understand what factors will limit wet-year diversions in the future. Bulletin 132 Appendix E Figure 4-8 shows factors that affected the timing and amount of SWP

¹ KCWA 2000. Overview of Kern County Potential to Develop an EWA Water Supply. August 28.

² Current LCPSIM assumptions for future conditions

exports in different year types. I use 1998 through 2002 for my analysis below. In these years, exports during winter and spring (December through June) have been significantly reduced by measures to protect Delta smelt and other resources. These measures were:

- A 35% export/inflow (E/I) ratio from 2/1 to 6/30 creates incentive to keep water in upstream storage until 7/1 when the E/I ratio was increased to 65%.
- Winter-run salmon take limits
- Delta smelt salvage limits
- VAMP criteria from mid-April to mid-May limit SWP/CVP exports to a share of San Joaquin River inflow
- In drier years, salinity criteria

Other factors have been important during the winter-spring period. In 1998, a wet year, exports were curtailed from February to mid-May by repairs, downstream flooding and erosion. San Luis reservoir remained full the entire time, suggesting there was little demand anyway. In other years, aquatic plant control and repair of leaks contributed to reduced exports.

The Wanger decision, by setting Middle River flow requirements and prohibiting certain flow barriers, increases the limits on pumping during this period. Exports will be limited during the winter and spring to a greater extent. In dry years like 2008, local storage will be depleted and some demands will not be completely met.

In the summer to fall period, other factors tended to control exports. These factors are salinity standards and SWP export limits (6,680 cfs rather than 8,500), but aquatic plants and operations for mitten crabs also contributed.

In every year from 1998 through 2002, storage in San Luis filled about the end of March and declined until late summer or fall, and filled after that (data for 2003 not located). This suggests that demands were generally being met and local storage programs were probably operating at near capacity. That is, the export limits during the winter-spring period did not substantially limit water use.

Regarding Action 9.1, more information may be justified regarding how Delta Smelt entrainment would be minimized. Isn't this an action to defer to the detailed evaluations in the CDBP?

The three major changes that might enable more diversion in wet periods are 1) reduce export limits related to Delta Smelt and other ESA take limits, 2) allowing pumping at Banks above 6,680 cfs and even 8,500 cfs, and 3) increased south-of-Delta storage. Regarding 1), some discussion of possible constraints under the Middle River conveyance option, and ways to reduce the constraints would be helpful.