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Blue Ribbon Task Force Delta Vision

A Vision for California's Delta

Second draft prepared by staff (revised October 16, 2007)

Discussed at the Blue Ribbon Task Force meeting September 20-21, 2007

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21 Executive Order S-17-06 charges the Delta Vision Blue Ribbon Task Force with developing a durable vision for sus-
22 tainable management of the Delta by January 1, 2008, and a strategic plan to implement that vision by October 2008.
23 The full text of the EO and information about Delta Vision are available at: <http://www.deltavision.ca.gov/>
24

25 The Blue Ribbon Task Force will make its vision recommendation at its meeting November 29-30, 2007. Drafts will
26 proceed through three rounds of public comment between meetings, public comment at Task Force meetings, analy-
27 ses by experts, and discussion among members of the Blue Ribbon Task Force. Here are the steps:
28

- 29 • August 31 – Task Force directs staff to prepare first, embryonic, draft of their vision
- 30 • September 12 – first, embryonic draft prepared by staff released for public comment
- 31 • September 20-21 – Task Force meeting, with public comment, leading to direction to staff to prepare a revised draft
- 32 • October 18 – second draft released for public comment
- 33 • October 25-26 – Task Force meeting, with public comment, leading to preliminary decisions on parts of the vision
34 and direction to the staff to prepare a revised draft
- 35 • November 22 – third draft released for public comment
- 36 • November 29-30 – Task Force meeting, with public comment, leading to final recommendation on vision and direc-
37 tion to staff regarding work plan for strategic plan to be completed by October 2008
38

39 Important information continues to be developed regarding critical issues and the Task Force will wait for that informa-
40 tion when possible. On the critical issue of alternatives for conveyance of water out of the Delta, for example, impor-
41 tant information will become available through November. Similarly, important information is developing on improving
42 Delta ecosystem function.
43

44 **The Task Force is also developing recommendations for (a) emergency response and (b) near term ac-**
45 **tions related to ecosystem function and reliable water supply separate from this vision. A draft of rec-**
46 **ommendations on emergency response is included as Appendix 2.**

1 **A Vision for California's Delta**

2
3 The Sacramento – San Joaquin Delta, incorporating also Suisun Marsh, is a regional, state, and
4 national treasure. It is part of the largest estuary on the west coast of the Americas and a key part
5 of the water supply system for the majority of California's people. California's Delta supports bil-
6 lions of dollars of annual economic activity, offers habitat or migration passage to dozens of criti-
7 cally important species, and is the location of housing, jobs and recreation to millions.

8
9 The Delta Vision process was created to “develop a durable vision for sustainable management”
10 of this treasured resource. The objective of this process is to “restore and maintain identified func-
11 tions and values that are determined to be important to the environmental quality of the Delta and
12 the economic and social well being of the people of the state.”¹

13
14 A vision is not a plan and does not entail a set of prescriptions with targets, timetables, analysis of
15 alternatives or costs. A vision represents our view of future conditions to which decision-makers
16 must aspire. These are conditions we see as desirable if not ideal, challenging to achieve but not
17 impractical. The vision must result in a Delta that serves California for several generations.

18
19 At the center of this vision is the recognition of water resources as a public trust, best understood
20 as being both provided by, and critical to, the functioning of ecosystems. Water supplies for gen-
21 erations to come are dependent on strong ecosystems able to sustain diverse life forms -- ecosys-
22 tems that are resilient and adaptive to inevitable change. The Public Trust Doctrine applies both
23 to the water under management and to the tidelands that are the foundation of the Delta ecosys-
24 tem.

25
26 The Task Force identifies **the water system and the ecosystem of the Delta as co-equal val-**
27 **ues** that must be preserved on equal footing. California cannot sacrifice either the unique estua-
28 rine ecosystem of the Delta or the critical water supplies that power the state's dynamic economy.
29 Recent events have suggested that failure to protect both will lead to a future of endless volatility
30 and conflict, to no one's benefit.

31
32 This principle does not imply that these two values can somehow be held in balance in every pol-
33 icy or management decision at every scale. Rather, it asserts that each is indispensable to the
34 state as a whole and that the sum total of our actions must secure the future of both. This will re-
35 quire change. The history of the Delta has been to secure water supplies first and then worry
36 about environmental mitigation later. The levee construction that transformed the Delta from pre-
37 dominantly marshy areas into dry “islands” protected by levees which confined water to channels
38 occurred before much appreciation of what was lost. Those transforming levees were also con-
39 structed in the absence of effective regulatory policies focused on ecosystem effects. Similarly,
40 many water diversions from rivers in the Delta watershed or from within the Delta occurred before
41 passage of the endangered species acts. Even under those acts, mitigation is project specific and
42 focused on individual species. A piecemeal project mitigation approach is an insufficient basis for
43 a durable vision for sustainable management of the Delta.
44

¹ Executive Order S-17-06 is attached in Appendix 1. The Executive Order specifies a number of factors to be addressed which are incorporated into this vision and will be further developed during the strategic planning phase of Delta Vision in 2008.

1 In addition, **the Delta is a unique place** that has value in its own right. It is not solely an infra-
2 structure system or an ecosystem. The Delta is a place of natural beauty, valued first by Native
3 Americans. It has a regional economy and a regional culture as old as any in California, consisting
4 of historic towns, productive farming and close-knit communities. These values should be secured
5 in any vision of a future Delta.

6
7 Public safety and emergency response capacity must be high priorities, to protect both local and
8 statewide interests. Land use and governance considerations will be particularly important in that
9 effort. Protecting the Delta from urbanization is critical to preserving its unique character and to
10 public safety.

11
12 California's Delta is and will remain a powerful mixture of natural and human forces. Therefore,
13 **we must learn to work with nature to achieve desired goals in the Delta.** While human de-
14 signs and engineering may support enhanced ecosystem function, as when human cultivation of
15 tules and wet land crops helps rebuild subsided islands, or management of tidal action helps to
16 recreate marshes, but much of the actual regeneration occurs by natural processes. The state
17 must strive to blend these natural and human energies in a productive new synthesis that restores
18 and sustains ecological and human values equally.

19
20 Over the coming decades, California's Delta will be subject to powerful external sources of
21 change. The physical configuration of the Delta as it exists today is not stable. But achieving sus-
22 tainable management has less to do with armoring a static Delta against these changes than with
23 creating physical and institutional forms that will allow the system as a whole – and the critical
24 economic and ecological functions it provides – to survive what could otherwise be catastrophic
25 shocks. We must **design for resiliency**, both in the Delta and in the California water system as a
26 whole.

27
28 Reducing reliance on the water from the Delta is critical to achieving resiliency in water systems:
29 **the state must encourage regional self sufficiency** and develop alternative ways to move wa-
30 ter among areas of the state. We should also **expect that water exports from the Delta will be**
31 **reduced in the future.** Key not only to achieving resilience but higher water quality and better
32 ability to manage the Delta ecosystem is **separation of water for human uses from water for**
33 **the ecosystem.** The aquatic ecosystem cannot recover to a state of enduring success if it re-
34 mains vulnerable to the operations of the water conveyance system. Likewise, water supply reli-
35 ability cannot be achieved if species declines and other ecological problems continually disrupt
36 deliveries. **New storage and improved conveyance must be constructed to capture water at**
37 **times least damaging to the environment** and efficiently move it to areas of need.

38
39 In addition, all uses of Delta water and land rely on the 1300 miles of levees that define the Delta
40 landform and water conveyance system. These are vulnerable to failure from earthquakes,
41 floods, and structural deterioration. A multiple levee failure event in the Delta could flood dozens
42 of islands, badly damage the ecosystem, and entirely halt water exports from the Delta for years.
43 Over time, **reliance on levees should be reduced.** However, levees will remain critical to the fu-
44 ture of the Delta and new policies are needed to **match levels of protection provided by vari-**
45 **ous levee designs to uses allowed** in areas flooded when levees fail.

1 Part of designing for resiliency is building a margin of safety for key ecological, water supply and
 2 public safety functions in the short term. Any vision for the future of the Delta will be accomplished
 3 over decades, during which time the safety of those living in the Delta must be protected, and
 4 methods found to ensure ecosystem functions and adequate water supply for human uses among
 5 all Californians dependent on water from the Delta watershed.

6
 7 Finally, **a durable vision for sustainable management of the Delta must be comprehensive.** It
 8 must integrate the values of ecosystem function and water supply, ensure that conservation and
 9 construction both occur and develop effective systems of storage and conveyance for water. The
 10 State of California must take a lead in developing and pursuing this vision, but it must also find ef-
 11 fective ways to ensure joint action with the federal government and local governments, plus mobi-
 12 lizing the focused energies of Californians.

13
 14 The vision accomplished: In the 22nd century, California's Delta is a vibrant and safe place to live,
 15 work and recreate. It is a place where the heart of California beats to a strong, steady rhythm of
 16 river flows, estuarine life and human activity.

17
 18 As this vision is realized, California's Delta will be a place where foresight, learning and flexibility
 19 have resulted in a fruitful integration of the environment and the economy. In the 22nd century,
 20 California's Delta is a showcase for the nation and the world of how to integrate nature and tech-
 21 nology. In the 22nd century, California's Delta functions as an effective estuary, teeming with life. In
 22 the 22nd century, Californian's have reliable supplies of high quality water from many sources, in-
 23 cluding the Delta.

24 **Actions required to achieve this vision for California's Delta**

25
 26
 27 A successful vision states important values, provides a common understanding of the desired
 28 goals, and motivates broad commitment and action. Achieving a vision requires contributions by
 29 governments, individuals, businesses and non profit organizations. One challenge in achieving a
 30 vision is identifying the institutions and public policy strate-
 31 gies by which it can be achieved. Another challenge is mobi-
 32 lizing the energies needed to pursue those strategies,
 33 often in the face of opposition, and to adapt strategies over
 34 time as experience reveals unexpected consequences or
 35 science or technology afford new opportunities. The over-
 36 arching issue here is "governance" but identifying plausible
 37 public policy strategies with which to move toward the vi-
 38 sion is of equal importance. Unless current ways of making
 39 policy, providing incentives, distributing liabilities and fi-
 40 nancing are changed, the new vision will not be achieved.

*This is a draft vision of the independent
 Delta Vision Blue Ribbon Task Force. A
 vision is a picture of a hoped-for end re-
 sult: what it would look like, how it will
 function, and what it will produce.*

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41
 42 The essence of the challenge to governance in the Delta is that there is extraordinary value, ex-
 43 traordinary risk, and extraordinary uncertainty, all in the same place. Despite numerous past stud-
 44 ies and varied policies and programs, prevailing uncertainty about the potential effects of human
 45 action is still the most accurate characterization of our understanding of the Delta today. The
 46 Delta is an extraordinarily complex system that in many ways defies comprehensive understand-
 47 ing.

1
2 Far from being a prescription for paralysis, however, recognizing both uncertainty in knowledge
3 and uncertainty about outcomes of policies and programs has very specific implications for future
4 Delta management. Managing a valuable resource of any kind under conditions of uncertainty
5 calls for common sense wisdom – spread risks, create backups where possible, work in reversible
6 steps, and learn from experience. The state must act decisively and deliberatively to reduce
7 known threats, but must also adopt a long-range stewardship philosophy that results in a resilient
8 Delta environment and a resilient state water supply system.

9
10 Fragile systems are those in which much relies on a few brittle parts, an accurate description of
11 the Delta ecosystem and water conveyance systems today. Resilient systems are those with mul-
12 tiple mutually supporting parts, functional redundancies, and the capacity for gradual (not catas-
13 trophic) change in response to new conditions. Resiliency is necessary for the future. The Delta's
14 large physical size and complex array of land forms and water channels are assets for achieving
15 resiliency, since they can distribute functions and risks over a large, diverse area. Figure 1 shows
16 the Delta, a uniquely inverted form. (Figure 1. Map of the Sacramento-San Joaquin Delta and Suisun
17 Marsh).

18 19 **Figure 1. Map of the Sacramento-San Joaquin Delta and Suisun Marsh**

20
21 Re-designing a system as vital and as complex as the Delta is a major challenge for California.
22 The stakes in the Delta are so high that failure to accept this challenge is not an option. California
23 has led the nation and the world many times in its foresight in environmental management, and
24 must do so again now. Nothing less than the future of California's Delta, and a large portion of the
25 state's economy, are at stake.

26 27 Governance

28
29 California's Delta is its largest estuary and lies at the center of a complex statewide water system
30 that combines the massive engineered state and federal water projects with a diverse range of lo-
31 cal water management activities. But despite its importance to California, uses of the Delta are
32 not governed effectively. There is no coherent vision for the future of the Delta that effectively ad-
33 dresses the increasing threats and only weak ways to organize the existing agencies and jurisdic-
34 tions toward broad purposes. There are also numerous legal, regulatory, and economic incentives
35 to misuse or overuse Delta water that ensure a constant over-subscription of the resource.

36
37 No improvement in the Delta estuarine ecosystem, and no protection of existing exported water, is
38 possible without new, effective governance. There are at least 220 governmental agencies with
39 some authority for aspects of the Delta. We know of no individual who defends the current system
40 of governance. Instead, almost everyone insists that a 'new governance structure' is needed. We
41 agree, and will make our recommendations later. Pending that, however, the future governance
42 system for California's Delta must be granted wide authority and have as its focus the achieve-
43 ment of the dual priorities we have identified: a protected and improved Delta ecosystem, and
44 providing a reasonable amount of water for human purposes.

45
46 An effective governance system must do the following:
47

- 1 • Make progress on the two critical values of ecosystem function and water provision while
- 2 incorporating the other values society seeks through the Delta.
- 3 • Have the authority to shape land forms and land uses within the Delta and surrounding
- 4 lands, consistent with this vision.
- 5 • Manage the operations of Delta-relevant water systems and ecosystem protection and im-
- 6 provement projects, including the authority to adjust rapidly to achieve the stated goals.
- 7 • Shape decisions in the Delta watershed which affect Delta water flows (quantity, timing,
- 8 quality).
- 9 • Establish policies which improve water uses across California, including conservation, sys-
- 10 tem efficiencies and improvements, which lead to regional self sufficiency, and permit the
- 11 reasonable exchange of water among users.
- 12 • Ensure effective working relationships with federal agencies and officials and also Califor-
- 13 nia local governments, while mobilizing focused energies of Californians in support of the
- 14 vision.

15
16 The governance of these six areas need not be assigned to a single authority. However, all must
17 be harnessed together to succeed. This can be achieved by identifying starting goals and using
18 the full range of policy instruments.

19
20 These starting goals can inform the design of any governance system:

- 21
- 22 • Has needed authority
- 23 • Can make needed decisions balancing critical values
- 24 • Can ensure implementation of its decisions, including control of needed finances and suffi-
- 25 cient legal authority
- 26 • Is responsive to society and major constituencies
- 27 • Is accessible to all and equitable in its decisions, meeting expectations for justice in our
- 28 society
- 29 • Can change over time to better meet its goals
- 30 • Is supported by an effective financing system that receives funds from those who benefit
- 31 from use of the public resource or public policies where ever possible
- 32

33 In developing new governance systems, it is reasonable to expect that multiple policy tools will be
34 needed to achieve this vision and that those tools will change over time. Progress toward the vi-
35 sion will be uneven, partly because results will come faster in some areas in others, partly the re-
36 sult of resistance by some interests and partly because some efforts will prove inadequate and
37 require rethinking.

38
39 Three principles can guide design of governance systems:

- 40
- 41 1. Join decision making, financing and liability where ever possible (from institutions to indi-
- 42 viduals)
- 43 2. Use existing systems where possible, but they are often hard to change, so be ready to
- 44 seek major changes. When change is required, seek the clearest expression of new roles
- 45 and removal of old activities possible.

- 1 3. Use policy tools which affect behaviors of decision makers (private and public) without con-
2 stant authoritative decision making or regulation, where possible.

3
4 Further development of proposals on governance will occur as the vision evolves and more de-
5 tailed work will occur during the strategic planning stage of Delta Vision in 2008.
6

7
8
9 Policies to achieve a more resilient estuarine ecosystem

10
11 The Sacramento – San Joaquin Delta and Suisun Marsh are an integral part of the largest estu-
12 ary² on the west coast of North America and South America, connecting rivers originating in the
13 Sierra Nevada to the Pacific Ocean. This estuarine environment was once phenomenally biologi-
14 cally productive, and is still essential to hundreds of aquatic, bird, mammal and plant species, in-
15 cluding some that are unique to the region, such as the Delta smelt. The Delta and Suisun are
16 also an indispensable part of the Pacific Flyway, which links all of North and South America and
17 related marine areas in a vast migration corridor for hundreds of bird species. Finally, the Delta
18 has historically supported lucrative commercial and sport fisheries of both native and non-native
19 fish.

20
21 In developing policies to improve the Delta ecosystem, each of these ecological roles must be
22 borne in mind. The Delta estuary, the flyway, and the fisheries all provide enormous value to the
23 State of California, both as tangible economic assets and as a trust that we must steward for fu-
24 ture generations.

25
26 The Delta's ecosystem must be regenerated so that it functions more like an estuary, combining
27 tidal and quasi-natural riverine flow patterns within appropriate physical habitat types characteris-
28 tic of the historic Delta. The Delta and Suisun must also contain thriving terrestrial habitats (in-
29 cluding non-tidal freshwater wetlands on lands behind levees), and sport and commercial fisheries
30 that have been important to the northern California's culture and economy for decades. These
31 goals will require different portions of the Delta to be managed differently – not only land and wa-
32 ter, but also different portions of the aquatic habitat.

33
34 The Delta ecosystem cannot be returned to its pre-European contact condition, when it was a vast
35 sea-level tidal marsh. It is also facing powerful forces of change including rising sea levels and
36 water temperatures, and the prospect of sudden changes in habitat structure caused by levee fail-
37 ures. Given these facts, a desired Delta ecosystem should not be defined in terms of a static "end
38 state", but rather in terms of the beneficial functions and uses that it provides, and the resilience of
39 those functions and uses to external disturbances.

40
41 As an estuary, the important functions of the Delta are the patterns of food production, nutrient
42 distribution, water flow, migration, salinity, water temperature, and more. The entire web of estua-
43 rine relationships must be rewoven and sustained. Estuaries are variable environments by nature,
44 and therefore the Delta and Suisun should incorporate enough of that variability to achieve the
45 desired functions and processes. This will be especially true in the longer term, as climate change

² Estuaries are subject to tidal influence, mixing salt, brackish and fresh water at different locations according to seasonal river flows and tides.

1 makes it more and more difficult to sustain relatively constant conditions. Figure 2 shows the posi-
 2 tive results from functioning habitats. (Figure 2. Better habitat equals greater growth.

4 **Figure 2. Better habitat equals greater growth**

6 In any ecosystem, ecological functions are a product of:

- 7 1. a given physical habitat structure, and
- 8 2. the ecological and physical processes that occur there, with additional influence from
- 9 3. external stressors, such as pollution or powerful water pumping that alters currents.

11 All of these elements are of critical importance in the Delta, and all are limiting the success of de-
 12 sirable species in one way or another. For the Delta as a whole, a resilient, regenerated ecosys-
 13 tem will contain:

- 15 1. the full suite of desirable habitats, including tidal marshes, seasonal floodplains, seasonal
 16 non-tidal wetlands, upland transition zones, grasslands, and wildlife-friendly agriculture
 17 (physical habitat),
- 18 2. a dendritic channel pattern, like veins of a leaf, with diversity of channel and flow conditions
 19 (physical habitat),
- 20 3. more natural patterns of freshwater inflow and outflow (physical process),
- 21 4. improved food web productivity, and better delivery of that productivity to desirable species,
 22 including the management of invasive species (biological process)
- 23 5. management of water quality and sediment conditions for the benefit of desirable aquatic
 24 species (reduction of stressors),
- 25 6. reduction or elimination of the influence of export pumping on aquatic habitats (reduction of
 26 stressors), and
- 27 7. capacity to absorb disturbances, and to accommodate experiments in variation of environ-
 28 mental conditions

30 Figure 3 suggests how actions at the northern edges of the Delta could enhance estuarine func-
 31 tion. This is not a complete list, nor evaluated sufficiently to be specific recommendations, but il-
 32 lustrates how varied natural elevations in the area can be exploited to improve estuarine functions.
 33 (Figure 3. Illustration of improving estuarine ecosystem functions)

35 **Figure 3. Illustration of improving estuarine ecosystem functions**

38 Policies to achieve a more resilient water system for California

40 The principle of resilience also applies more broadly to the State of California's water system. The
 41 Delta's watershed is almost 40 percent of the land area of California and receives nearly half of
 42 the precipitation for the state. Large populations outside of the watershed are serviced by ex-
 43 ported Delta water. The amounts and characteristics of the water flowing through the Delta are
 44 profoundly shaped by the land uses, technologies, and human behaviors that occur in both of
 45 these areas. Figure 4 shows the Delta watershed boundaries on a map of California north of the
 46 Tehachapi Mountains. (Figure 4. Map of Delta watershed boundaries.)

Figure 4. Map of Delta watershed boundaries.

Because of California's Mediterranean climate, the key challenge for the statewide water system has been to shift water from wet years, wet seasons, and wet locations to drier times and places. The state's major supply of water is from rain and snow that falls north and east of the Delta (with a relatively modest amount imported from other states). But the major demand for water is west and south of the Delta.

The Delta is an important, but not dominant, part of the state's water supply. A relatively small proportion of total state water flows into the Delta – 15 percent in a wet year, 13 percent in an average year and 9 percent in a dry year. But the Delta is more important than its share of water because it is the hub of the two largest waters systems in the state, the federal Central Valley Project and the State Water Project. These projects use the Delta as a hub of their water conveyance system; the Delta also plays that role in many local water systems, while other users divert directly from the Delta's waterways. Diversions from the Delta have increased dramatically over the past half century, as shown in Figure 5. (Figure 5. Diversions from the Delta.)

Figure 5. Diversions from the Delta.

The resilient California Delta treats the water supply and its ecosystem as co-equal values, each central to the future of the region and the state. In order for both to thrive, however, a greater physical or operational separation of the two must be achieved. Achieving this separation must proceed in a staged and transparent manner, so the effects of any action upon both the ecosystem and the water supply can be fully evaluated as implementation proceeds. A series of performance standards, widely agreed upon by stakeholders, must be the basis for these evaluations.

Once this separation is achieved, management of both the water system and the ecosystem must proceed in an adaptive manner. In a system as dynamic as the Delta, and with climatic and other conditions changing in unpredictable ways, it is essential that management flexibility be preserved and exercised. This may mean creating multiple pathways for water conveyance so critical water supplies cannot be interrupted completely by levee failures, salinity intrusion, or other sudden changes. All water conveyance should be designed to be quickly recoverable in the event of a major disaster. Designs for storage and conveyance should incorporate expectations of reduced water exports from the Delta and also the need to capture, convey and store water when least harmful to the environment. The systems of storage and conveyance should not be designed to limit transfer of water from points of capture to points of use, recognizing these are policy decisions.

Figure 6 shows how water from the Delta watershed is used both within that watershed, in coastal urban areas and in the Tulare basin (where most use is for agriculture). As a result of these conveyance projects, the majority of Californians, in one way or another, use water from the Delta and its watershed. However, it is important to also understand that most water systems in California are local projects and that the State Water Project and the Federal projects provide modest supplies of the total dedicated water used in the state. (Figure 6. Upstream and export diversion from the Delta watershed.)

1 **Figure 6. Upstream and export diversion from the Delta watershed.**

2
3 More water is commonly exported from the Delta in average or dry water years than is exported
4 during wet years. In wet years, about 4.6 million acre-feet of water is exported from the Delta; in
5 average and dry years, water exports are about 6.3 million and 5.1 million, respectively. The cur-
6 rent infrastructure for water conveyance and storage limits ability to capture and store water dur-
7 ing high flows for use in dry years. Figure 7 shows these relationships. (Figure 7. Water balance in
8 the Delta by water year type.)

9
10 **Figure 7. Water balance in the Delta by water year type.**

11
12 This capture, storage and conveyance occurs under water rights law where the Central Valley
13 Project or State Water Project, or other users, hold rights to divert water from upstream sources,
14 store it in reservoirs and then convey in canals and by pumps to points of use. Water is essential
15 to human life and health, and human consumptive uses are the top priority for developed water
16 supply in California. Water supply, regardless of source, also is an important part of the state's
17 economy. Thus, water is both an important natural resource and an important economic resource.
18 There is great competition for the limited amount of developed water supply. A new attitude and
19 approach to water supply development and water use must take hold in California.

20
21 The Public Trust Doctrine, well established in the American legal system, with roots back to Eng-
22 land and parallel principles in other legal systems, provides a way to frame decisions about the
23 use of water in the Delta and Delta watershed. In our legal system, water is not "owned" by any
24 user, but the state and public retain ownership. Users gain the right for use of water in various
25 ways (riparian, appropriative, etc.) but those rights are conditional both as stated in the term "rea-
26 sonable use," and by the underlying public trust for protection of the resource. The public trust
27 doctrine should provide an ethic and foundation for public policy making regarding water re-
28 sources in all of California and is especially relevant and important in the Delta.

29
30 New storage, both in ground and above ground, and improved conveyance must be constructed
31 to capture water when least damaging to the environment and efficiently move it to areas of need.
32 Building new conveyance alone, without new storage, would seriously compromise the ability to
33 protect the estuary and provide sufficient environmental flows. Storage and conveyance must be
34 coupled in order to operate the system with sufficient flexibility to protect both the environment and
35 economy. The storage and conveyance systems should also meet water quality standards (which
36 are tightening) and also allow operation of legal water markets.

37
38 Reducing reliance on the Delta means building greater regional water self-sufficiency throughout
39 California. The state has already developed most attractive storage opportunities; there is a dam
40 at almost every highly effective site. The sites left for building dams often have high environmental
41 impacts or high cost for their yield. Therefore, there have been few major dams constructed in
42 California recently.

43
44 Figure 8 details the water sources for urban uses in California, confirming the pattern just dis-
45 cussed. All urban areas of the state rely on some water from the Delta and its watershed, but the
46 proportions vary tremendously. (Figure 8. Estimated distribution of water sources used to meet
47 daily urban water demand.)

1
2 **Figure 8. Estimated distribution of water sources used to meet daily urban water demand.**

3
4 California must also develop water from all available sources in order to reduce reliance on the
5 Delta. Figure 9 is a summary of the analysis of potential water demand reduction or supply aug-
6 mentation for eight strategies from Update 2005 of the State Water Plan. These strategies need to
7 be further developed and pursued as possible. (Figure 9. Strategies to reduce demand for or in-
8 crease supply of water.)

9
10 **Figure 9. Strategies to reduce demand for or increase supply of water.**

11
12
13 **Delta as a unique and valued place**

14
15 Though little recognized by most Californians, the Delta is a region of unique and irreplaceable
16 cultural value. It is a place where Native Americans lived and harvested food, where river travel-
17 ers have long passed between the Central Valley and the ocean, where America's only rural Chi-
18 natown was built and still stands, and where industrious farmers invented entirely new implements
19 to work the unique Delta soils. In more recent times, it has been a recreational haven to millions
20 of Californians, offering valued boating, fishing, hunting, and bird-watching – or simply the chance
21 to partake of a slower pace of life for a time. Its agricultural lifestyle and rural quality of life con-
22 trast sharply with the intense urbanism of the Bay Area, Stockton, and Sacramento. From wine
23 grapes, blueberries and pears to rice, corn and tomatoes, the Delta grows more than 90 different
24 crops, producing more than \$650 million in farm sales for the state and Delta economies. The
25 combination of fertile soils, a moderating marine-influenced climate, proximity to market and the
26 accumulated experience with this unique farm region of generations of farm families, makes the
27 Delta a key and valuable part of California's famed diverse and rich agricultural bounty.

28
29 These values must be preserved and enhanced in the future. With millions more people arriving
30 in northern California over the coming decades, the Delta's role as a recreational retreat will be-
31 come even more valuable than it is today. Indeed, with its rich mixture of habitats, farmlands,
32 open spaces, watercourses, fisheries, and historic towns, the Delta could become a compelling
33 new kind of tourist destination that mixes ecosystem restoration, outdoor recreation, and an active
34 local economy. In addition, the Delta is home to several key infrastructure systems of statewide
35 importance, including highways, railroads, aqueducts, electricity and natural gas lines, which can-
36 not be allowed to fail for long periods of time.

37
38 For all these reasons, there must be increased recognition, increased status, and increased pro-
39 tection of the Delta as a place, not just a water supply or a species habitat. The goals of regener-
40 ating the Delta estuary and securing critical infrastructure must not diminish the cultural and rec-
41 reational value of the Delta. On the contrary, these must be mutually supporting. New invest-
42 ments to meet ecosystem and water supply objectives should complement efforts to enhance the
43 Delta's recreational and tourism, and agricultural economy, and must not diminish disaster protec-
44 tion for critical infrastructure.

45
46 The Delta's land use pattern must enhance both the region's unique values and the overall resil-
47 ience of the system. To preserve the Delta's place values, the region's landscape must continue

1 to be dominated by agriculture, wildlife habitat, and recreation, with mutually beneficial mixtures of
2 these wherever possible. Specialized forms of agriculture that are particularly well suited to the
3 Delta must be encouraged, such as subsidence-reversing crops, carbon-sequestering crops, and
4 wildlife-friendly farming practices.

5
6 The Delta's recreation and tourism economies also should be the subject of active investment and
7 promotion by private, non-profit, and governmental entities over the coming decades. Rather than
8 being frozen in time, the Sacramento River legacy towns, the agricultural areas, and the wildlife
9 habitats that attract visitors today must be allowed to grow and change in ways that are consistent
10 with the overall regional character and with historic internal needs. New enterprises that present
11 the Delta's values to the larger public should be allowed and encouraged. For example, the mutu-
12 ally beneficial co-existence of habitat restoration, recreation, agriculture and public education that
13 takes place as part of the collaboratively managed Yolo Bypass Wildlife Area could be replicated
14 elsewhere in the Delta.

15
16 To enhance the resilience of the system, however, land use choices should both protect human
17 residents of all economic levels from disaster, and preserve management flexibility for the Delta
18 over the long term. Housing development must be kept out of all flood-prone areas, including all
19 areas below current or projected sea level and all areas in deep floodplains, whether within or out-
20 side of the existing Delta primary zone. Protection of human life is of supreme importance, and
21 Delta floodplains are a fundamentally unsafe place for housing development even with new in-
22 vestments in levees.

23
24 Equally importantly, new housing development cannot be allowed to compromise the flood protec-
25 tion for existing Delta residents and businesses. New housing developments in floodplains con-
26 strain flood conveyance capacity and can increase the threat of levee failure in surrounding areas
27 and downstream. Areas suitable for the creation of new flood bypasses to protect existing Delta
28 residents and services must also be kept free of housing developments. Recent court decisions
29 on liability for levee failure have heightened the urgency of these issues for state government.

30
31 Finally, land use policy must recognize that many areas at the Delta periphery that are under the
32 greatest pressure for urbanization are also indispensable to the long-term management of the
33 ecosystem and water supply. As sea level rises, the geographical areas suitable for tidal wetlands
34 regeneration will shift accordingly – but only if they have not been paved over or cut off by levees.
35 Floodplain habitats on all rivers entering the Delta can provide crucial rearing and migration habi-
36 tat for key fish species, but these functions would be greatly diminished by the presence of hous-
37 ing developments. Lastly, the most logical rights-of-way for any isolated conveyance facilities
38 also pass through areas that are under significant urbanization pressure.

39
40 Even the expectation of future development will make preservation of these key Delta functions
41 dramatically harder. Habitat restoration and water conveyance routing require land acquisition
42 that will be far more expensive if land prices are determined by speculation on future develop-
43 ment. As a result, efforts should be made to prevent a rush to establish development entitlements
44 before appropriate Delta protections are in place.

45
46 Given the fragmented nature of institutions in the Delta today, this coordination will be best
47 achieved by a new planning area that encompasses (but does not replace) the existing bounda-

1 ries of the Delta Protection Commission. The geographical boundaries of this planning area
2 should extend beyond the existing legal Delta to incorporate adjacent areas where land use
3 choices will have a substantial impact on the fate of the legal Delta. This boundary should also be
4 set in accordance with a relevant, coherent and defensible ecological or hydrological criterion,
5 such as a future high-tide line or elevation line.

6
7 Much of the Delta consists of lands subject to the ebb and flow of the tide. These lands are sub-
8 ject to what is commonly known as the “tidelands trust,” under which the state holds them subject
9 to a duty to see that they are used so as to preserve the people’s interest in such trust purposes
10 as commerce, navigation, fisheries and ecological study. Generally speaking, the state’s interest
11 in the tidelands extends to the ordinary high water mark.

12
13 As sea levels rise due to global climate change, the ordinary high tide line will move farther up the
14 land in and around the Delta. In planning for the future of the Delta, and of immediately surround-
15 ing lands that may, in the future, be subject to tidal influence, state and local agencies have a duty
16 to avoid activities that would injure trust purposes whenever feasible, and to mitigate them if they
17 are unavoidable.

18
19 The proposed planning area must clearly designate the Delta as a special area, and should help
20 inspire and guide investments in ecosystem regeneration, land acquisition or protection, and the
21 recreation, agricultural and tourism economy. The investments themselves, however, should be
22 made by a variety of actors, including private entrepreneurs, non-profit organizations, and gov-
23 ernment at all levels. This planning area must also ensure that all such investments conform with
24 the overall regional management goals of ecosystem regeneration, water supply reliability and
25 quality, human safety, and preservation of the Delta’s unique value as a place.

26 **Delta levees**

27
28
29 This vision’s goals for the estuary, the water system, and the Delta region itself all require a reli-
30 able and recoverable levee system. Levees are the fine threads that stitch together the Delta es-
31 tuary and landscape, and that make most current human uses of the land and water possible. As
32 in New Orleans before Hurricane Katrina, however, the Delta’s levees and the protection they pro-
33 vide are too often taken for granted. Levees require continual attention, investment and mainte-
34 nance, especially in situations where they are protecting land below sea level. The care of Delta
35 levees will therefore be a key responsibility for state and local government, and Delta inhabitants,
36 in perpetuity.

37
38 Given the risks of levee failures and the requirement for continuing maintenance against increas-
39 ing threats, the state should adopt two policies:

- 40
41 1. The state’s reliance upon levees should be reduced wherever possible and avoided
42 in the future.
- 43
44 2. The state should adopt standards for levels of protection afforded by levees of dif-
45 ferent design and determine allowable land uses in areas flooded when levees fail.
46

1 However, allowing numerous levees to fail (either gradually or *en masse*) is unacceptable be-
2 cause of the damage it would do to the Delta's regional economy and the functioning of the estu-
3 ary, even if water conveyance were secure. And yet, fully fortifying all of the levees against the
4 many threats they face – ranging from earthquake risks to subsidence to climate change – would
5 be astronomically expensive.

6
7 For these reasons, levee management must emphasize recoverability from, rather than resistance
8 to, failure scenarios of all kinds. After emergency declaration and resources mobilization, the lim-
9 iting factor in the levee repair schedule would be the supply of rock for levee-end capping and
10 breach closure. Capping and breach closure material would come from Dutra's San Rafael quarry
11 because of its unique advantage of direct access to marine transportation. Rock from other quar-
12 ries in the region without direct marine access would probably be required for Bay Area urban re-
13 pair needs, making it unavailable for levee repair. Also, sufficient barge and tug capacity would be
14 required to deliver the full production of the quarry to the rock placement. With these limiting fac-
15 tors, the repair period for multiple levee failures is projected to be a minimum of 28 months for a
16 50-breach scenario and 16 months for a 30-breach scenario.

17
18 Inundation of one island increases the chances of levee breaches on adjacent islands, so quick
19 response to any levee failure is essential. In addition to siting materials, the state must pre-
20 contract adequate barge capacity to move large amounts of material to levee breaches quickly.
21 The state also must ensure that adequate human labor resources to repair breaches will be avail-
22 able and sufficiently mobile in the Delta after any potential disaster.

23
24 The state should also fund two focused programs of levee research. The first should assess the
25 existing condition of the Delta levees. Levee composition, underlying soils, hydraulic forces and
26 other key conditions of levee integrity can vary almost on a yard-by-yard basis in the Delta. Exist-
27 ing information on these conditions is unacceptably poor and must be improved. The second pro-
28 gram should be to research and develop more affordable and efficient seismic protection designs.
29 Previous engineering experience with seismic retrofitting of dams suggests that such research
30 could cut the cost of seismically secure levees by at least one-third.

31 32 33 **Important policies outside the Delta are critical to achieving this vision**

34
35 Because the Delta is central to California's natural hydrology and water system, any comprehen-
36 sive vision to secure its future must include measures that take place outside of its legal bounda-
37 ries. Indeed, in one way or another, much of the state of California is intimately connected to the
38 Delta. Thus, the storage, conveyance, transfers and use of water throughout the state is of critical
39 importance to the future of the Delta.

40
41 As has been noted, water conservation throughout the State of California is essential to accom-
42 modate trends in long-term population growth, climate change, and disaster risk. Water conserva-
43 tion strategies must begin by recognizing that not all uses of water are equally valuable. Water is
44 a public trust, to be managed appropriately for identifiable public benefit and preserved for future
45 generations. The sustenance of human life, the conservation of ecosystems, and the supply of
46 critical economic activities must be explicitly recognized as the highest uses of California's water
47 in all local water management decisions.

1
2 In addition, the state and local water agencies must vigorously investigate all opportunities for
3 conjunctive management of reservoirs, floodplains, and groundwater aquifers. Conjunctive man-
4 agement that infiltrates more wet-season runoff into the Central Valley's groundwater aquifers, for
5 example, has the potential to reduce flood pressure on the Delta and to expand local dry-season
6 supply for the Valley's farmers. Conveying that water from surface reservoirs to infiltration sites
7 through existing river channels can also help restore riverine habitats, especially in the dewatered
8 reaches of the San Joaquin River. These conjunctive management strategies must also include
9 the Tulare Basin, which, although not naturally hydrologically connected to the Delta, is a major
10 consumer of Delta water for agricultural irrigation, and has very large groundwater storage poten-
11 tial.

12 13 14 **Part II. Summary**

15
16 Virtually every person who presented views to the Task Force echoed the premise of Executive
17 Order S-17-06 under which we work: the current condition and uses of the Delta are unsustain-
18 able. Rising sea levels will lead to intrusion of salt water further upriver in the Delta, altering the
19 ecology of fish and plants and contaminating waters withdrawn for diversion to agriculture and ur-
20 ban uses. Inevitable floods will inundate vast areas, overwhelm levees, destroy property and in-
21 frastructure and endanger lives in flood-prone areas. Less certain but potentially more catastro-
22 phic earthquakes could profoundly alter the physical geography of vast areas of the Delta, obliter-
23 ating settled areas with major flooding, destroying bridges, levees, roads, power transmission,
24 gas pipelines and buildings.

25
26 Our vision accepts the judgment that the current situation of the Delta is not sustainable. We rec-
27 ognize among all the uses that must be accommodated in planning for the future of the Delta two
28 overriding priorities – ecosystem protection and water provision for human use.
29 By giving a priority to ecosystem protection we do not mean restoration to historic conditions that
30 prevailed prior to the alterations that humans have effected over the past two centuries. We mean
31 adapting patterns of construction and settlement to enhance the functioning of the Delta estuary to
32 the extent practicable within a relatively mature and developed economy.

33
34 By assigning a priority to water provision we do not envision any increases in available supplies
35 for transport outside the Delta. To do so would compromise our priority for ecosystem protection.

36
37 For success over generations, our policies for ecosystem protection and water provision must be
38 designed not for one best solution, but for resiliency, for the capacity to recover from threats and
39 adapt to changes many of which we cannot now predict with accuracy. We must also develop
40 policies which respect and work with nature rather than seeking to bend nature to our engineering
41 designs. Resilient natural systems help to sustain resilient human systems. We should also re-
42 spect human aspirations and capacities and develop policies which mobilize the great energy of
43 Californians to act individually and in families, firms and non profit organizations rather than rely-
44 ing solely on state or federal governmental actions and regulations.

45
46 We must govern differently, integrating policy making for ecosystem protection and water provi-
47 sion, protecting the Delta as a place of international value and also of living communities, and

1 achieving needed changes in water delivery and use across all California. The Delta watershed is
2 critical to the future of California and changes in conveyance and storage are required but these
3 actions must occur as the ecosystem is protected and all California moves to a more efficient and
4 resilient water system. Changed institutions, policies, financing systems and distributions of liabili-
5 ties are required to move a fragmented system for decision making toward the vision proposed.
6

- 1 We need to shift from current conditions toward future conditions on the basis of new principles
- 2 for policy making:
- 3

<i>Current conditions</i>	<i>New Design Principles</i>	<i>Future conditions</i>
Delta as the critical hub in the infrastructure backbone of the CA water system	Design for resiliency in California and in Delta (ecosystem, water use, and flood management...)	Highly resilient California water system, built on regional self sufficiency, varied conveyance, improved storage (in ground and above ground), and effective ways to transfer water among uses and locations, with individual and provider incentives to use water efficiently.
Delta as a failing component of an estuary, with low productivity and declining species	Increase primary food production and overall ecosystem resilience by designing to enhance functioning as an estuary	Highly resilient Delta ecosystem, effectively functioning as an integral part of a unique estuary.
All uses completely dependent on marginal levees	Reduce reliance on levee wherever possible. Respect nature and work with nature to achieve desired goals	Levees remain important, but are designed, constructed and maintained to different standards for different uses requiring different levels of protection. Policy making should anticipate levee failures.
Managed primarily for water use, constrained by species protection laws. Levees for navigation and agriculture, un-linked to water management.	Respect humans and mobilize their energy to beneficial ends. Must integrate ecosystem, water supply/quality, and flood management.	California better manages dependence on Delta for water. Water from the Delta watershed will remain critical to California and reliable conveyance around or through the Delta will be important. But failure of any conveyance should not result in a major crisis.
Incentives to over use and abuse Delta (water use, subsidence, infrastructure routes, urbanization.)	Ecosystem function and water use are co-equal values in design and management of Delta and its watershed	Reduced risks to the Delta from human actions in and outside the Delta
Fragmented, weak governance	Sufficient authority, responsibility, and funding; effective integration across separate systems	Effective governance of water uses and water systems in California, of the Delta ecosystem, and of uses of all Delta resources

4

Appendix 1. Delta Vision Process

The governor's Executive Order S-17-06 (below) recognized the value of California's Delta and risks to its future. It formed the Delta Vision process to "develop a durable vision for sustainable management of the Delta" that can "restore and maintain identified functions and values that are determined to be important to the environmental quality of the Delta and the economic and social well being of the people of the state."

Four groups, each with a distinct charge, were established under the executive order. The seven-member independent Blue Ribbon Task Force is charged with developing the Delta Vision in 2007 and a strategic plan to carry out the Vision in 2008. In their previous eight days of meetings, the Task Force members heard statements from scientists, stakeholders, government officials and the general public to assist in forming their vision. The Task Force also requested and received ideas and visions from the general public. Their next six days of meetings will include more statements and work to refine their vision before submitting it to the governor and the legislature.

The five-member Delta Vision Committee is chaired by the Secretary for Resources; other members include the secretaries for the California Environmental Protection Agency; the Business, Transportation, and Housing Agency; the Department of Food and Agriculture; and the president of the Public Utilities Commission. These cabinet members are charged to report to the governor about the Vision and strategic plan in late 2008, and appoint the Stakeholder Coordination Group and the Delta Vision Science Advisors.

The Delta Vision process coordinates with and builds upon many of the ongoing but separate Delta planning efforts. Among these are:

- The Bay-Delta Conservation Plan
- Delta Risk Management Strategy
- Delta Regional Ecosystem Restoration Implementation Plan
- Ecosystem Restoration Program's Conservation Strategy
- Suisun Marsh Plan

The 43-member Stakeholder Coordination Group consists of representatives from all major interests using or living in California's Delta. With dedication and understanding, these women and men had 13 days of meetings to develop and refine nine principles, two emerging visions for California's Delta, and a list of near term actions. These emerging visions were first presented to the Task Force in August 2007, and contributed greatly to forming the vision. Many of the ideas presented in the Stakeholder Coordination Group will be more fully addressed during the strategic planning process.

Two Science Advisors, Dr. Michael Healey and Dr. Jeffrey Mount, consult with the Task Force, the Delta Vision Committee and the Stakeholder Coordination Group and advise about the scientific issues regarding the Delta. The Science Advisors formed an assessment team to review the scientific and technical issues found in the Stakeholder Coordination Group's two emerging visions and the eight external visions submitted by the general public.

EXECUTIVE ORDER S-17-06

WHEREAS the Sacramento-San Joaquin Delta estuary, including Suisun Bay and Marsh (hereafter "Delta"), supports a unique and irreplaceable combination of environmental and economic resources. The Delta is a source of water for farmlands, growing communities and businesses and provides a unique estuarine habitat for many resident and migratory fish and birds, some listed as threatened or endangered species. It is an area that supports vital energy, transportation, communications and water facilities, and important agricultural, recreational and cultural resources. The Delta is of state and national significance and must be protected and managed effectively for the future well being of the people and the environment; and

WHEREAS the Delta is intersected by highways, roads, and utility lines critical to regional, state and interstate commerce and economy; and

WHEREAS the Delta is the hub of California's two largest water distribution systems, the federal Central Valley Project and State Water Project, and at least 7,000 other permitted water diverters have developed water supplies from the watershed feeding the Bay-Delta estuary, providing drinking water to about 23 million people and irrigation water to about 7 million acres of highly productive agricultural lands; and

WHEREAS recent events like the Lower Jones Tract levee failure and Hurricane Katrina, and recent findings that indicate a two in three chance of a major earthquake occurring in or near the Delta in the next fifty years, have raised awareness and concerns about the vulnerability of Delta levees. Failure of Delta levees can have devastating consequences on farms, communities, roads, railways, power and fuel transmission lines, water conveyance and quality, wildlife resources, and the local and state economy; and

WHEREAS threats such as an aging levee system, regional climate change, rising sea levels, seismic events and urbanization pose an imminent threat to the Delta; and

WHEREAS recent legislation, a number of planning efforts and scientists have affirmed that current uses and ecosystem health in the Delta are unsustainable over the long-term; and

WHEREAS there is growing recognition that prior Delta and Suisun strategic planning efforts have been too narrowly focused on only a few of the Delta's many uses and resources; and

WHEREAS the combined threats and changing conditions within the Delta require immediate attention because of the potentially catastrophic environmental and economic consequences if timely action is not planned for and undertaken; and

WHEREAS the existing complex system of Delta governance has been criticized because no one level of government is fully in charge, or capable of responding in an orderly and effective way to address and mitigate the range of threats to the Delta.

NOW, THEREFORE, I, ARNOLD SCHWARZENEGGER, Governor of the State of California, by virtue of the power vested in me by the Constitution and statutes of the State of California, do hereby order effective immediately:

I. I hereby initiate the Delta Vision and establish an independent Blue Ribbon Task Force to develop a durable vision for sustainable management of the Delta. Making the Delta more sustainable will require a concerted, coordinated and creative response from leaders at all levels of government, stakeholders, academia and affected communities, and will require significant private and public partnerships and investments. The Delta Vision is designed to accomplish these goals:

(a) Meet the requirements of Assembly Bill 1200 (Water Code Sections 139.2 and 139.4), Assembly Bill 1803 (Water Code Section 79473) and SB 1574.

(b) Coordinate and build on the many ongoing but separate Delta planning efforts.

(c) Assess the risks and consequences to the Delta's many uses and resources in light of changing climatic, hydrologic, environmental, seismic, and land use conditions. This assessment will look at:

- The environment, including aquatic and terrestrial functions and biodiversity.
- Land use and land use patterns, including agriculture, urbanization, and housing.

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- Transportation, including streets, roads, highways, waterways, and ship channels.
- Utilities, including aqueducts, pipelines, and gas/electric transmission corridors.
- Water supply and quality, municipal/industrial discharges and urban and agricultural runoff.
- Recreation and tourism, including boating, fishing, and hunting.
- Flood risk management, including levee maintenance.
- Emergency response.
- Local and state economies.

(d) Develop a program for sustainable management of the Delta’s multiple uses, resources and ecosystem. Sustainable management of the Delta means managing the Delta over the long term to restore and maintain identified functions and values that are determined to be important to the environmental quality of the Delta and the economic and social well being of the people of the state. As part of the Delta Vision, priority functions and values will be identified, and measures necessary to provide long-term protection and management will be evaluated.

(e) Develop a Strategic Plan to implement findings and recommendations for public policy changes, public and private investment strategies, Delta-Suisun preparedness and emergency response plans for near-term catastrophic events, levee maintenance options, and how to monitor and report performance.

(f) Develop recommendations on institutional changes and funding mechanisms necessary for sustainable management of the Delta. Recommendations may include a discussion of oversight, land use and implementation authorities.

(g) Inform and be informed by current and future Delta planning decisions such as those pertaining to the CALFED Bay-Delta Program, Bay Delta Conservation Plan, Suisun Marsh Plan, Water Plan, updates of related General Plans, transportation and utilities infrastructure plans, integrated regional water management plans, and other resource plans.

2. The Secretary of the Resources Agency as chair, and the Secretaries of the Business, Transportation and Housing Agency, Department of Food and Agriculture and the California Environmental Protection Agency, along with the President of the Public Utilities Commission shall be the Delta Vision Committee, for the Delta Vision. They shall undertake the following:

- (a) Explore entering into agreements with private and non-governmental organizations to receive funding for Delta Vision. In addition, the Director of Finance may also accept monetary and in kind contributions to support the activities of the Delta Vision.
- (b) Create a Stakeholder Coordination Group to involve local government, stakeholders, scientists, engineers, and members of the public in this effort to develop a Delta Vision.
- (c) Select Delta Science Advisors from diverse scientific disciplines to provide independent review and advice to the Blue Ribbon Task Force on technical, scientific, and engineering data, analyses, and reports.
- (d) Report to the Governor and the Legislature by December 31, 2008 with recommendations for implementing the Delta Vision and Strategic Plan.

3. I will appoint the members of a Blue Ribbon Task Force to include diverse expertise and perspectives, policy and resource experts, strategic problem solvers, and individuals having successfully resolved multi-interest conflicts. The Task Force will seek input from a broad array of public officials, stakeholders, scientists, and engineers. The Task Force will prepare an independent public report that will be submitted to the Delta Vision Committee and Governor that sets forth its findings and recommendations on the sustainable management of the Delta by January 1, 2008 and a Strategic Plan to implement the Delta Vision by October 31, 2008.

1 4. Upon submittal of the Delta Vision Committee’s recommendations to the Governor and Legislature, the Delta Vision initiative
2 shall terminate unless extended by another executive order.

3
4 5. This order is not intended to create, and does not create, any right or benefit, whether substantive or procedural, enforceable at
5 law or in equity, against the State of California, its agencies, departments, entities, officers, employees, agents, or any other person.
6

7
8
9 IN WITNESS WHEREOF I have here unto set my hand and caused the Great Seal of the State of California to be affixed this 28th
10 day of September 2006.

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20 ARNOLD SCHWARZENEGGER
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22 Governor of California
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28 ATTEST:
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36 _____
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38 BRUCE McPHERSON
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40 Secretary of State
41
42

1 **Appendix 2: Public Safety and Disaster Preparedness**

2
3 Human life and safety continues to be a top priority for the state. That is why protecting and
4 enhancing the ecosystem and water supply in California's Delta is so important. Other aspects
5 to public safety include preparing for and responding to disasters. Threats to human life and
6 safety include flooding, earthquakes, and other catastrophic events like a toxic spill. The levee
7 system in California's Delta is a critical concern in terms of a catastrophe and how the state
8 can respond to it.
9

10 Flooding is the most common and damaging natural disaster in California. The principle catas-
11 trophic event facing California's Delta is flooding from levee breaks or intense storms. The lev-
12 ees also are vulnerable to earthquakes. More than 90 percent of the Delta's land area is within
13 Federal Emergency Management Agency (FEMA) flood zones. Several initiatives looking at
14 the potential statewide economic impact from Delta flooding recommend strengthening the
15 Delta's emergency response program.
16

17 The Task Force identified potential actions regarding public safety and disaster preparedness.
18 These actions fall into three broad categories: planning and capacity building, public education
19 and disaster preparation, and longer term actions to reduce risks. Although images of New Or-
20 leans' flooding are in people's minds, what will happen in California's Delta is very different: the
21 floods will be deeper and colder than what happened in Louisiana.
22

23 Under planning and capacity building, the Task Force applauds the good work begun by the
24 Delta Protection Commission and the Delta Counties in coordinating emergency preparedness
25 and response planning. Such planning and coordination is needed at the statewide level. The
26 statewide plan ought to establish clearly defined responsibilities and reporting relationships be-
27 tween local, regional, state, and federal authorities.
28

29 For items that can be started with a few months, the Task Force also recommends: (1) estab-
30 lishing benchmarks for recommending and demanding evacuations, (2) developing good re-
31 gional evacuation plans that includes information about routes and places for evacuees to go;
32 (3) practicing those emergency response and evacuation scenarios with citizens as well as
33 emergency response personnel; (4) stockpiling and pre-positioning supplies; (5) earmarking
34 money and giving spending authority for rapid response; and (6) signing contracts for barges
35 along the West Coast to move people and supplies. In a major event, the state will likely need
36 help from other states.
37

38 Public education and preparation also is essential to reducing losses of life and property. A
39 state goal ought to be that every Californian is able to care for themselves and immediate fam-
40 ily members for the first 72 hours of a disaster. This preparation includes tangible actions such
41 as setting up a Boat Marshal Program for rapid evacuation of neighborhoods. Changing build-
42 ing codes to require exits to a building's roof from the inside will help save lives. To address
43 human tendencies to underestimate risks and to avoid disaster preparation, lampposts on
44 every block behind levees ought to be painted showing the 100 year flood level. School pro-
45 grams about emergency training are also necessary.
46

1 Longer term actions are needed to reduce the risks and impacts of a flood. The Task Force
2 recommends that the state begin acquiring floodplains, establish bypasses where feasible, and
3 disallow residential building in flood prone areas. The state needs to set up a policy for levees
4 regarding protecting heavily populated areas and key parts of California's Delta's ecosystem.
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Figure 1.

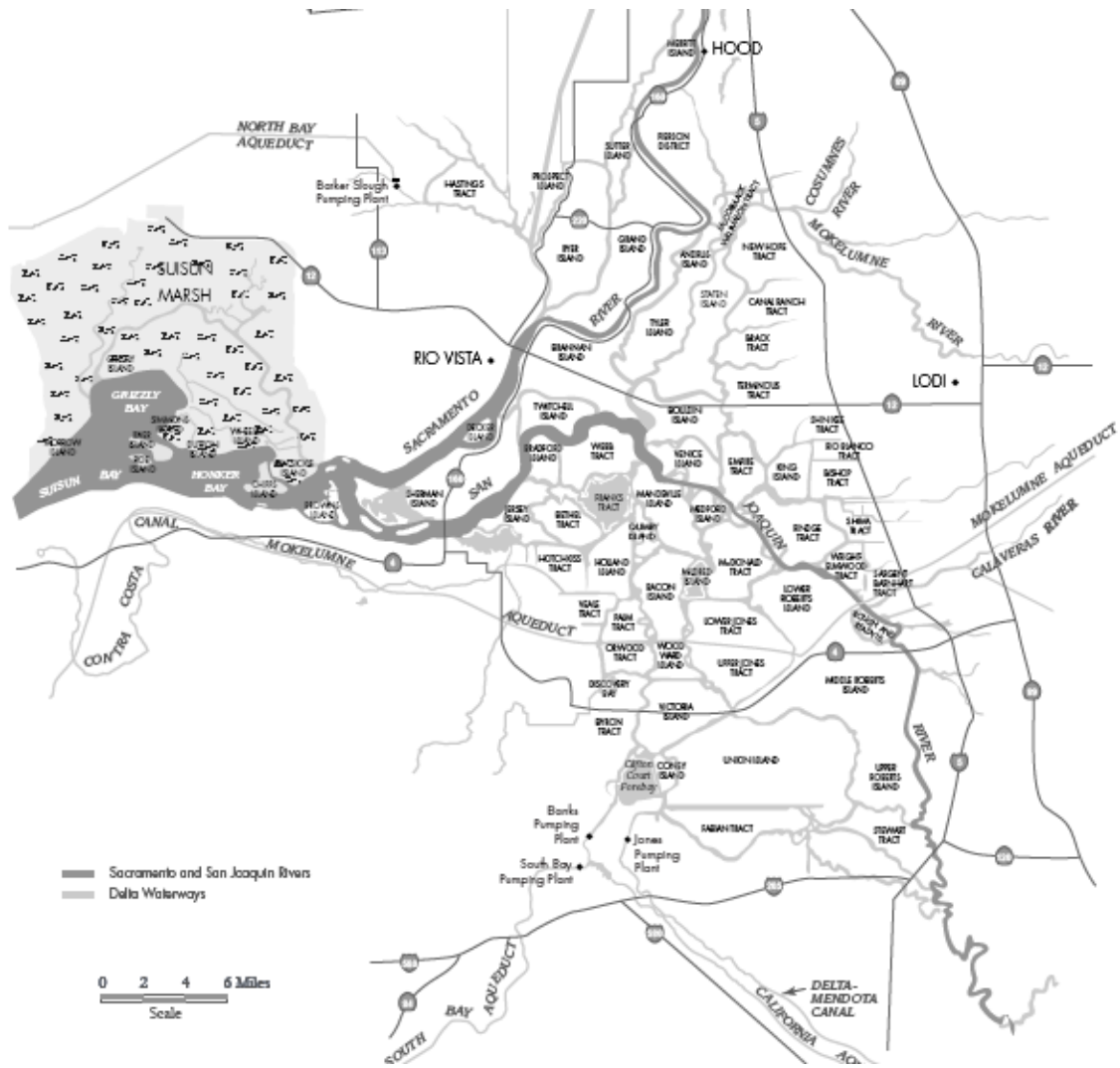


Figure 2.

Better habitat => more growth

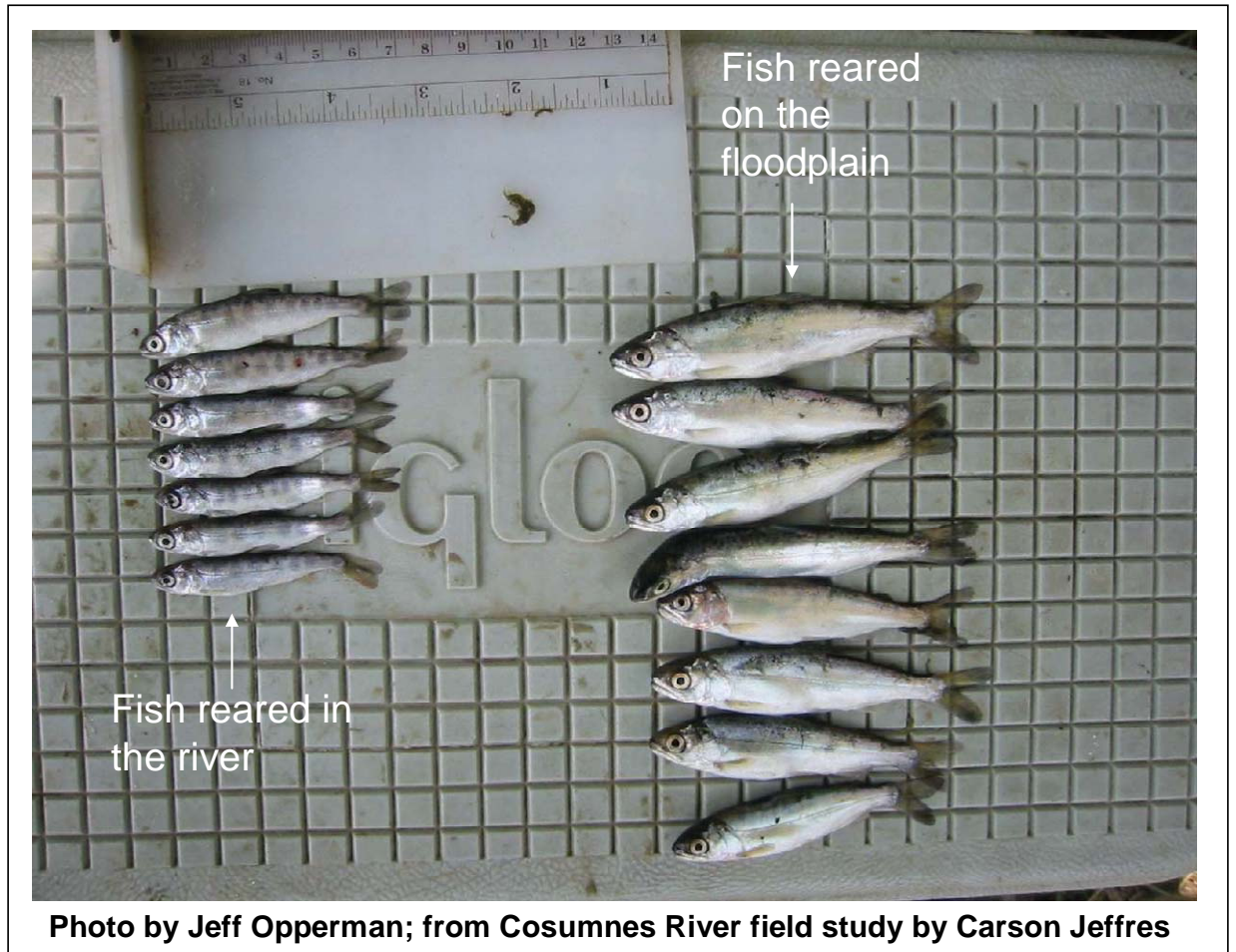


Figure 3.

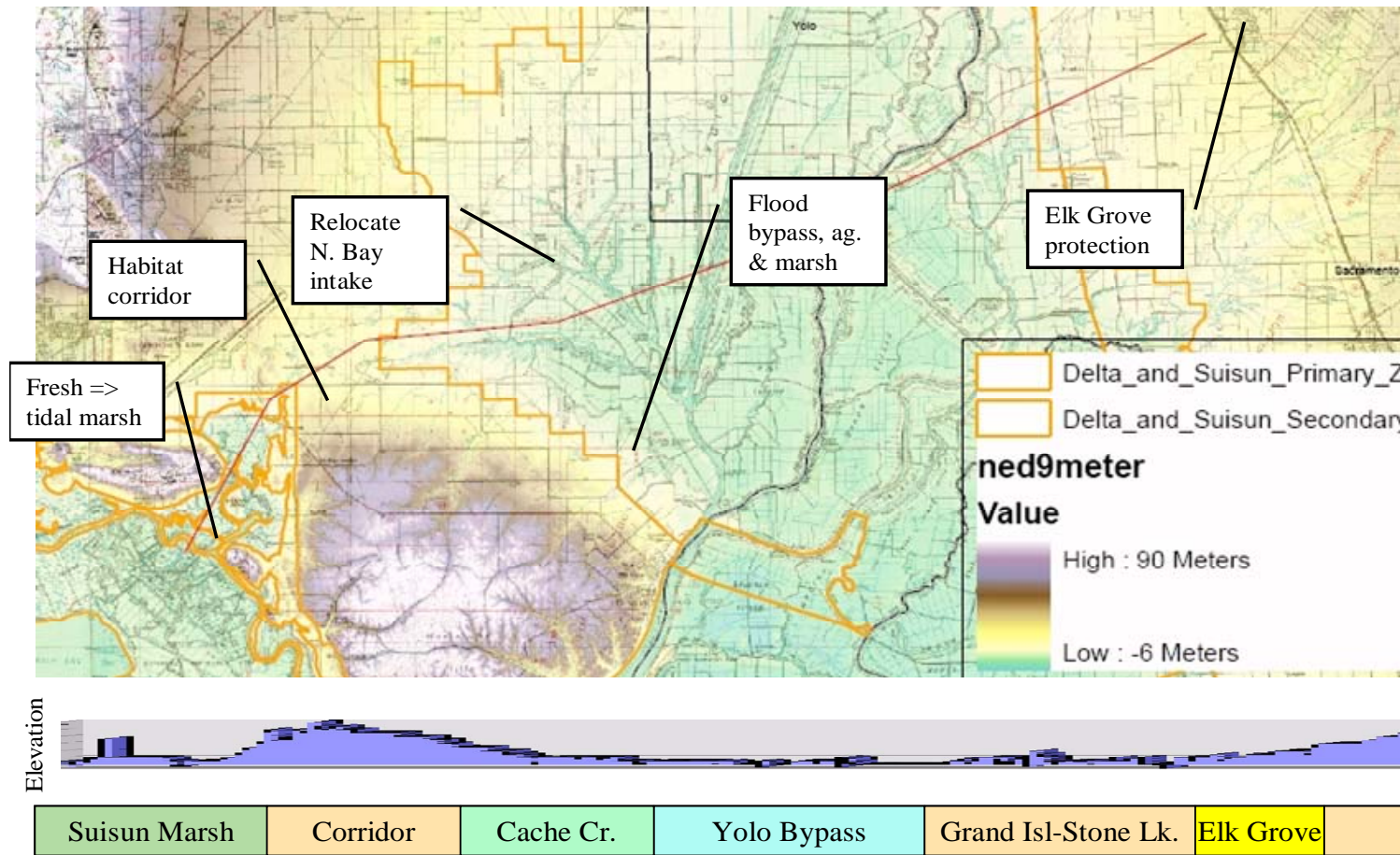


Figure 4.

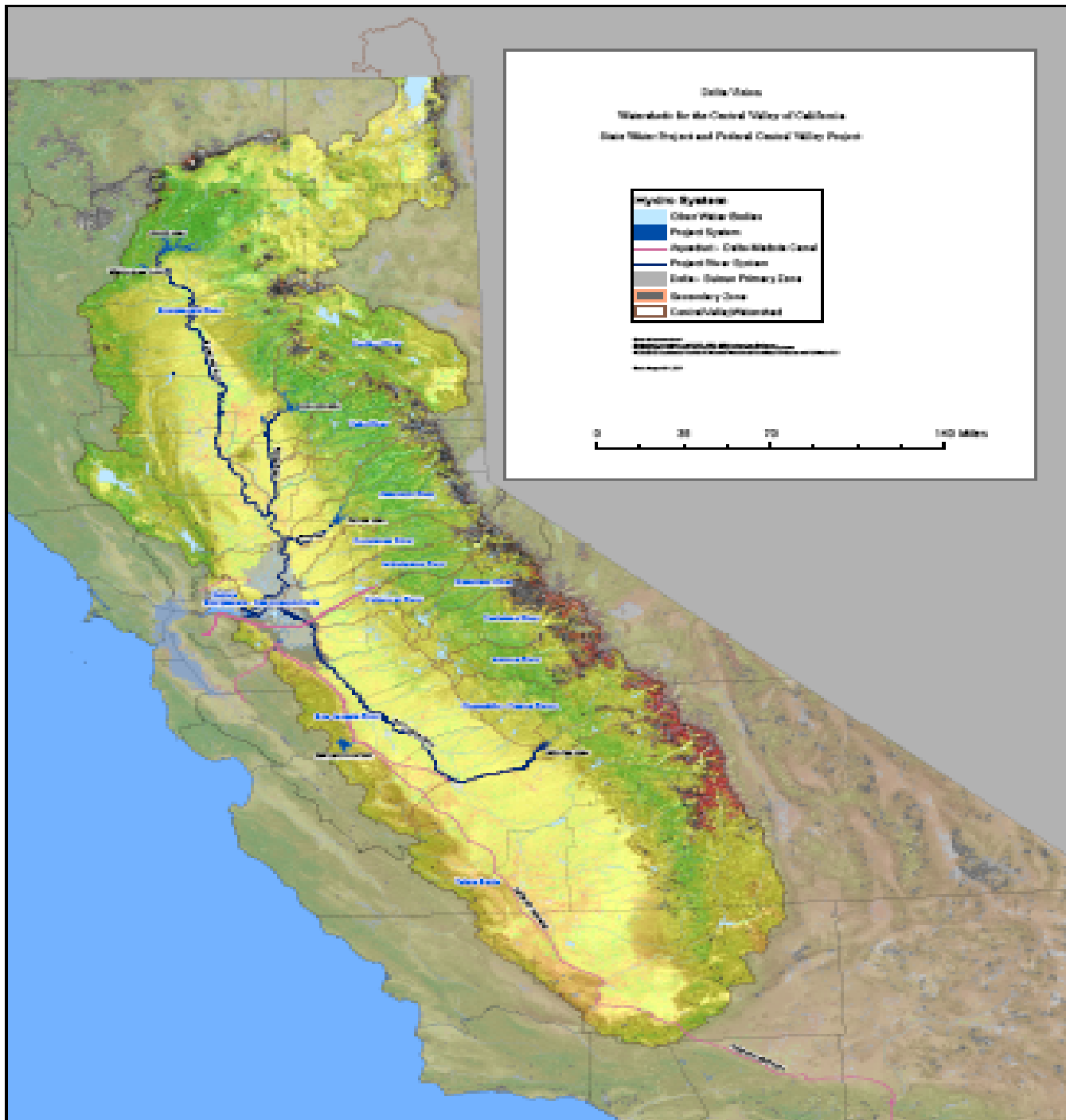
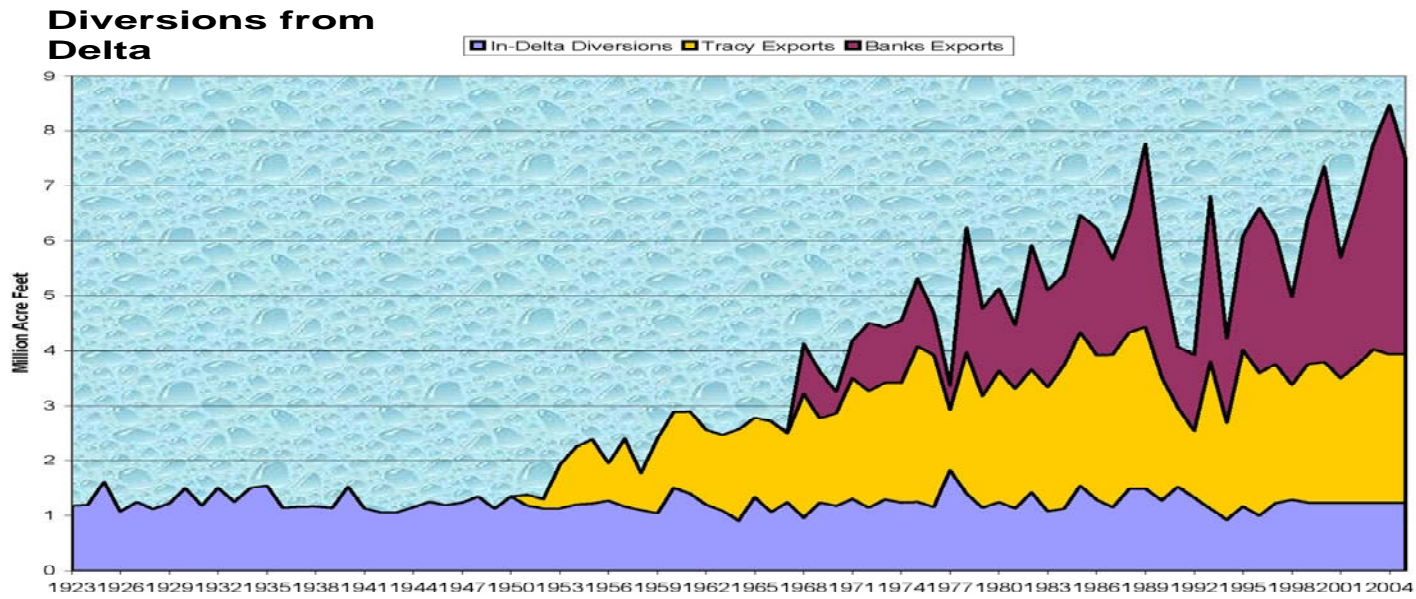


Figure 5.



DWR, 2007. *Status and Trends of Delta Suisun Services*, page 19.

Figure 6.

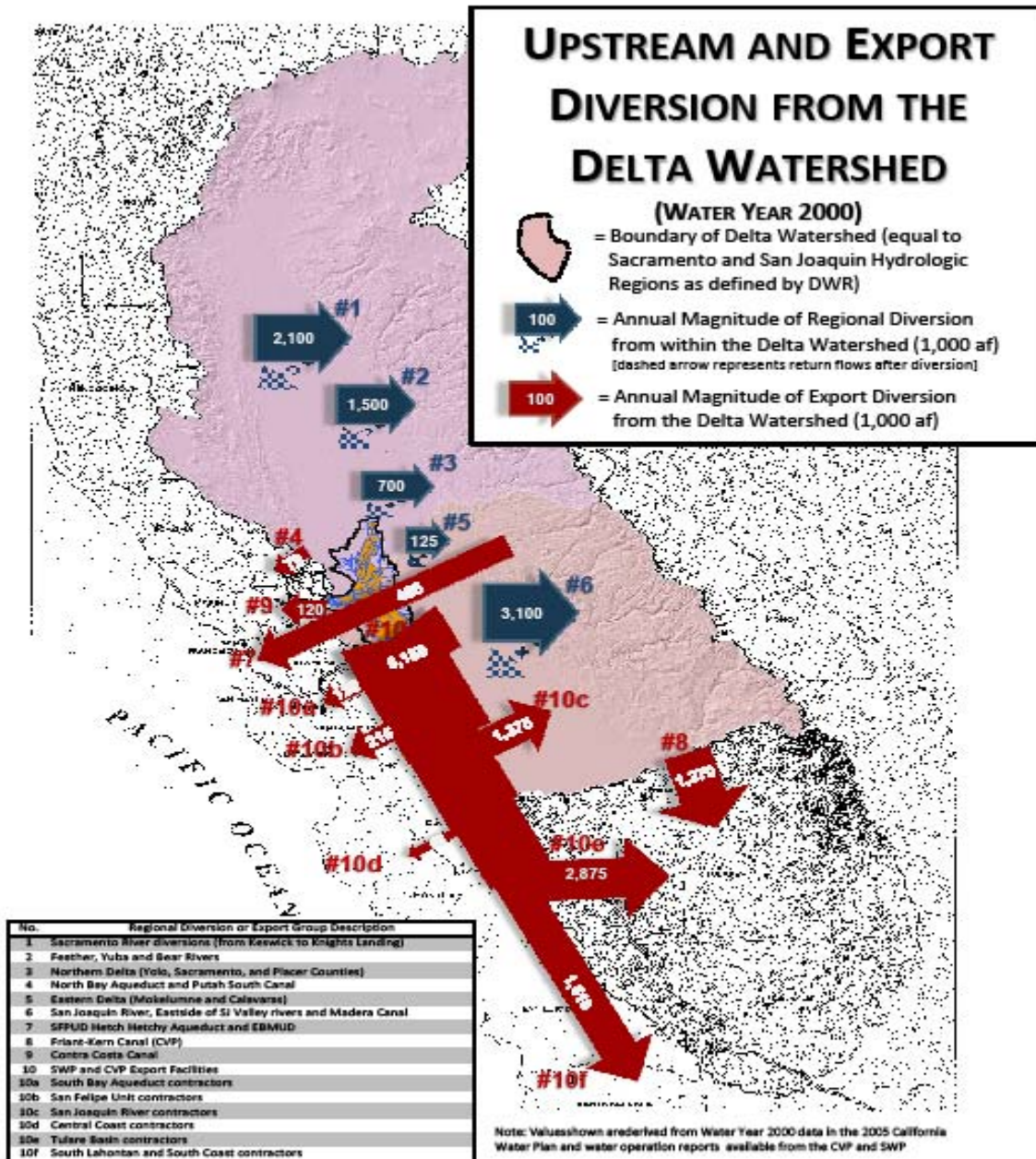


Figure 7.

Water Balance in Delta by water year type

DWR. 2007.
Status and Trends of Delta Suisun Services.
 Page 18.

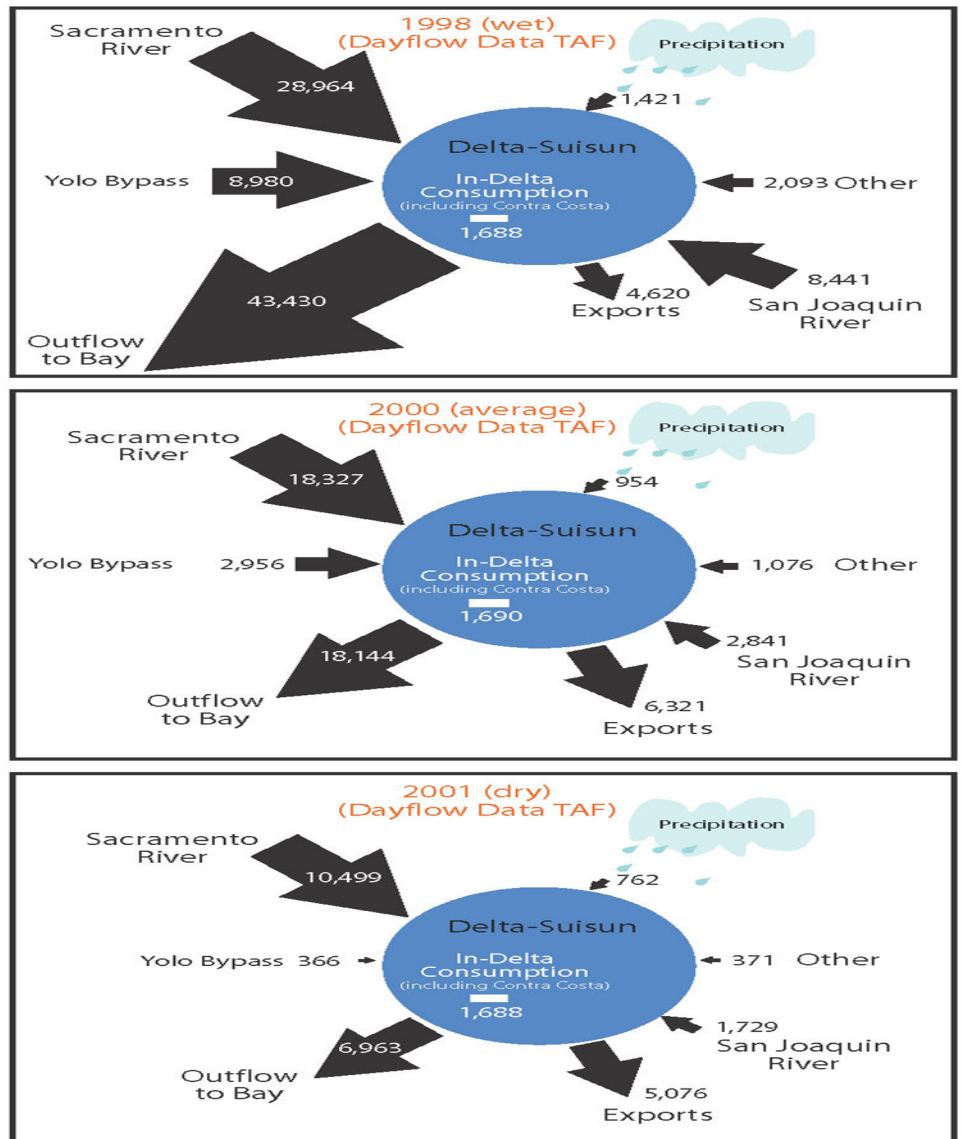


Figure 8.

Calculated from data in DWR *State Water Plan Update 2005, v. 3.*

ESTIMATED DISTRIBUTION OF WATER SOURCES USED TO MEET DAILY URBAN WATER DEMAND (WATER YEAR 2000)

[Using data from the 2005 California Water Plan Update, this graphic shows an estimated representation of how various sources of water available to a region may have been used to meet a region's urban per-capita water use. However, because data is not distinguished to separate the destination of source water, some of the water available to a region may have gone exclusively to agricultural uses or urban uses, thus skewing what is represented here.]

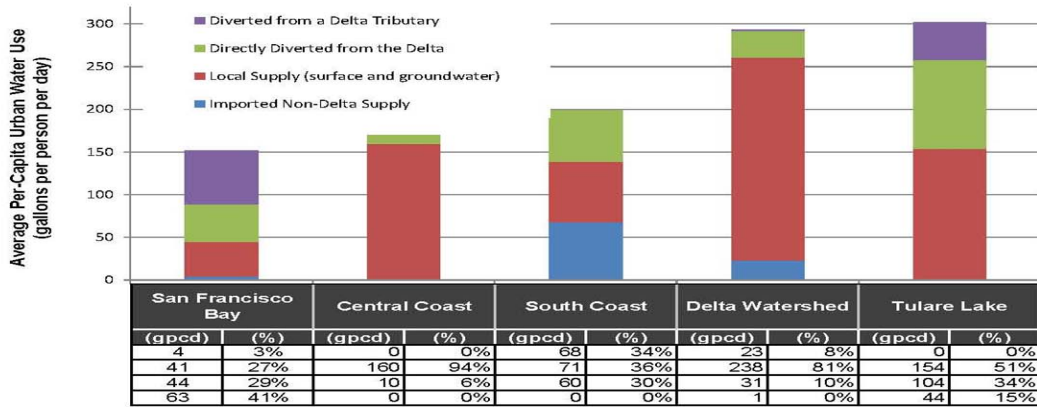


Figure 9.

