The Bay Delta by the Numbers

- Largest estuary on the west coast of the Americas with ~800 species flora & fauna.
- The watershed comprises 40% of CA's surface area (153,000 km^2).
- Most of the rain and snow falls in California on just 5-15 days/year.
- 75% of the precipitation occurs in N. CA while 80% of the demand exists in S. CA.
- 50% of CA's runoff flows toward the Delta.
- The federal Central Valley Project (CVP) and the State Water Project (SWP) form the backbone of CA's water supply infrastructure and rely on the Bay Delta ecosystem.
- Up to 65% of the freshwater flowing to the Delta is diverted to consumptive uses (~7.5 million acre feet, MAF).
- The snow-capped Sierra Nevada serves as CA's best water storage "reservoir" because it slowly releases ~15 MAF during the warm spring and summer seasons.
- 60% of CA's "developed" water supply originating as Sierra snowpack could diminish by 80% by the year 2100 due to climate change.
- Net use of "developed water": 62% agriculture; 16% municipal; 22% environmental.
- Drinking water for 27 million people.
- Irrigation water for 3 million acres of farmland that produces 50% of the USA's fruits & vegetables, 20% of the Nation's milk, and a $27 billion agricultural sector (2% of CA's economy).
- The Regional Water Board (Central Valley) has listed the waters of the Delta as impaired for heavy metals, pesticides, and invasive species per CWA §303(d).
- 90 native and introduced species of fish occur in the Delta; populations of all the native fish are in decline and several have been federally-listed as threatened or endangered.
- The islands of the Western Delta have subsided by up to ~25 feet due to conversion to farming and peat oxidation, and this has made the resulting levees vulnerable to collapse.
- The San Joaquin Valley floor has subsided by up to ~30 feet due to groundwater overdraft, and this represents a permanent loss of aquifer storage capacity.
- In 2012, EPA Region 9 issued a 7-point Bay Delta Action Plan focused on improving water quality and restoring aquatic resources.

The U.S. Army Corps of Engineers and the **U.S. Bureau of Reclamation** (USBR) began construction of the federal **Central Valley Project (CVP)** in the late 1930s, and the project comprises more than 35 dams, reservoirs, and canals (with the Delta-Mendota Canal serving as the primary conveyance). USBR operates the CVP and delivers an annual average of 7.4 million acre feet (MAF) to agricultural users (5 MAF) on 3 million acres of farmland, municipal users (600,000 AF) for 2 million people, and for environmental requirements (800,000 AF).

The California **Department of Water Resources** (DWR) began construction of the **State Water Project (SWP)** in 1960, and the project comprises 29 dams and reservoirs (with the California Aqueduct serving as the primary conveyance). DWR operates the SWP and delivers 30% of the annual average allocation to agricultural users and 70% municipal users. The SWP is smaller than originally conceived, in part due to Wild & Scenic River designations on all or part of several North Coast rivers: Eel, Klamath, Mad, Salmon, Scott, Smith, Trinity, and Van Duzen. Consequently, the project carries an annual average of 2.4 MAF, but entitlements total 4.23 MAF. This disparity in the volume "developed" water versus "contracted" water has been a centerpiece of California's "water wars". An annual average of 4.4 MAF of freshwater is diverted from the Colorado River via the **Colorado River Aqueduct** to supply municipal and agricultural users within the Metropolitan Water District (MWD), and the Palo Verde, Imperial, and Coachella valleys, respectively. About 24 million people live on the South Coast. In 2014, Southern California received a relatively ample allocation from the Colorado River, and this will buffer the region from the drought emergency.

The **State Water Resources Control Board** governs the diversion of water from the Bay Delta by the CVP and the SWP, and mandates in-stream flows to protect *beneficial uses* (e.g., fishable, swimmable waters) in the Delta and in the Sacramento and San Joaquin river basins through the Bay Delta Water Quality Control Plan.

Groundwater: In some regions, groundwater provides 60% or more of the supply during dry years. Many towns and small cities depend entirely on groundwater for drinking water supplies, and 40% - 50% of Californians rely on groundwater for at least part of their water supply. Approximately 450 groundwater basins are used to store 850 MAF of water; and an average of 16.6 MAF were used annually -- 2 MAF more than was naturally recharged.

Status of Bay/Delta Conservation Plan ("BDCP") DEIS Review
Prepared for Ken Kopocis and Cynthia Giles (2/4/14)

WHAT IS THE BDCP AND WHO IS INVOLVED?

- The BDCP is a proposed Habitat Conservation Plan ("HCP") to support a 50-year Incidental Take Permit under the federal Endangered Species Act, and a Natural Communities Conservation Plan under the CA Endangered Species Act.

- A joint DEIS/DEIR regarding the BDCP, issued under NEPA/CEQA, is currently out for public review; comments are due April 14th.

- The lead federal agencies are FWS, NMFS, and BOR; the State lead is California Department of Water Resources ("DWR"). The HCP and the EIS/EIR are funded by the water exporters (the "applicants") and are being prepared by consultants directed primarily by DWR.

- The tunnels, along with various undefined restoration projects, are proposed as "conservation measures" to meet the dual goals of restoring the Bay/Delta ecosystem and ensuring a more reliable water supply for the water user communities.

KEY CONCERNS

- **Operation of the proposed tunnels would likely contribute to the degradation of waters already listed as impaired under the CWA and the decline of endangered species that the project is intended to restore**. The modeled operations of the proposed new intakes assume continuation of the current water allocations, which are already resulting in poor water quality and contributing to the decline of species. Continuation of such status quo operations would be unrealistic given climate change scenarios, "take limits" for listed fishes, drought, limitations on future reservoir operations, and potential inequities regarding upstream water rights.

- **Critical information that the action agencies need in order to issue permits is lacking.** Although described as a project-level DEIS for the tunnel construction, and as a programmatic DEIS for everything else, the document lacks project-level analysis, e.g., engineering designs for the tunnels; clarity regarding operations; analysis of impacts to covered fish species; funding for restoration activities; and mitigation for drinking water impacts. The Corps of Engineers has already indicated that the level of detail in the current documents is not sufficient to support a CWA 404 permit determination nor a Section 408 Letter of Permission for necessary Corps levee modifications.

- **Adverse rating is likely**. Every alternative analyzed in the DEIS would adversely affect water quality

- **A Revised or Supplemental DEIS should be circulated for public review.** The lead federal agencies should be informed of the likely adverse rating and be asked to commit to prepare a Revised or Supplemental DEIS for further public review. The DEIS acknowledges that supplemental NEPA documentation will be needed for all of the 21 HCP restoration measures *except the tunnels*. Based on our review so far, EPA believes that the deficiencies of the document are so great that public review of a Revised or Supplemental DEIS is likely needed for the tunnels as well, which should be evaluated in the context of greater specificity regarding the full suite of conservation measures.

- **The lead federal agencies should commit to fully evaluate additional reasonable alternatives in the Revised or Supplemental DEIS, including the "Portfolio Approach" proposed by a coalition of municipal water agencies and NGOs.** The "Portfolio Approach" was summarily dismissed by CA DWR when it was first proposed; EPA believes it warrants further consideration in an expanded suite of reasonable alternatives.

ISSUES RAISED BY THE LEAD FEDERAL AGENCIES ON THE ADMINSTRATIVE DEIS IN JULY 2013

- In their July 2013 comments to DWR and the consultants on the Administrative DEIS, the federal lead agencies raised a number of significant issues about the document:

  NMFS: "The lack of analysis of upstream operations and related effects may render this document insufficient to provide NEPA compliance for the full suite of actions necessary to integrate the BDCP into CVP operations". . ."Though the Federal agencies have had significant input into the EA (effects analysis), it is still a consultant drafted document guided by the permit applicants with several unresolved issues related to the analytical methods and resultant conclusions regarding project effects on covered species. The Federal agencies have responsibility for the content of the EIS as we (NMFS) are a co-lead and therefore must fully support the methodology and conclusions reached in the document. The EA is not a Federal agency document, it is still under review, and we have not accepted all of its methodology and conclusions."

  FWS: "The FWS believes that the draft BDCP ADEIS is insufficient at this time as a disclosure document and is not yet adequate in providing all information and analyses necessary for a decision-maker to make an informed choice between alternatives". . . "The ADEIS is missing a clear, full and complete project description of the proposed action and detailed information needed to do a complete project specific level impact analysis for CM1. Additionally, the ADEIS does not provide an equal level of analysis of all alternatives".

  BOR: "The identification of adverse and beneficial impacts is very subjective and appears to be based on a misreading of NEPA regulations". . . "Analysis of upstream affects may not be sufficient to serve as NEPA compliance for Reclamation to accept BiOp depending on the outcome of pending 9th circuit appeal filed by NRDC specific to NEPA analysis of RPA prior to implementation by Action Agency".

- At the time the DEIS was published, the lead federal agencies acknowledged to EPA Region 9 that these issues were still unresolved and, for this reason, they did not identify a preferred alternative.

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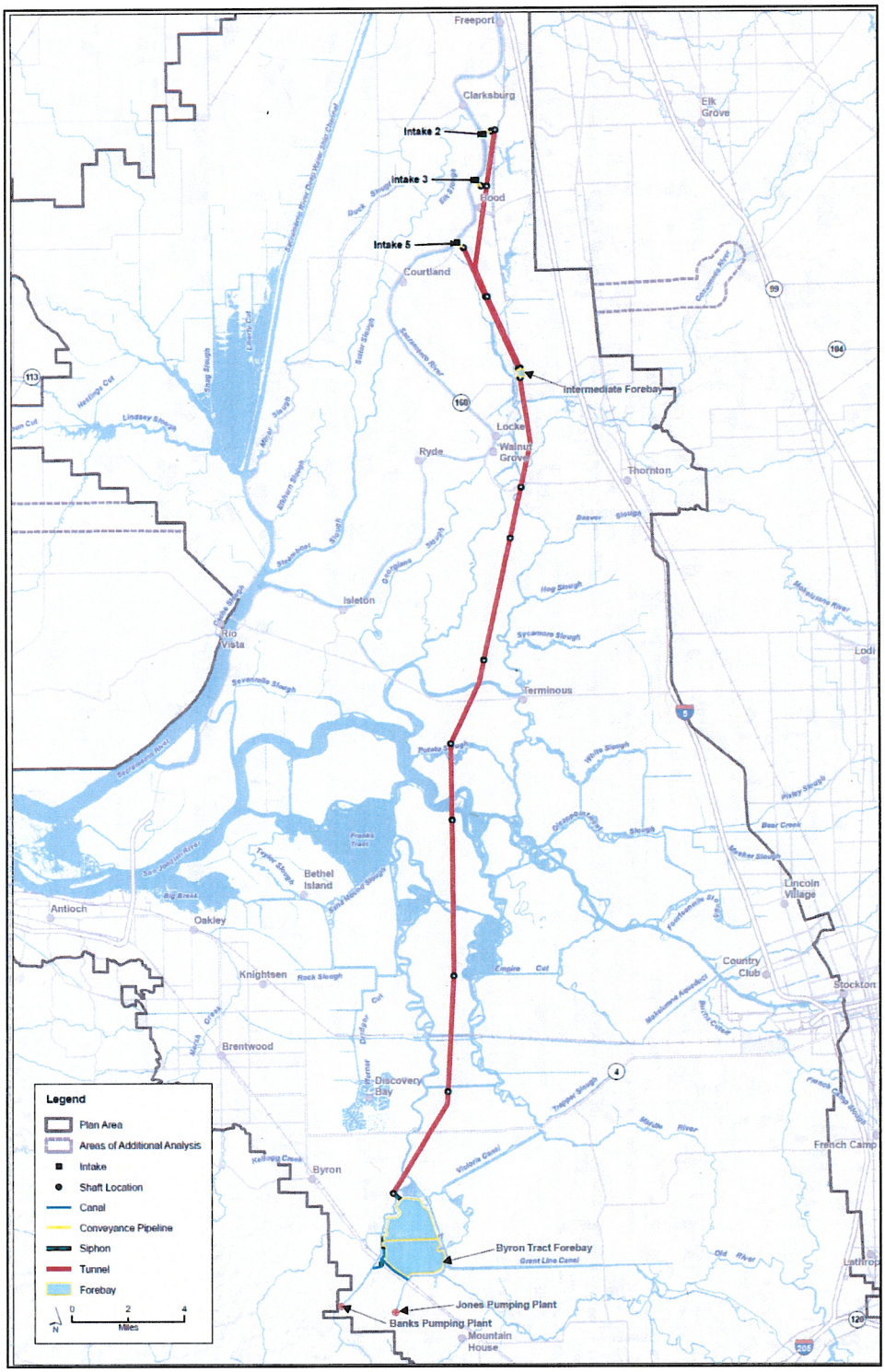

Currently, freshwater is drawn from the Sacramento River in the North Delta and moved southward through a complex maze of channels to huge federal and State pumping plants located in the South Delta. The quality of this water can be degraded along the way due to salinity intrusion from the Bay, inputs from agricultural and municipal discharges, etc. Millions of eggs and larvae of native and introduced fishes can be entrained in the pumping facilities. Also, the 1,100 mile levee system comprising backbone of Delta infrastructure make the State water supply vulnerable because the levees could collapse in the event of an earthquake or flood.

The BDCP calls for the construction of twin tunnels 35-miles long that would draw water directly from the Sacramento River and deliver it to the existing pumping facilities in the South Delta. The State Water Contractors (agricultural and municipal) are willing to pay for the infrastructure as long as they are allowed to build the twin tunnels and increase freshwater diversions by 1 MAF annually (from about 6 to 7 MAF). Costs for the associated restoration of 65,000 acres of wetlands on the periphery of the Delta would be borne by taxpayers.