

Attachment to Delta Protection Commission

NOP Comment Letter (April 15, 2020) – Delta Conveyance

The following comments provide the Commission's specific suggestions and recommendations regarding preparation of the Delta Conveyance Draft EIR.

Alternatives

The EIR should examine these alternatives, which we believe may avoid or reduce the adverse effects to Delta resources enumerated in the subsequent sections.

Improve through-Delta conveyance and reduce reliance on exports. The Delta Protection Commission advocates improved through-Delta conveyance, rather than the isolated facility proposed by DWR. In recognition of our recommendation and because the project proposed by DWR addresses only some of the factors that contribute to the unreliability of Delta water exports, the EIR should also include an alternative that promotes water reliability by strengthening Delta levees and dredging key Delta channels, rather than tunneling under the Delta, while also reducing other region's reliance on water from the Delta by investing in water use efficiency, water recycling, and other advanced technologies. The through-Delta conveyance components of this alternative should include all the features recommended in the Delta Plan (Delta Plan recommendation WR R1 2(a)(4) and (c)).

This alternative's provisions to reduce reliance on the Delta should be informed by an analysis of water demand and promising alternative supplies in areas to be served by the project. The analysis should comply with the Delta Plan's regulatory policy WR P1. The alternative should also be informed by analyses highlighting southern California's increasingly diverse water supplies and further opportunities to reduce imports there (<https://www.nrdc.org/experts/doug-obegi/mwd-suggests-southern-california-has-too-much-water>; <https://www.nrdc.org/experts/ben-chou/new-report-finds-big-mismatches-socal-water-plans>) and in the San Joaquin Valley (<https://www.ppic.org/wp-content/uploads/water-and-the-future-of-the-san-joaquin-valley-february-2019.pdf>).

Far eastern alignment. A tunnel alternative deserving evaluation is the far eastern alignment recommended in the January 20, 2020 report of the Independent Technical Review (ITR) Panel to the Delta Conveyance Design and Construction Authority (DCA). We understand that a similar alignment was proposed in 2010 by an ITR Panel for the WaterFix tunnels. In addition to the cost and logistical

advantages identified by the panel, such an alignment would seem to avoid or reduce impacts to land use, recreation (including boating), and Highway 160 corridor cultural resources from noise, traffic, and construction disruption. Mitigation of remaining impacts would appear to be less complex and thus perhaps less expensive as well. However, the potential impacts of the far eastern alignment have not been as thoroughly studied as the central corridor alignment in terms of agriculture, natural resources and land use conflicts. For example, the far eastern alignment could have potential significant adverse impacts to the Port of Stockton and adjacent neighborhoods.

Alternative points of diversion. Because construction of diversion facilities causes such significant impacts to nearby Delta communities and natural and cultural resources in the Sacramento River/Highway 160 corridor, alternative diversion locations that avoid or reduce damage to Delta communities and recreational boating as well as protect fish should be considered. In addition, the analysis of potential diversion points undertaken in the BDCP/WaterFix EIR's Appendix 3F should be revisited with impacts to Delta communities weighted equally with impacts to fish and wildlife. Experts in Delta land use should be represented on the ranking panel equally with fish agency representatives. Relying on fish biologists, who are not trained in land use, cultural resources, or other relevant topics to weigh impacts on Delta communities does not employ the best available science. Use of a single point of diversion with a total project capacity of 3000 cfs should also be considered, thereby reducing the extent of damage from multiple points of diversion.

Alternative intermediate forebay locations. To avoid or reduce impacts from noise and construction disruption near Locke and the Cosumnes River Preserve and damage that dredging and barge facilities would inflict on recreational boating, aesthetics, and Snodgrass Slough's natural areas, an alternative location for the intermediate forebay and associated facilities should be evaluated south of Walnut Grove Road and adjacent to I-5 along the far eastern alignment. Such a site would still involve painful damage, but perhaps less harm than the site currently under consideration.

Hydrology and Water Resources

Protect in-Delta water resources. The project's effects on in-Delta water uses should be carefully assessed. This should include modeling that forecasts the effects of the project's operations, together with ongoing State Water Project (SWP) and Central Valley Project (CVP) operations using existing south Delta facilities, on water quality parameters that affect in-Delta uses. Key parameters that should be assessed include salinity, organic carbon, temperature, in-Delta and through-Delta flows, and outflows to

the Bay. The EIR should describe the implications of changes in these parameters on agriculture, municipal water suppliers that rely on Delta water, Delta industrial uses, such as food processors and petrochemical plants, Delta sport fisheries, and recreation, including the spread of aquatic invasive species and harmful algal blooms. The Department of Parks and Recreation's Division of Boating and Waterways (DBW) and other agencies such as the CA Department of Fish and Wildlife (DFW) and State Water Resources Control Board (SWRCB) should be consulted for current data. This modeling should report outcomes for key parameters over time, through at least 2050, so that readers can understand the project's longer-term effects as climate change affects sea levels and makes runoff to the Delta less predictable. Implications of the project for wastewater agencies discharging to the Delta should also be explored.

If the project will adversely affect Delta water quality, as the BDCP/WaterFix EIR concluded, then vague pledges to provide alternative water supplies or offset increased local water treatment costs should be replaced with a mitigation program that spells out the processes used to identify mitigation actions, sources of alternative water supplies, action triggers, time frame, means of payment, fund sources, an objective third-party governance system, and other pertinent details. Delta water agencies should be involved as this mitigation program is developed.

Protect groundwater. The BDCP/WaterFix EIR acknowledged groundwater losses due to construction dewatering and implementing its environmental commitments but did not identify specific measures to meet preexisting or future water demands of affected parties. These impacts to groundwater should be assessed and specific measures to avoid or mitigate them should be proposed.

Anticipate export interruptions. The EIR should assess the probable Impacts to south-of-Delta water users due to interruption or reduction of exports of Delta water conveyed through the proposed project due to drought, growing demand by north-of-Delta water users with superior water rights, alterations in runoff because of climate change, potential regulatory changes, or legal challenges. These and other threats make Delta water exports inherently unreliable. Contingency measures that could be employed in SWP and CVP service areas as well as in the Delta to mitigate this unreliability or restore water exports following these types of disruptions should be described.

Outline cumulative long-term effects. The complexity and potential connections among the many potential actions affecting Delta water resources that are currently under study contributes to Delta residents' concerns about the project. To address these concerns, the EIR should describe how the tunnel could be operated under a scenario in which planned reservoirs, including Sites, expanded Los Vaqueros, expanded Pacheco Reservoir, and south of Delta groundwater banks are completed and operated, as proposed in funding proposals to the California Water Commission. The reservoirs and

groundwater banks are reasonably foreseeable: State and in some cases federal funds have been awarded, draft feasibility reports are sometimes complete, as is Sites Reservoir's draft EIR, and south-of-Delta water agencies have joined as sponsors supporting the projects. It is often stated that these projects' value depends on improved conveyance that can move water stored north of the Delta to those new storage areas proposed south of the Delta, but it is unclear how this would alter operations of the tunnel or its impacts on Delta water resources. This should be explained.

Improve through-Delta conveyance and reduce reliance on exports. The Delta Protection Commission advocates improved through-Delta conveyance, rather than the isolated facility proposed by DWR. In recognition of our recommendation and because the project proposed by DWR addresses only some of the factors that contribute to the unreliability of Delta water exports, the EIR should also include an alternative that promotes water reliability by dredging key Delta channels and strengthening Delta levees, rather than tunneling under the Delta, while also reducing other region's reliance on water from the Delta by investing in water use efficiency, water recycling, and other advanced technologies, as discussed above.

Assess flood risks and plan for post-flood recovery. Areas where key project facilities would be located are protected by levees where the risk of levee failure contributes to their ranking in the Delta Plan as very high priorities for State-funded levee improvements. In the north Delta these facilities, including the proposed diversion facilities, an electrical building, sedimentation basin and appurtenant structures, are protected by the levees of Maintenance Area No. 9 South. Similarly, the Byron Reclamation District's levees protect access to and operational facilities at Clifton Court Forebay, including presumably the new pumping facility. The EIR should describe how these project facilities would be protected from flooding in the event of levee failure, how SWP workers would access these facilities until floodwaters drain, how SWP operations would be maintained or restored after that flooding, and measures to reduce the risk of levee failure affecting project facilities.

Land Use, Planning and Public Services

Delta Land Use is Controlled Carefully to Foster Agriculture, Encourage Tourism and Recreation, and Maintain Legacy Communities. The Sacramento-San Joaquin Delta is vast, encompassing nearly three-quarters of a million acres of land and 700 linear miles of waterways. Its land uses generally reflect the settlement patterns of the past century and a half, closely associated with its rivers, sloughs, and waterways, and with the configuration of agricultural lands. Rural communities reflect the diverse heritage of the Delta, serving as social and service centers for the surrounding farms and historically served as shipping sites for products.

In response to rapidly encroaching urban growth the Legislature enacted the Delta Protection Act of 1992 (Public Resources Code 29760 et seq.), establishing the Delta Protection Commission and dividing the legal Delta into a primary zone and a secondary zone, with the Commission's principal land use authority over the primary zone. The Act requires the Commission to prepare and update a comprehensive Land Use and Resource Management Plan guiding land uses within the primary zone. The primary zone is largely rural and not intended for intense development. The secondary zone includes existing cities and areas that may be developed. The "legacy communities," eleven communities largely in the primary zone – Clarksburg, Courtland, Freeport, Hood, Locke, Walnut Grove, Ryde, Isleton, Rio Vista, Knightsen, and Bethel Island, -- are a focus of economic development activities and cultural heritage.

Key elements of the Commission's and counties' land use approach are to preserve the rural lands for agriculture and agricultural-related businesses, allow for rural, farm-friendly visitor-serving facilities such as wineries and event facilities, marinas and resorts in key locations to support tourism, and protect the legacy communities as retail and residential centers to support agriculture and tourism. This approach includes some flexibility by allowing unique uses, such as agricultural sales or childcare facilities, by special permits.

The proposed tunnel is incompatible with this fundamental strategy, both during the long construction period and during operation. Presentations at the Stakeholder Engagement Committee (SEC) meetings convened by the DCA showing the location and intensity of construction impacts on traffic, for example, have illustrated how the effect on the Delta as a whole – as a place – is analogous to an earthquake with a series of major aftershocks. Not all Delta communities will be affected in the same way, or perhaps with the same intensity, but all will be affected.

Intake facilities on the Sacramento River as described in the NOP, regardless of which are selected, and regardless which corridor alignment is selected, would irreparably damage the communities of Clarksburg in Yolo County, and Hood and Courtland in Sacramento County. In San Joaquin County, launch shafts, tunnel material handling, and maintenance and retrieval shafts will convert farmland and disrupt marinas and recreational boating. Contra Costa county communities such as Discovery Bay would suffer major recreation impacts. In Solano County, the economic and cultural impact of required project mitigations from agricultural lands being converted to restoration projects are a major concern, as are water quality impacts on municipal wells for Rio Vista and agricultural users in the Cache Slough region.

Every Element of the Project Disrupts Existing and Planned Land Use. Tunnel construction would fundamentally change the agricultural- and water-based character of Delta communities and landscape because of the duration and sheer number of

different locations that construction and staging would take place. The use of nearly 8,000 acres of land will be changed due to surface impacts, with another several thousand acres of agricultural lands likely converted for habitat mitigation. Construction of the tunnel launch, retrieval/reception and maintenance shafts, the intermediate and new southern forebays, pumping plant, and construction-support facilities along the alignment including access and haul roads, potential additional rail lines, barge unloading facilities, concrete batch plants, fuel stations, mitigation areas, and power transmission and/or distribution lines will alter the landscape for the better part of two decades, based on the construction methodology currently being presented by the DCA. Use of additional areas will be harmed by noise, traffic congestion, impaired recreation and tourism, damaged scenery, other disruption accompanying construction, degraded quality of life, lowered property values, and lost investment.

- Intake and Tunnel Construction. Construction of two intakes for either alignment shown in the NOP, each occupying at least 200 acres, would result in drastic changes to the communities of Clarksburg, Hood and Courtland, as well as neighboring areas and the Stone Lakes National Wildlife Refuge. Road construction and widening, bridge modifications and interchange improvements, and installation and operation of concrete batch plants would virtually all occur within the primary zone, in direct conflict with the most fundamental principles of the land use approach of the Delta Protection Act and the Commission's Land Use and Resource Management Plan. After construction is completed, pressure will grow for non-farm development at areas adjoining new offramps or sites that cannot be returned to agriculture.
- Tunnel Corridors. Extending beyond the intakes, construction and operation of the "Central Tunnel Corridor," which would also necessitate widening of narrow bridges and extension of existing or creation of new access and haul roads through much of the agricultural land of the primary zone, would literally pave the way for transformation of the regional landscape, setting a precedent of devalued baseline conditions.

Two to three launch shafts for launching the tunnel boring machines (TBMs) would be required along either tunnel corridor alignment shown in the NOP. Likely launch shaft locations are at Granville Tract adjacent to Interstate 5 at Twin Cities Road, at Lower Roberts Island near the San Joaquin River channel, and at Byron near the Clifton Court Forebay and proposed new southern forebay. Another potential launch site for an "Eastern Tunnel Corridor" would be at Rough and Ready Island near the Port of Stockton. According to the SEC presentations, current thinking is that four TBMs would be used, and would potentially tunnel in both north-south directions.

Each launch shaft site would be 200-300 acres. The size and complexity of the launch shafts sites are significant: at these sites, the TBM is launched, followed by the tunnel liner sections, and the tunnel material is removed. Once removed, tunnel material must be dewatered, currently proposed to be onsite with large levees surrounding a tunnel material storage and consolidation center. Liner sections for the proposed 40-foot diameter tunnel would potentially be fabricated at existing nearby plants in Stockton, Lathrop, Antioch and Rio Vista. Transport of liner sections onsite and tunnel material offsite is being considered by barge, rail, and/or truck, although barge and/or rail are being prioritized. A range of operational conditions for the tunnel is possible, but among the examples given at the SEC meetings for a 6,000 cubic feet per second (cfs) tunnel capacity would be that 50 liner segments per day would require 25 days of truck hauling versus 3 to 5 days by rail or barge. Likewise, estimates for removal of tunnel material offsite range widely, but are staggering.

The launch sites would include construction offices, concrete batch plants, equipment storage and electrical substations.

In addition to the launch sites, potentially up to 10 maintenance and retrieval (or reception) shafts will be required for either alignment shown in the NOP. At 15 to 20 acres per shaft site, this represents another 200 acres minimum of converted farmland.

It would be disingenuous for the draft EIR to characterize any of the land conversion along the tunnel alignment as temporary, since even construction sites that are not permanently part of operations will be fallow so many years and will be affected by soil modifiers and other effects from the use of the property as to be of questionable agricultural value if they are ever decommissioned and reclaimed for agricultural use. However, most if not all facilities may well be left in place, according to presentations at the SEC, increasing pressure for non-farm use at sites that cannot be returned to agriculture.

- Habitat Mitigation. Further changes to existing land uses can be anticipated from habitat restoration likely to be proposed to mitigate damage to biological resources. For example, the BDCP/WaterFix EIR proposed converting thousands of acres of farmland to marsh or riparian woodland.

Recommended Significant Adverse Impacts Analysis and Method of Documentation:

Given the foregoing brief description of just some of the potential land use impacts, it is clear that tunnel construction and operation in any alignment will irrevocably alter the rural character of the Delta, adversely impacting its economic pillars (agriculture and recreation), and its cultural heritage. The project seriously threatens the long-term

sustainability of the Delta regional economy, which the Commission is charged with enhancing and promoting. In addition to direct land use conflicts, in many areas the project would cause a substantial change in intensity of land use that would be incompatible with adjacent land and water uses.

The basic livability of Delta legacy communities and Discovery Bay would be compromised by increased noise and congestion and reduced quality of life. Property values and affordable housing have already been severely impacted over the past decade, buffeted by the economic downturn, by high flood insurance costs and stringent construction requirements, and by the threat of construction of BDCP/CA WaterFix, the predecessors to the current single tunnel proposal. The challenges of housing project construction workers will likely mean competition for local housing resources, which will make it more challenging for major Delta businesses such as marinas and agricultural support to house their workers. The project would cause enormous disruption of the basic elements of daily life for Delta residents, including functional access to schools, libraries, churches, medical care, elder and childcare, and shopping.

Existing congestion on Highways 4, 12, and 160 already impairs Delta residents' commutes to jobs within the Delta and beyond to the metropolitan areas of the East Bay, Stockton-Tracy, and Sacramento, often literally grinding to a standstill. Accidents are frequent and too often fatal, especially on Highway 160 and Twin Cities Road. Delta farmers' ability to move slow or over-size equipment safely from one location to another is already challenged. At least two dozen bridges on the Sacramento, Mokelumne, and Middle rivers and multiple sloughs would be affected by increased barge, rail and truck transit. Either of the alignments of the proposed project shown in the NOP would exacerbate these existing transportation challenges. New rail spurs or access and haul roads could also interfere with access to farmland.

Damage to landside recreation and tourism would occur both directly and indirectly through noise and disruption of the aesthetic charm and character of key tourist destinations such as Hood, Courtland, Clarksburg, Locke, Walnut Grove and seasonal and permanent farm stands along the scenic Highway 160 as well as wildlife viewing destinations such as Stone Lakes National Wildlife Refuge (NWR), Cosumnes River Preserve, Staten Island, and numerous San Joaquin County sandhill crane and waterfowl roosting sites.

Recreational boating would be significantly impacted – and in some cases facilities eliminated – on the Sacramento, Mokelumne and San Joaquin Rivers and the south Delta and at marinas, launches, popular anchorages and hangouts such as Lost Slough and the Meadows; Wimpy's; Giusti's; Beaver, Hog and Sycamore Sloughs; Tower Park; King Island; Potato Slough; Mildred Island and Horseshoe Bend; Bullfrog Landing and Lazy M, to name just a few.

Effects could include partial property acquisitions, resulting in division of agricultural or residential parcels, which could create non-conforming lot sizes that are inconsistent with counties' land use and zoning designations.

To meaningfully convey these effects for Delta communities and decision-makers, the EIR should tabulate the acreage and map the areas affected by every adverse or incompatible feature of the project, including direct land use conversions, noise in excess of standards for existing or proposed land use, properties where road congestion to level D or worse impairs access, harm to landscapes surrounding visitor destinations, or other project-related damage. The acreage of lands harmed, by land use (e.g., agriculture, residential, etc.), should be tallied, as should the number of impacted homes and businesses. To adequately inform business owners, their employees, and residents, the EIR should list the names of businesses and the addresses of homes likely to be impacted, much as the EIR lists the species found in habitat areas affected by the project. Special uses that contribute to community cohesion should be highlighted, including groceries, post offices, schools, churches, libraries, and community centers.

To assess impacts on affordable housing, typical rents of homes adversely affected by the project should be estimated. In addition, given the tight housing markets in the affected areas, construction workers' demand for housing should be carefully forecast, considering the project's labor requirements, existing capacity of necessary skilled labor in the region, and the current and forecast utilization of construction workers residing in the region. A thorough analysis of housing impacts should replace the BDCP/WaterFix EIR's assumption that the preponderance of project workers will already reside in the region, particularly given the current state housing mandates that local governments are struggling to meet.

Recommended Approach to Developing and Evaluating Mitigation Measures: In preparing the draft EIR, DWR should provide mitigation that adequately addresses the nature of impacts on land use and communities. At a minimum, the EIR should incorporate the applicable land use policies, standards and Best Management Practices (BMPs) in the applicable local government's general plan and zoning ordinance and adopt the mitigations recommended in Delta Plan recommendation WR R1 2(b)(2)(I) and the Delta Plan Mitigation, Monitoring and Reporting Program (MMRP).

Mitigation measures for land use and all other environmental aspects of the project should be structured to use careful phasing of project construction to minimize disruption, including cumulative disruptions simultaneously affecting multiple areas of the Delta. Because the duration of the project contributes to its damage to Delta land use, measures should be proposed that provide incentives for timely project completion

or penalties for deviations from agreed-upon schedules, without increasing short-term impacts.

To mitigate impacts to affordable housing, replacement housing for acquired or impaired homes should be provided as required by the Delta Plan MMRP. Any home that may be acquired should be carefully maintained and, at the end of the construction period, rehabilitated as needed and sold at affordable prices to prior or new occupants. Contributions to support development of new affordable and work-force housing, including farm labor housing, should also be considered, as were provided in the LAX (Los Angeles International Airport) master plan¹. The text below identifies other measures that should be proposed to reduce harm to specific land uses, such as agriculture and tourism, or mitigate specific impacts that affect land use, such as noise or traffic congestion.

Wherever feasible, mitigation measures should support or enhance existing Delta land use. For example, could the project's greenhouse gas (GHG) emissions be offset by a fair-share contribution that covers the capital costs faced by Delta agricultural land owners who wish to grow rice or other crops that sequester carbon and reverse land subsidence, including costs for land preparation (e.g., land leveling and water management features such as checks and ditches)? The Sacramento-San Joaquin Delta Conservancy has identified these costs as a significant barrier to carbon-sequestering farming systems in the Delta.

Involve Local Agencies, Businesses and Residents. Delta agencies and affected residents should be consulted as these mitigation measures are developed, evaluated, and implemented. Now is the time for DWR to engage in serious conversations with Delta counties, other local agencies, the Commission, and the Sacramento-San Joaquin Delta Conservancy, as well as other state agencies such as Caltrans and the Department of Parks and Recreation about effective mitigation measures. For example, DWR should propose an adaptive strategy for monitoring project effects on Delta land use, residents, and businesses, monitoring outcomes and responding to unanticipated impacts. The mitigation strategy used by the High Speed Rail project to address traffic impacts on agricultural land use could be evaluated in consultation with affected Delta property owners to assess the effectiveness of providing crossings or alternate routes that can accommodate farm equipment, allowing continued use of agricultural lands and facilities.

The EIR should also propose mitigation measures to reduce economic blight and other cumulative impacts on Delta land use, as major public works projects throughout the

¹ (<https://www.lawa.org/en/lawa-our-lax/studies-and-reports/mitigation-monitoring-reporting-program>).

state or elsewhere have done. One example is the Business Interruption Fund used to mitigate effects of Los Angeles' Metro subway². The fund should provide quickly accessible funds to offset the loss of business income or other damage to land uses due to construction impacts. It could also fund expansion and implementation of the Commission's Delta Community Action Planning effort, invest in public facilities that can compensate for damage to Delta communities and infrastructure through the Delta Investment Fund (PRC section 29778.5), or support agricultural, cultural, recreational, and tourism programs and projects through a Delta charitable entity such as the Delta Regional Foundation. The Commission's Economic Sustainability Plan (ESP) and the Delta Plan propose numerous recommendations in support of Delta as an evolving Place. DWR should consult with Sacramento Area Council of Governments (SACOG), San Joaquin Council of Governments (SJCOG), and Association of Bay Area Governments (ABAG) to assess whether the Mega-Region Economic Model they are developing could be helpful in understanding the project's population, housing, and employment impacts in the Delta and could contribute to developing a strategy to compensate for economic damage from the project.

Agriculture

Protect agriculture. Agriculture is the Delta's principal land use, the foundation of its rural economy, and a pillar of its culture. Every effort to protect it should be taken. Project actions, including wildlife, fish, and habitat mitigation measures, that will directly or indirectly affect agriculture should be described. These should be based on the most recent information about Delta farms, including information we have gathered to update the ESP. Estimates of farmland lost for project facilities, tunnel material management and storage, and wildlife, fish, and habitat mitigation should be reported by total acres, acres by crop type, acres by soil type, and acres under Williamson Act contract. Impacts to local irrigation, drainage, and flood control facilities should be considered, as should loss or impairments of crop processing facilities, such as packing sheds and wineries, project-related congestion on farm-to-market roads, and farm labor housing. Selection of tunnel material, management sites, habitat restoration areas, and other facilities should place a high priority on avoiding prime farmland.

Fully describe avoidance and mitigation actions now. Actions taken to avoid and mitigate impacts to farmland should be described in the EIR, rather than deferred to some future date after the project has been approved, as was proposed in the BDCP/WaterFix EIR. Affected farmers, Delta county Farm Bureaus, county

² <https://www.metro.net/projects/westside/final-eis-eir/>;
https://media.metro.net/projects_studies/westside/images/final_seis/WPLE_Final_SEIS_and_Section_4f.pdf

agricultural commissioners, U. C. Cooperative Extension agents, the California Department of Food and Agriculture, and other agricultural interests and experts should be involved in discussions to develop these measures. The menu of potential actions outlined in the BDCP/WaterFix EIR's agricultural land stewardship plans is one good source of mitigation options, but the EIR needs to describe now how these would be applied to specific areas along the project right-of-way. DWR should propose a model good neighbor agreement to farmers operating on or adjoining its proposed right-of-way, into which these measures could be incorporated as appropriate, including a process to resolve disputes and compensate for farm income losses.

Where specific impact areas cannot yet be described, such as some restoration areas to compensate for habitat damage, the EIR should include clear standards or triggers that explain the extent of mitigation, how its adequacy will be determined, and how those affected will be involved in its development. At a minimum, these measures must comply with or be equivalent to those of the Delta Plan's MMRP sections 7-1 to 7-4. These restoration projects should be subject to subsequent CEQA review.

Avoid and reduce tunnel material impacts. Much of the permanent impact to agriculture reported in the BDCP/WaterFix EIR was for management and storage of tunnel material. In addition to avoiding prime farmland when locating tunnel material facilities, further measures to reduce impacts of these facilities should be employed. Soil conditioners used in creating tunnel material management areas should be selected carefully so that disturbed areas can be returned to agricultural use after the project is completed. Measures to recover compacted soils at these sites should be proposed.

A specific plan for reusing tunnel material must be developed, beginning with review of the feasibility of reuse. A review of spoils disposed from navigation and flood control channel dredging throughout the Delta and Sacramento Valley shows that little has been reused even decades after it was disposed, either because it was unsuitable for other uses or because local users could not afford trucking and other costs required to reuse it. The results of DWR's soil boring investigations should enable classification of the potential uses of excavated material. If feasible, excavated tunnel material should be handled and stored in ways that segregate materials of different quality so they can more easily be reused. Material suitable for reuse to maintain or improve levees should be hauled to those reclamation districts that want it. Costs of hauling tunnel material to reuse sites should be borne by the project, rather than by those who may reuse it, as this mitigation measure is properly a cost of the project's contractors pursuant to Water Code section 85089.

Use conservation easements to compensate for cumulative farmland losses.

DWR, through its habitat restoration actions, is the biggest source of farmland loss in the primary zone of the Delta. These actions include both habitat projects at Dutch Slough and McCormack-Williamson Tract and SWP mitigation projects, such as the Lookout Slough tidal marsh restoration project. Farmland lost to this project, even if project features are sited and operated to reduce impacts, will likely add thousands more acres to this accumulating toll. This continual re-purposing of the land underlying the Delta's core activity is unacceptable.

Site specific measures to avoid or reduce impacts on farmland can reduce local impacts, but the purchase of conservation easements over Delta farmland that would otherwise be threatened by development can compensate for unavoidable cumulative losses. Farmland conservation easements are part of the High Speed Rail project's agricultural mitigation program³. DWR has agreed to obtain them to partially mitigate the effects of the Lookout Slough tidal marsh restoration project. The Delta Plan's MMRP requires such compensatory mitigation at a ratio of 1 acre protected for each acre permanently damaged. Most Delta local governments require higher mitigation ratios. Rural farmland in the Delta's primary zone is already secure from development under the provisions of the Delta Protection Act, so the purchase of conservation easements should target areas as buffers in the Delta's secondary zone or areas immediately adjoining the Delta where long-term development pressure is higher. Areas proposed to be secured for sandhill crane habitat or other wildlife-friendly farming should not be considered as compensating for the project's contribution to cumulative farmland losses, since agricultural uses of those lands will be constrained, not unreservedly preserved, by those wildlife-friendly practices and because those lands will be protected in any case.

The assertion that securing such agricultural conservation easements may be infeasible is not supported by any evidence. Successful farmland conservancies operate in each Delta county and our own assessment shows that, during the decade before approval of the WaterFix project, they and other agencies secured conservation easements in and adjoining the Delta primary zone in excess of the acreage of conservation easements that would have been required to compensate for that project's permanent destruction of farmland. This indicates that acquiring a similar acreage during this project's construction period should also be feasible. It is understandable that Delta farmers directly affected by this project may be reluctant to cooperate with DWR, but a creative partnership with

³ Final Project Environmental Impact Report/ Environmental Impact Statement (EIR/EIS) for the Fresno to Bakersfield Section of the California High-Speed Rail (HSR) Project

the California Department of Conservation may make a program of purchasing conservation easements more feasible.

Finally, business losses by Delta farmers and agricultural businesses should be eligible for compensation through a business interruption fund, as described under the land use section above. A contribution to the Delta Investment Fund could help compensate for other economic losses to the Delta's agricultural economy.

Levees and Drainage

Protect levees and drainage facilities. The current Delta is a creation of its network of levees and drainage works. Any threat to them risks lives, property, agriculture, legacy communities, recreational destinations, important wildlife habitats, and the region's unique culture. The facilities already face threats to their stability and durability. This project should not add to those perils, but rather should reduce them where feasible. Such an outcome would further the project's objective of anticipating rising sea levels and reducing the risk of levee breaches that may degrade the water quality and threaten water supplies.

Assess and mitigate impacts to levees and drainage facilities using up-to-date information. Impacts to levees and drains cannot be assessed without up-to-date information about their locations and condition. This information should be gathered along the alternative project corridors now, including affected reclamation districts' five-year plans, background information from the Delta Plan's levee investment strategy, and conversations with levee engineers from affected districts. Pursuant to Water Code section 85089, DWR or the DCA should reimburse reclamation districts for any costs they incur assisting DWR in gathering this information. The Central Valley Flood Protection Board's (CVFPB) permit fee schedule may offer insights into appropriate rates of reimbursement for this consultation.

The EIR should assess impacts to levees for the full range of activities from project construction and operation. Construction activities that should be considered include levee encroachments, dewatering, grading, tunneling, tunnel material handling and storage, construction-related traffic on levee-top roads, project-related habitat restoration, and other activities. Operational impacts to consider include filling and draining project forebays, changes in Delta flows, especially those that could affect siphons, seepage, or drainage at affected reclamation districts, construction-related structures such as pilings and in-channel coffer dams, and the effect of project fills and embankments on flood flows in the event of a breach of nearby levees.

Mitigate adverse effects to levees and drainage networks. Recommendations from Delta reclamation district engineers should be a primary source of mitigation measures

to reduce or compensate for project-related risks to Delta levees or drains. At a minimum, these measures should conform with Delta Plan MMRP 5-1 through 5-5, 11-3, 11-7, and 11-9. Other potential mitigation measures may be outlined in the CVFPB's encroachment regulations concerning levees, retaining walls, miscellaneous encroachments, and pipelines, conduits, and utility lines, as they may apply.

Move tunnel material suitable for levee improvements to willing reclamation districts. As noted under the agriculture section above, DWR's soil boring investigations should allow classification of the potential reuses of excavated material. If feasible, excavated tunnel material should be handled and stored in ways that segregate materials of different quality so they can more easily be reused. Material suitable for reuse to maintain or improve levees should be hauled to those Delta reclamation districts that want it. This would further the project's objective of anticipating rising sea levels and reducing the risk of levee breaches that may interrupt or degrade the quality of exported water, while diminishing damage to farmland and possibly modestly reducing the imbalance between the project's damage in the Delta and the benefits it provides there. Costs of hauling tunnel material to reuse sites should be borne by the project, rather than by those who may reuse it, as this mitigation measure is properly a cost of the project's contractors pursuant to Water Code section 85089.

Make Delta reclamation districts whole. DWR and the DCA should be held to the same standard that DWR and the CVFPB apply when encroachments affect their levees and drainage works. For example, DWR/DCA should pay local reclamation districts an inspection fee to cover inspection costs, including staff and/or consultant time and expenses, for any inspections before, during, post-construction, and regularly thereafter as deemed necessary by the reclamation district. DWR/DCA should agree that, in the event that levee or bank erosion injurious to a reclamation district's facilities occurs at or adjacent to the project, it will repair the eroded area and propose measures, to be approved by the reclamation district, to prevent further erosion. DWR/DCA should be responsible for the repair of any damages to levees, channel, banks, drains, siphons, or other reclamation district facilities due to construction, operation, or maintenance of the proposed project. DWR/DCA should agree to defend, indemnify, and hold harmless affected reclamation districts against all claims, liabilities, charges, losses, expenses, and costs (including their attorneys' fees) that may arise from the project. If any claim of liability is made against a reclamation district, DWR/DCA should defend and hold them harmless from any claim.

Recreation

Recreation in the Delta must be protected and improved. The Delta is a "dreamland for boaters, birders, and outdoor enthusiasts", according to the Visit California, the State's tourism promotion organization. Its waterways, historic villages, nature areas, wineries,

and food draw millions of visitors annually, and support a recreation and tourism economy that provides 3,000 jobs and \$275 million in economic activity in the Delta counties – second only to agriculture as the key economic sector in the Delta’s primary zone. Its diversity of recreation is available at a wide range of price points, serving local anglers who slip down a levee trail to fish on the way home from work, boaters with dockside homes, or international travelers.

As an element of the SWP, the project has a responsibility to protect and improve these recreation assets, both in areas along the project’s right-of-way suitable for multiple use and in habitat areas that may be restored to mitigate this project’s adverse effects. State law authorizing the SWP, in its Davis-Dolwig Act, provides that recreation is to be among the purposes of state water projects and that facilities for recreation should be ready and available for public use when each state water project having a potential for such use is completed. Public facilities for outdoor recreation activities including picnicking, fishing, water sports, boating, and sightseeing, and the associated facilities such as picnic areas, parking areas, viewpoints, boat launching ramps, water and sanitary facilities, and any others necessary to make project areas available for use by the public are to be an element of any plan for SWP facilities. Plans for recreation are to be developed during DWR’s project formulation activities through full and close consultation with local agencies, DFW, and the Department of Parks and Recreation (Water Code sections 1190-1191). When new recreation facilities would mitigate this conveyance project’s adverse effects on the environment, their cost is the responsibility of the SWP’s contractors (Water Code section 85089).

Previous conveyance proposals and associated environmental review neglected to address this responsibility. This project and its EIR should not. It is one way the project could provide some few benefits within the Delta that can begin to balance, if only partly, the harm it will do in the region.

Assess and mitigate recreation impacts using up-to-date information. The project as proposed, including its construction-related traffic, barge installations, noise, and cultural and aesthetic impacts would significantly damage key Delta visitor attractions. The magnitude of this damage cannot be estimated, nor adequate mitigation proposed in the absence of up-to-date and accurate information about recreation use in those areas. The Commission has information as we update our ESP, especially about recreation facilities and Delta-wide recreation use, that can be made available. But new surveys are needed to gather up-to-date data on recreation in areas affected by the project, just as wildlife or fish would be surveyed in a critical habitat to be damaged by the project. These areas include:

- Legacy communities. In Hood, Clarksburg, Courtland, Locke and Walnut Grove, information about visitor use for food, wine, boating, and heritage tourism should be

gathered through surveys of visitors to restaurants, wineries, museums, and historic districts.

- Recreational boating and fishing. As proposed, the project would adversely affect very popular boating and angling areas, including the Lost Slough-Snodgrass Slough-Delta Meadows anchorages and marina complexes at Walnut Grove and New Hope Landing, the Mokelumne River south toward the confluence with the San Joaquin River, including the anchorages at Sycamore Slough and the nearby Tower Park Marina, and in the south Delta, Bullfrog Marina and anchorages at Mildred Island and Horseshoe Bend. These areas are critical to recreational boating and angling, just as other areas are for fish and wildlife, and deserve an equivalent level of attention as the EIR is developed.

Delta-wide information on recreational boating has recently been gathered by DBW, but its report does not detail areas of special use by Delta boaters. The *Sacramento River Boating Guide* by Bill Corp, *Franko's Map of the California Delta*, Visit the Delta's *Heart of California* map, and Hal Schell's book, *Dawdling on the Delta* have useful information on popular local boating and fishing areas that are along the project route. We recommend that DWR augment these reports by gathering current information in two ways. First, we suggest that aerial photographic surveys of boater use be undertaken on both weekdays and weekends during each Delta boating and fishing season so that photointerpretation can be used to identify locations and quantity of these activities. Such approaches are common on other waterways and in waterfowl surveys. Second, we encourage you to meet directly with marina operators in and near the project area to obtain their information about levels of boating use and popular areas and activities among their customers. The SEC process has recently included comments from participants about areas rarely mentioned by outsiders but beloved by locals, such as the "bedrooms."

- Driving for pleasure. This is another popular recreation for Delta visitors that would be harmed by project-related disturbance and traffic congestion. The Commission's ESP identifies "right-of-way" activities as among the most popular in the Delta. Survey research could be used to quantify the level of this use as well as popular routes.
- Wildlife viewing. USFWS and The Nature Conservancy should be contacted for estimates of visitation at Stone Lakes NWR and Staten Island.

As with other topics we have discussed, we raise these issues at this early scoping stage because there is enough time to gather this information now as the EIR is drafted. To do otherwise would not be using the best available science to assess impacts on activities that are so important to the Delta's economy and culture.

Avoid or mitigate recreation impacts now. Avoiding or reducing noise, construction-related disturbance and traffic congestion, barge traffic that hinders recreational boating, and aesthetic disturbances around important recreation destinations and recreational travel routes is essential. Because recreation is such a vital element of the Delta's resources, measures to avoid or mitigate adverse effects should be described now, while the project is being formulated, as the Davis-Dolwig Act requires, rather than being deferred until after the project has been approved, as was proposed by the BDCP/WaterFix EIR. Recreational operators affected by the project, whether public agencies or private visitor-serving facilities, as well as organizations representing boaters, bicyclists, and other visitors, should be involved early in devising these measures. At a minimum, these measures should comply with the Delta Plan MMRP 18-1 through 18-3. Visitor-serving businesses adversely affected by the project should be eligible for assistance through a business interruption fund, as described under the land use section.

Special note should be taken of the Delta Plan MMRP's provision that where impacts to existing recreation facilities are unavoidable, lead agencies must compensate for impacts through *mitigation, restoration, or preservation off-site or creation of additional permanent new replacement facilities* (emphasis added). Such mitigation should be capable of fully offsetting the project's damage to recreational uses and areas, as would be expected of habitat restoration to offset lost wetlands, separate from and in addition to upgrades or repair of existing recreation areas, rather than unspecific assistance to unidentified future projects, as was proposed in the BDCP/WaterFix EIR.

The process of consultation recommended above should be employed to identify potential mitigation measures, but we suggest three potential actions as examples that could be considered to compensate for otherwise unavoidable damage:

(1) Develop a boating trail and boat-in recreation facilities, including angling, waterfowl hunting, and boat-in day and overnight facilities, at the Cache Slough-Lookout Slough-Liberty Island-Prospect Island habitat restoration complex, to be managed out of local marinas or resorts or new facilities to be developed in Rio Vista, to compensate for lost recreational boating routes and anchorages on the Mokelumne River and its tributaries.

(2) Cooperate with the East Bay Regional Park District to improve its property on Palm Tract adjoining Orwood Resort, linked to a boating trail extending north to Rock Slough, down Old River and its connecting sloughs to the Dutch Slough park and marsh restoration site, Big Break, and Antioch's marinas, to offset damage to south Delta recreation uses;

(3) Develop walking tours of Locke and Walnut Grove, including pedestrian improvements to link the communities across the old Sacramento Southern right-of-way

at the Delta Cross Channel, interpretive materials, fishing access at the Cross Channel, connected to a bicycle path along the old Sacramento Southern right-of-way extending north to Hood or beyond, to compensate for damage to recreation at Sacramento River legacy communities.

None of these measures may ultimately be sufficient, desirable or feasible. They are offered only to illustrate the scale of compensatory mitigation that may be needed to offset the project's adverse effects on Delta recreation.

Cultural Resources

The Delta is culturally significant. In designating the Delta as a national heritage area, Congress concluded that the area's historic, cultural, and natural resources combine to form a cohesive, nationally important landscape. In testimony endorsing the national heritage area's designation, the National Park Service's associate director for cultural resources called the Delta "a hidden gem located at a key geographic and historic crossroads of our country. It is a land of ethnic diversity, innovation, industry, enduring history, and both fragile and robust physical features". Our own exploration of the Delta's cultural significance emphasizes it as an exemplar of the American experience in nature and its multicultural immigrants' pursuit of the American dream, free from the restrictions of more traditional societies, where the good life is possible. These cultural values must be respected.

The Delta comprises a significant cultural landscape. The Delta cannot be reduced to a list of historic buildings and archaeological sites. As defined by the National Park Service, a cultural landscape is a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person, or that exhibits other cultural or aesthetic values. The Delta is a landscape that has evolved through use by the people whose activities or occupancy shaped that landscape, which the Park Service calls a "historic vernacular landscape". Examples provided by the National Park Service fit the Delta areas affected by the project: rural villages; agricultural landscapes such as farms and ranches, including landscapes with a total absence of buildings, and landscapes encompassing linear resources including transportation systems, such as the Sacramento River or the River Road. A district of historic farms along a river may be an example of a significant cultural landscape, the Park Service notes, but the presence of buildings is not required. Scenic highways such as Highway 160 are another example of a culturally significant landscape.

The Delta, including lands bordering the Sacramento River from Freeport through Sherman Island, adjoining legacy communities, neighboring islands and distributaries of the river, Highway 160, and the rural islands of the south Delta are all integral elements of this important cultural landscape. Its levees and drainage works are reminders of the

region's post-Gold Rush reclamation and the efforts of California Debris Commission, an early landmark in national flood control. Its vineyards and orchards today occupy much the same lands as they did 75 years ago. Many of its multi-generational farms are operated from century-old farmsteads. The packing sheds and remnant wharves lining the river developed to transport these farms' products to market. The legacy communities, from Freeport to Isleton, several of which are listed historic districts or contain listed historic buildings, grew to serve the region's commerce and became home to Asian and European immigrants who worked in Delta farms and agricultural businesses. Asian New Year celebrations, Portuguese *festas*, Juneteenth commemorations, and other ethnic festivals, as well as Courtland's Pear Fair and other celebrations of agriculture, demonstrate these cultures' continuing vitality. Railroads and later Highway 160 and other roads, with their assortment of historic swing and lift bridges, extended into the region with the advance of trains, cars and trucks, bringing anglers, boaters, and other recreationists.

The resulting Delta landscape, observed landscape architect Frederick Law Olmsted Jr. in his 1928 report to California's State Park Commission, "commanded delightful views of the river and its margins and of miles of beautiful orchards and farming lands outside of and below the levees....Along the course of this great system of waterways, levees, and roads there are numerous delightful spots...and the route as a whole is in effect, even at present, a river parkway on a vast scale, of great landscape beauty, and enjoyed by thousands of people". This is still an apt description nearly a century later. In recognition of these charms, Highway 160 and Sacramento County's River Road are designated as a State Scenic Highway. Local routes and corridor have been similarly recognized by Sacramento, San Joaquin, and Contra Costa counties.

Given these historic landscape resources, whose importance has been recognized by Congress, U.S. Department of Interior, National Park Service, State of California and local governments, the EIR should protect the Delta as the culturally significant landscape that it is, rather than limiting its impact assessment to only archaeological sites and individual historic structures and districts. Measures to avoid or reduce damage to these resources should be consistent with the Secretary of the Interior's Guidelines for Preserving Cultural Landscapes.

Strengthen protection of historic and archaeological sites. In addition to protecting cultural landscape resources consistent with the Secretary of the Interior's Guidelines, measures to avoid or reduce damage to historic building and archaeological sites should be strengthened from those proposed in the BDCP/WaterFix EIR. Representatives of California native Indian tribes should be consulted regarding protection of archaeological sites as should local Delta historical societies, museums, Locke Foundation, historians, and community groups when historic resources are affected. Dr. Robert Benedetti's testimony in Sacramento County's appeal of the CA

WaterFix Delta Plan consistency certification should also be reviewed to identify historic resources at risk from tunnel constriction. All measures included in the Delta Plan MMRP 10-1 through 10-4 should be used, as applicable.

If historic buildings must be acquired, they should be adequately protected, including stabilizing walls and windows, controlling mold and other damage throughout the construction period, and then rehabilitated consistent with the Secretary of the Interior's Standards for Rehabilitation for reuse upon the project's completion. A useful measure from the mitigation plan for San Francisco's central subway is monitoring vibration of historic structures adjacent to tunnels to ensure that historic properties do not sustain damage during construction. Contract documents should specify maximum peak vibration levels. If at any time the construction activity exceeds this level, that activity must immediately be halted until an alternative construction method can be identified that results in lower vibration levels.

Inadvertent damage to historic properties or historical resources must be repaired, consistent with a written general protocol for inadvertent damage to historic architectural resources and a listing of specific properties that should be the subject of an individual plan because of their immediate proximity to the project, as provided in the High Speed Rail Authority's mitigation plan. Inadvertent damage from the project to any of the historic properties or historical resources near construction activities should be repaired in accordance with the Secretary of the Interior's Standards for Rehabilitation. Another useful measure from the High Speed Rail Authority's EIR is providing interpretive information regarding specific historic properties or historical resources affected by the project, including brochures, videos, websites, study guides, teaching guides, articles or reports for general publication, commemorative plaques, or exhibits.

Aesthetics

The Delta's landscape is integral to its qualities as a place. The Delta is characterized by many diverse and often contradictory visual attributes: it is a vast flat sweep of land and water, yet with its willow and cottonwood-lined levees, farm buildings and historic communities, water towers and, on its horizons, wind turbines and Mount Diablo, it is not a featureless landscape. The aesthetic appeal of the Delta is as varied as the character of the farmed landscape, the waterways and marinas, the towns and communities surrounding favorite recreation areas.

County general plans identify especially prized scenic routes and corridors near the project's proposed footprint:

- Sacramento County: Highway 160, a State scenic highway; River Road, also a State scenic highway; Isleton Road; the Sacramento River, and other Delta roads atop levees bordering Delta sloughs.

- San Joaquin County: Interstate 5 north of Stockton; Eight Mile Road on Kings Island and Bishop Tract; West Lower Jones Road and Zuckerman Road surrounding McDonald Island; Bacon Island Road along Middle River; and Highway 4 west of Bacon Island Road.
- Contra Costa County: Highway 4 west of Old River; and the Byron Road.

In recent surveys of residents and visitors, a common theme volunteered was that coming to the region is like stepping back in time, and how extraordinary that such a place could exist within an hour or two of the Bay and Sacramento metropolitan areas. One of the last lowland areas of the state to be tamed and settled, the Delta continues to be relatively hidden and remote. Few roads traverse it, most of its bridges are historic structures, and a few crossings are still accomplished by ferry. A great quiet and a slow pace rule. These qualities provide a baseline that should be preserved by minimizing the project's alteration of Delta landforms.

The Delta's landscape ranks high among the qualities that make the Delta "home" to residents and frequent visitors. It is often observed that people come to the Delta to get away from city life. They can do so with relative ease because the Delta Protection Act and county general plans have ensured that urban-type development stays for the most part at the outer edges in the secondary zone. These aesthetic qualities should be protected as carefully as key attributes of wildlife and fish habitats. The visual resources of the Delta are literally the outward manifestation of the existing land uses. Thus, all adverse project impacts affecting land use will play out visually and with a compounding, profound effect.

The Project's Decade and a Half of Landscape Alteration Brings Radical, Not Evolving Change. The principal elements of the conveyance project are mainly constructed in the primary zone, which otherwise receives the highest level of protection from changes that would radically alter its landscape, as described in the Land Use section. These principal elements include the two Sacramento River intakes, three or more tunnel boring machine (TBM) launch shafts along the tunnel's route, and roughly ten reception and maintenance shafts at various locations along the 40-mile alignment. Below are described some of the concerns related to each of the principal elements.

- Project intakes. The project intakes, regardless of configuration (Intakes 2 and 3 or 3 and 5), would permanently damage scenic resources viewed by boaters on the Sacramento River or motorists on Highway 160 and the River Road, designated State scenic highways, that pass through the communities of Clarksburg, Hood and Courtland. The visual impacts of the facilities including the intakes themselves, new haul roads, road widening and bridge modifications of Hood-Franklin Road, and interchange improvements (in the Intake 2 and 3 configuration, potentially an entirely new interchange at Lambert Road and I-5) would be significant and unavoidable.

- Launch Shaft Sites. At the launch sites, construction support complexes would be necessary with high-voltage power supply to operate the TBMs, sufficient area to dewater and stockpile tunnel material until it is moved offsite, and where concrete batch plants would be co-located. The launch sites are also where the 40-foot diameter concrete tunnel liner sections would be delivered by truck, train or barge, necessarily surrounding the sites with a web of transportation corridors.

Launch shaft sites would have a massive visual impact on the landscape. The visual blight would extend through the Stone Lakes NWR where widening Hood-Franklin Road is likely. Potential avoidance strategies to reduce traffic or other impacts to existing roads, such as constructing haul roads, would increase visual impacts. Mitigation measures, such as landscape and vegetation barriers, visitor centers or kiosks, interpretive signs, and viewpoints, could provide some relief but would not prevent the permanent alteration of this landscape by the project.

Barge landings and related dredging would degrade scenic waterways, such as Snodgrass Slough, the Meadows, and Sycamore Slough.

Some siting approaches that appear to be under consideration by the DCA such as the northerly launch shaft site at “Glanville” Tract (located in Granville Tract) push the impacts of the 290-acre “consolidation” facilities east towards and in that case beyond I-5, outside the boundary of the legal Delta. This would reduce local visual impact somewhat but construction of new haul roads and widening of Diersson Road would be required, as well as a conveyor system to carry tunnel material from the launch shaft across fields to the consolidation facilities between Diersson Road and Twin Cities Road.

For the Eastern Corridor alignment, a Lower Roberts Island launch shaft concept presented at the SEC meetings shows the massive launch shaft complex straddling Black Slough near Holt. This site includes a potential barge landing immediately upstream of Windmill Cove and new haul and access roads and a rail spur on the San Joaquin River banks opposite Buckley Cove Park, near the River Point Landing Marina, Buckley Cove boat launch and home to the Stockton Sailing Club and Delta Sculling Center. Boaters accessing the San Joaquin River from these locations and from Whiskey Slough marinas such as Tiki Lagoon and kayakers to destinations such as Mandeville Tip would all experience a highly altered and industrialized landscape that would be inconsistent with San Joaquin County-designated scenic corridors and roadways.

The Byron launch shaft site at Clifton Court Forebay pumping station would result in even greater impact on views from scenic Byron Road due to the landform alteration involved in constructing the proposed 750-acre surface area Southern Forebay. The walls of the proposed forebay would be constructed from some 5 million cubic yards of tunnel material. What cannot be used in immediate onsite construction at or near each of the launch sites would be stockpiled for eventual removal. The area required

for storage depends on several factors including the TBM speed, production of tunnel material, and height that the stockpile could be – or on how quickly it could be transported to other re-use locations such as in levee upgrades or subsidence remediation. Examples provided by the DCA in SEC presentations based on 10-foot high stockpiles would require 240 acres just for the stockpile at each launch shaft site. Clearly the visual impact and its effect on surrounding communities like Discovery Bay, Byron, Mountain House and Tracy will be massive and lasting.

- Reception and Maintenance Shafts. Based on presentations at the SEC meetings, the Sacramento River intakes would also be the site of reception shafts for the tunnel boring machines (TBMs), with maintenance shafts constructed at a range of intervals from two to five miles between the Launch Shaft and the reception shafts, depending on the final design. With construction and operation of the reception and maintenance shafts for either the central or eastern alignment, the visual impacts would mar the Delta legacy communities of Locke, Walnut Grove and potentially Thornton.

While reception shafts could and should be removed and their sites restored after construction is complete, as reported at SEC meetings some maintenance shafts could remain. To meet projected sea level rise impacts, these shafts would be constructed with concrete walls 30 to 50 feet high, likely rising higher than existing levees. The shafts would have lasting impacts on the landscape, and without careful planning and design could end up looking like oversized gopher mounds. Maintenance shafts for the Central Corridor alignment driving to or from a Bouldin Island Launch shaft would potentially impact views enjoyed by recreational boaters and by visitors to Tower Park Marina. Tranquil Staten Island fields that provide opportunities for viewing sandhill cranes may also be affected.

- Transportation. Finally, transportation logistics is a key consideration in the siting of the launch shafts. According to materials presented at the SEC meetings, for a 6,000 cubic feet per second (cfs) tunnel, deliveries of tunnel liner segments by truck could require 25 trips per day every 25 minutes for ten hours per day over 25 days. By rail car that could be reduced to 20 rail cars or 2000 ton barge, every 3 to 5 days. Throughout the construction period, the commotion of this level of trucking or railroad traffic would degrade the tranquil, scenic attributes of affected Delta landscapes.

Recommended Visual Impact Analysis Approach: Lessons Learned. The BDCP/ WaterFix EIR utilized an approach to visual analysis that combined the three most-accepted visual assessment methodologies used by Federal agencies including the Federal Highway Administration, Bureau of Land Management, and USDA Forest Service that have overlapping assessment principles. A qualitative analysis combined with a quantitative analysis of simulations was used together with narrative descriptions of how the visual environment would be altered. However, simulations could have been more meaningfully used to convey the effects of change on the landscape.

To complement the EIR's narrative, impacts should also be portrayed through simulations of scenic conditions both during and after construction from a variety of Delta resident and visitor perspectives. Views from recreational waterways, including portions of the Sacramento, Mokelumne, San Joaquin, Middle, and Old Rivers affected by construction and from Whiskey Slough should be portrayed. This analysis should also portray drivers' views from affected portions of Highway 160, River Road, and locally designated scenic routes and corridors.

DWR should work closely with the affected Delta communities to map and characterize the baseline visual landscape, drawing on existing community planning priorities and elements of the natural, historical and cultural experience to establish threshold visual quality objectives for the communities and for the natural and farmed landscapes. Such objectives should then be used to develop measures to minimize outright visual damage as well as the potential for incremental physical deterioration over the course of the construction timeframe. For example, during EIR development and continuing through the design phase, DWR or the DCA should work with the communities on the design of project features that will remain on the landscape, such as the potentially 30 – 50-foot high tunnel shafts. Like the CA High Speed Rail project, DWR and/or DCA could work with communities to develop aesthetic guidelines for project elements, both temporary and permanent, that provide contextual design responses to site-specific or unique conditions, or "context-sensitive solutions". Context sensitive solutions mean structural aesthetics must respond to local settings with concern for the human scale, building scale, and the vantage points from which the structures will be viewed.

Design principles should include the requirement that the structures enhance local environments and community context to the maximum extent feasible. Especially along Highway 160, the River Road, and local scenic routes and corridors, landscaping could be used to visually integrate project structures into the local context with plantings that recreate the natural or agricultural setting into which they are placed. The aesthetic design of project structures, in combination with landscape and urban design that serve the local community can create a positive contribution to the surrounding visual context and minimize the potential for physical deterioration. If tunnel material is suitable for reuse on areas that will be returned to farming, then the EIR should assess the feasibility of using it to gradually contour slopes surrounding the maintenance shafts, especially when highly visible from heavily travelled roads or locally designated scenic routes and corridors, to minimize abrupt discontinuities in the landform. Using tall crops, such as orchards, to shield maintenance shafts from view should also be considered where soils are suitable. High voltage power lines, batch plants, and other intrusions should be removed when construction is complete. Local government general plan policies that protect scenic routes and corridors also include provisions that suggest potential mitigation measures: maintaining agricultural land in farming use, sign controls, limiting roadway improvements to protect scenic corridors, placing riprap on levees no higher than the average annual high water, and maintaining natural roadside vegetation.

Where unavoidable visual impacts remain, the Delta Plan MMRP requires “compensatory mitigation for visual or aesthetic resources by providing improvements to areas of existing diminished scenic quality”. A potential example that should be examined with local communities could be a façade program to upgrade deteriorating storefronts or buildings in legacy communities or other visitor destinations affected by the project.

Transportation / Traffic

Transportation routes are lifelines. The key modes of transportation that move people and goods in the Delta are roads, water, and rail. Interstates 5, 80, and 580 provide major transportation and trucking routes skirting the Delta. The three major state highways in the Delta (State Routes 4, 12, and 160) are typically two lanes, sometimes built on top of levees. Originally meant for lower traffic volumes at moderate speeds, the state highways are now heavily used for regional trucking, recreational access, and commuting. More than 50 bridges, including approximately 30 drawbridges, span the navigable channels of the Delta. Regional rail traffic between the Bay Area and the Central Valley passes through the Delta, as do commuter rail services such as the Amtrak San Joaquin.

Two major ports lie in the Delta, the Ports of West Sacramento and Stockton, accessed by the Sacramento River and Stockton Deep Water Ship channels, respectively. The Sacramento channel is 30 feet in depth, and thus is a non-container port. The Stockton channel has a depth of 35 feet and can handle up to 55,000-ton ships fully loaded or up to 80,000 ton ships partially loaded. Several million tons of diversified products are shipped through the Delta each year. Primary cargoes in the Port of West Sacramento are rice exports and cement imports. The port can also handle heavy machinery such as wind turbines, steel generators and transformers. The Port of Stockton handles raw and finished goods and has 7 million square feet of warehousing and facilities for handling liquid bulk and dry bulk commodities. According to the U.S. Army Corps of Engineers Waterborne Commerce Statistics Center (WCSC), a total of 898,044 tons of import/export cargo transited the Sacramento Deep Water Ship Channel in 2018. For the same period the Port of Stockton handled a total of 5.2 million tons of import/export cargo and reported a total of 252 ship calls. Both ports hope to expand in the future, which would result in an increase in ship and barge traffic through the Delta.

These transportation assets are essential to the region’s economic pillars – agriculture and recreation – to the quality of life of Delta residents, and the enjoyment of Delta visitors.

Involve Stakeholders. The Delta is not only a water hub for the state but also a vast multi-dimensional transportation web of freeways, state highways, county and local levee roads, waterways, ports, railways, and the private and public logistics systems

that manage them. This web is so important to the larger regional economy that a multitude of stakeholders have a grip on one or more of the supporting threads – county, state and federal agencies, local reclamation districts on whose levees some roads travel, and constituents in many industries all have an interest in Delta transportation and depend on this system to support the function of business, commerce and daily life.

To name but a few of these stakeholders, three different Caltrans districts maintain and plan for the Delta's transportation future, in cooperation with three different Councils of Governments (COGs) who represent Delta counties and municipalities in developing Regional Transportation Plans (RTPs) to recommend funding and prioritization of transportation projects and more recently sustainable communities planning. Some counties have transportation planning authorities in addition. The California Highway Patrol (CHP) also has three different districts responsible for highway safety in the Delta. The Delta Officers Intelligence Team (DOIT) convened by the U.S. Coast Guard Station – Rio Vista meets monthly with federal, state and local marine law enforcement, search and rescue agencies such as fire protection districts, and other interested agencies such as State Lands Commission and DBW to coordinate information relative to Delta marine safety and operations. Citizen organizations such as the Highway 12 Association attempt to coordinate with some of these authorities and publicize their activities and projects – especially when it comes to roadway maintenance and improvements.

Account for Pre-Existing Conditions. Traffic congestion and safety is widely acknowledged by all these players to be an ongoing issue in the Delta. Existing congestion on Highways 4, 12, and 160 already impairs travel within the Delta and beyond to the metropolitan areas of the East Bay, Stockton-Tracy, and Sacramento. Accidents are frequent, often fatal, and lead to related hazards such as fires or vehicles in the water. Some safety improvements have been implemented such as installation of "K-rail" in the median of State Route 12, but many more safety projects are a challenge due to the high traffic volumes affected, lack of right-of-way for traffic management, and other unique Delta conditions such as peat soil. Seasonally, safe movement of slow or over-size farm equipment from one location to another is risky. Aging bridges are frequently fully or partially closed for repair and maintenance and ferries may be taken offline, causing significant re-routing or delays of travel.

Rely On the Experts. Successfully avoiding or mitigating transportation impacts to an already over-taxed transportation environment will be difficult. Some transportation and circulation impacts will likely be significant and unavoidable. Addressing transportation impacts will require a construction transportation management system with flexibility and creativity. We urge DWR and/or the DCA to acknowledge the severity of the baseline condition and marshal the knowledge and resources of the local and state

agencies that are the most familiar with Delta transportation challenges. Most if not all of these have spent considerable time developing plans and programs to improve conditions for their citizens but may lack the resources to carry them out.

Start With Best Available Data and Science. We again encourage gathering the best available data and science at this early stage to support the analysis in the draft EIR. The land suitability analysis presented at the SEC meetings appears to be assembling some of the data needed to adequately analyze the project impacts. Identifying roads, rails, and barge-worthy waterways is a start. But the EIR must evaluate more than just the factors considered in design and construction planning.

The Commission is encouraged that DWR and the DCA have initiated new traffic counts in the past several months. To avoid repeating the mistakes of the BDCP/WaterFix EIR, additional information will be needed about (1) the operational status of ferries and movable bridges affected by project traffic (percentage of time when operations are limited by repairs or maintenance), (2) bridge clearance above water levels and existing channel depths and configurations at proposed barge routes under a range of water conditions (to assess their suitability for barge traffic and impact of barge travel on bridge operations and related highway congestion), and (3) recreational boat traffic on proposed barge routes to aid in assessing impacts to marine safety. Data from traffic studies currently being completed should be shared with local transportation agencies or on the state's Data Portal.

It will also be essential for the EIR analysis to start with a through database of Delta-wide transportation and circulation policies, plans and programs at all levels. We highlight here a few of the important data sources, obvious perhaps, but nevertheless noteworthy in the consistency of cross-jurisdictional priorities.

The county general plans identify what they can live with, and a survey of all of them quickly shows the high priority for the Delta that each of them sets on:

- Linking communities externally to regional, state, international and virtual destinations through safe and efficient transportation networks and high-speed communications infrastructure.
- Connecting communities internally through an efficient and safe system of roadways, bridges, transit, bikeways, and pedestrian trails and sidewalks. Facilitating the movement of goods by preserving and improving transportation corridors including road and rail.
- Community residents and farm equipment move together safely on well managed and maintained roads.
- Including specific transportation and circulation policies to preserve roadway levels of service (LOS) and ensure existing and future operations of important economic hubs. An example of this: Yolo County's policies protecting the Port of Sacramento

and its integration with designated truck routes such as State Route (SR) 84 in the transportation of agricultural products to and from the Clarksburg and Delta regions. Clarksburg Road from SR 84 to South River Road is a targeted trucking corridor for improvements to support agricultural transport.

- Ensuring gateway entry points for visitors to the Delta region seeking agri-tourism, eco-tourism, cultural and recreational experience opportunities.
- Encouraging multi-modal access to alternate transportation to alleviate roadway congestion and enhance the visitor experience.
- Including pedestrian walkways and bikeways on bridges or overpasses that are new or modified.
- Preserving agriculture and the agricultural economy.
- Envisioning strong and vibrant Delta communities whose economies are diverse and serve as a source of food and agricultural commodities; a destination for tourists; and a supply of high-tech and manufactured products.

Additional sources should include the current RTPs and other program documents of Sacramento Area COG (SACOG), San Joaquin COG (SJCOG), and Association of Bay Area Governments (ABAG), which represent the Delta counties and municipalities. Thresholds for traffic impacts should be developed using not only the most up-to-date methodology from the most recent edition of the Highway Capacity Manual but in close consultation with all three Caltrans districts with responsibility for Delta roads, bridges and ferries – Districts 3, 4 and 10. With the traffic count data that DWR is collecting, operational analysis should be completed to help evaluate alternative designs. Recent climate vulnerability assessments completed by the three Caltrans districts should also provide source material.

Account for the Project's Cumulative and Interrelated Impacts. As implied by the foregoing baseline description, either of the project alignments shown in the NOP would exacerbate a multitude of existing transportation challenges. SR 160, 12, and 4 and many county roads would be adversely impacted by increases in any type of traffic. For example, Hood-Franklin Road from Interstate 5 to SR 160 and Lambert Road from Herzog Road to Franklin Blvd are already operating at "Deficient" levels. Increased traffic on the roadways potentially to be used during construction of intakes or construction and operation of the potential Granville Tract launch shaft site, including Hood-Franklin Road, Lambert Road, Twin Cities Road and River Road, would adversely impact public safety in transit to Locke, Walnut Grove, and the Stone Lakes NWR.

At least two dozen bridges on the Sacramento, Mokelumne, and Middle rivers, and multiple sloughs would be affected by increased barge, rail and truck transit. New rail spurs or access and haul roads could also interfere with access to farmland. An adequate assessment of the project's impacts on transportation should integrate information on all these interrelated factors affecting congestion and traffic flows.

As suggested in the Land Use section, the EIR should tabulate the acreage and map areas where congestion to LOS D or worse impairs access to properties, including residences, commercial properties, schools and other important community resources.

Engage Others to Mitigate Complex Impacts More Effectively. We recommend a comprehensive approach to transportation impact mitigation, with targeted local avoidance and mitigation wherever feasible. Mitigating transportation impacts will likely be complex, requiring extensive coordination with other entities, each of which has their own pre-existing obligations and responsibilities. These entities range from the school district transportation coordinator to Caltrans, from the CHP and other emergency responders to the residential trash pick-up contractors, from county public works departments to bridge operators.

To streamline coordination, DWR and the DCA should consult with SACOG, SJCOG, and ABAG, with the three Caltrans Delta districts (3,4 and 10) and with Caltrans headquarters. Collectively the COGs and Caltrans comprise the transportation managers of the “mega-region” and have the experience to provide practical input on avoidance and mitigation. Caltrans and some of the county agencies may also have encroachment or other permit authority for certain aspects of the project, so their early input would be particularly valuable. DWR should anticipate reimbursing COGs and local government public works agencies for their time spent on this coordination.

We suggest comprehensive programmatic mitigation as well as more specific localized mitigation.

- Work with county public works or transportation agencies, SACOG, SJCOG and ABAG, and Caltrans to:
 - a. Prepare traffic mitigation plans with detour maps for road closures or where construction-related traffic is likely to congest key roads. Maps should be developed and available for public comment in the draft EIR, similar to those in the San Francisco Municipal Transportation Agency (SFMTA)’s EIR for its Central Subway project through Chinatown⁴.
 - b. For priority project transportation routes, consider upgrading unreliable transportation features, such as bridges and ferries, affected by project-related traffic prior to project initiation.
 - c. Where water diversion structures are under construction, designate, sign, and improve as necessary an alternate route for recreational traffic that avoids Highway 160 sections by using parallel sections of River Road on the river’s west bank.
 - d. As in the LA Metro Westside Subway Extension Project, establish staging areas and truck haul headways to avoid platoons of trucks upon local roads and

⁴ <https://www.sfmta.com/reports/central-subway-final-seisiseir>

- freeways. Establish a vehicle dispatching system at construction areas and offsite locations to monitor and address truck headway issues as they arise.
- e. Restricting nighttime truck haul operations/times for each route, as was done for the LA Metro Westside Subway Extension Project. Truck haul operations should be avoided during peak morning and evening hours, during noise restriction hours, special events, and public holidays.
 - f. Consider transit alternatives for construction workers, including park and ride lots in Elk Grove, Stockton, Tracy, Fairfield, or other locations and dedicated bus service to project construction sites.
- To communicate about detours, highway congestion, barge operations, and other project-related traffic conditions, utilize all appropriate methods of communication including but not limited to roadway signs, 511-type notices and alerts, websites, and hotlines.
 - Establish a transportation/construction coordination office for the life of the project, as in the LA Metro Westside Subway Extension Project, to oversee mitigation measures' implementation, coordinate deliveries and barge movements, monitor traffic conditions, advise motorists and those making deliveries about detours and congested areas, and monitor and enforce delivery times and routes. The office should coordinate its transportation actions with roadway projects of other agencies. It should also coordinate with police, sheriff, fire, and water safety personnel regarding emergency access and response times.
 - To provide a mechanism for adaptive management of transportation impacts and mitigation measures, the coordination office should analyze traffic conditions throughout the construction period to determine the need for additional traffic controls. It should also work with neighbors to address concerns regarding construction traffic, including a mechanism for the public to report anomalies, changes, un-planned work, etc.
 - When traffic impacts cause loss of business for local businesses, use the Local Business Interruption Fund proposed under the Land Use section. Such programs have been used for the LA Metro and other major public works projects.
 - To mitigate the project's transportation or greenhouse gas emissions (GHG), consider helping local transportation agencies to implement local programs or projects in the Delta that reduce congestion and locally-generated vehicle miles traveled.

Noise

Reduce project-related noise. The Delta is quiet. Its loudest sounds are often a dog barking at a nearby home or farm machinery in a neighboring vineyard or farm. For this

reason, noise can be one of the most disruptive impacts of the proposed project. In addition to its direct effects, it also contributes to changes in land use, disturbs recreation, and has other secondary impacts. Every approach to reducing it should be employed.

Thresholds of significance used to assess noise impacts should reflect the Delta's existing conditions and the land use in areas where noise effects would occur. One threshold would be noise that exceeds the background sound level by at least ten (10) dBA during daytime hours (seven a.m. to ten p.m.) and by at least five dBA during nighttime hours (ten p.m. to seven a.m.). Noise standards of applicable local government general plans and ordinances should provide another set of thresholds, as these reflect local land use, residents' expectations and other local conditions. Where local standards are unavailable, or where there are special uses, such as parks, nature areas, recreation sites, schools, libraries, churches, or other especially sensitive uses, these federal guidelines should be considered.

Noise Level (decibels)	Example
Ldn < 55 dB	Outdoor activity interference and annoyance
Leq (24) < 55 dB	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
Ldn < 45 dB	Outdoor areas where people spend limited amounts of time, such as schoolyards, playgrounds, etc. Indoor activity interference and annoyance
Leq(24) < 45 dB	Indoor residential areas. Other indoor areas with human activities such as schools, etc.
Leq(24) < 70 dB	Hearing loss All areas.

Source: U.S. EPA, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Section 4, Identified Levels of Environmental Noise In Defined Areas. March 1974. Leq(24) = the sound energy averaged over a 24-hour period. Ldn = the Leq with a 10 dB nighttime penalty

Because these thresholds are, in part, derived from current noise levels, it is important that the EIR be based on recent monitoring of noise conditions in affected areas, rather than textbook estimates as were used in the BDCP/WaterFix EIR. The schedule for the EIR's preparation should provide time for this monitoring, as would be provided for monitoring wildlife and fish if recent data were unavailable. To do otherwise would not reflect the best available science.

Noise impacts should be calculated for all construction activities, including construction-related traffic, and for project operations. These calculations should be based on the equipment proposed to be used in project construction, such as types of piles and pile

drivers. To help public understanding of noise impacts, areas where cumulative project-related noise would exceed any of these thresholds, as applicable, should be identified as adversely affected. Individual structures adversely affected by this noise, as well as lands affected, characterized by land use, should be identified and mapped, so that the number of homes and businesses, and the acres of land harmed can be reported. When especially sensitive uses, such as nature areas, recreation sites, schools, day care facilities, libraries, or churches would be adversely affected, they should be named. Information about construction staging should be used to indicate the duration of these noise effects.

Do not defer noise mitigation. Plans to mitigate noise impacts should be proposed now, not deferred until after the project is approved, as was proposed in the BDCP/WaterFix EIR. To avoid noise that exceeds significance thresholds, these plans should deploy a full menu of measures, such as those cataloged by the Federal Highway Administration (https://www.fhwa.dot.gov/ENVIRONMENT/noise/construction_noise/handbook/handbook07.cfm). They should describe equipment that will be used to reduce noise and vibration, such as pressed in pile installations, vibratory pile drivers, or University of Washington quiet piles. Residences, businesses, and schools that will be exposed to excessive noise should be eligible for funding from DWR/DCA to install sound insulation by replacing doors and windows, as well as adding insulation and ventilation systems where necessary, so that the interior noise level is reduced to 45 dB and achieves at least a 5 dB reduction from previous noise thresholds, as Los Angeles residents are offered under the LAX Master Plan.

Where noise cannot be reduced to acceptable levels, a voluntary acquisition program, plus relocation assistance should be offered to both owners and tenants in compliance with the Uniform Relocation Act.

At a minimum, these measures must comply with the Delta Plan's MMRP measures 15-1 through 15-3. Local agencies, community members, and affected residents and businesses should be involved in developing these measures. Because construction-related traffic strongly influences noise impacts, these measures should be coordinated with plans to manage construction-related traffic.

Environmental Justice

Promote environmental justice in the Delta. The Delta's multiracial population is often at as much risk as the fish who swim past their communities. Too many residents and workers have low incomes. To reach jobs and conduct other daily activities, many rely on Delta roads that will be impacted by project-related congestion. Others rely on water-dependent farms and tourism that the project will harm. Those who live or work in Hood, Clarksburg, Courtland, Locke, or Walnut Grove may have their lives disrupted by noise, traffic, and other disturbances for years by a project that benefits only others far away.

All suffer the stress of decades of State water and ecosystem planning efforts that threaten to harm Delta resources and upend its way of life.

The ESP reported that the age and household composition of the Delta's population is younger and with larger families than is California as a whole. Over a quarter are children younger than 18 years old. In contrast, the population of the primary zone is composed primarily of older people without children, living in smaller households. Most Delta residents describe themselves as white or Hispanic, with the next largest ethnic groups being Asian, other races, and African American or black. About one-third describe themselves as Hispanic. Areas with concentrations of lower income residents include Stockton, Walnut Grove, Locke, Courtland, Clarksburg, and Hood.

Government Code section 11135(a) provides that no person in California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by any state agency, is funded directly by the state, or receives any financial assistance from the state. This provision requires agencies to consider fairness in the distribution of environmental benefits and burdens, so that they (a) foster equal access to a clean environment and public health benefits; and (b) do not cause unmitigated concentration of polluting activities near low income, minority, or other at-risk communities, such as those in the Delta affected by this project. Provisions of CEQA and its guidelines, including CEQA Guidelines § 15064(e), require that lead agencies consider how the environmental and public health burdens of a project might specially affect these communities.

The BDCP/WaterFix EIR did not include a section addressing how the project considers environmental justice in the Delta. This EIR should, including updated analysis of demographics, income levels, and other protected characteristics of communities that the project impacts. Disruptions in community character, lost housing, noise, lost recreation opportunities, traffic that impedes travel to employment, damage to cultural resources, or other impacts that cause disproportional impacts on children, the aged, racial minorities, lower-income or other protected populations, should be highlighted,

Mitigate environmental justice impacts. Measures should be proposed to avoid, reduce, or compensate for disproportionate impacts. The best way to do so would be to adopt the Commission's recommended alternative for continued through-Delta conveyance rather than building an isolated tunnel. Another way is to carefully mitigate community disruption, noise, traffic congestion, and damage to agriculture, housing, recreation, and cultural resources, as described in our comments on those issues. Other feasible measures could provide some project-related benefits for Delta residents. Some could

be adapted from those adopted to protect southern Californians harmed by the LAX Master Plan.

1. Create and utilize existing resource centers to assist historically under-represented and at-risk Delta residents to find construction and other substantive jobs with the project during both its construction and operation. Also, create a community database of project-related job opportunities by coordinating data gathering, outreach, and counseling through the following:
 - Research and assess existing specialties and current capabilities of existing workforce to assist with targeted training and outreach efforts.
 - Develop and maintain a complete data base of minority contractors
 - Produce a data base of potential jobs and specialties needed to assist in targeted training and outreach efforts.
 - Produce a data base of potential jobs and specialties needed and disseminate the information through the communities affected and to minority business enterprises
 - Commit to hiring Delta-area residents to ensure that there will be benefit to the local population.
2. Include community participation, including a diverse group of residents, stakeholders, environmental scientists, and community leaders, in monitoring the implementation of the project's MMRP, including regular meetings, to ensure agency compliance and accountability.
3. Work with local school districts to provide educational and trade training for project-related careers, targeting students in affected communities to provide them with increased career opportunities in water management, engineering, and environmental sciences.
4. Work with local school districts to offer curricula about water, engineering, agriculture, environmental sciences, and Delta history and culture at elementary schools, middle schools, and colleges of affected communities.

Finally, other local, project-related benefits could be provided by contributing funds to the Delta Investment Fund (PRC section 29778.5) to invest in public facilities, expand and implement the Commission's Delta Community Action Plan project, or support agricultural, cultural, recreational, or tourism programs and projects.