

Introduction

The State CEQA Guidelines require that the cumulative impacts of a proposed project be addressed in an EIR. The cumulative impact analysis determines the combined effect of the Project and other closely related, reasonably foreseeable projects. This chapter introduces the methods used to evaluate cumulative effects, identifies cumulative impacts by resource, and recommends mitigation for significant cumulative effects.

Approach and Methods

The State CEQA Guidelines require that cumulative impacts be addressed in an EIR when the cumulative impacts are expected to be significant and when the project's incremental effect is cumulatively considerable (State CEQA Guidelines Section 15130[a]). Cumulative impacts are impacts on the environment that result from the incremental impacts of a proposed project when added to other past, present, and reasonably foreseeable future actions (State CEQA Guidelines Section 15355[b]). Such impacts can result from individually minor but collectively significant actions taking place over time.

State CEQA Guidelines Section 15130 states that the discussion of cumulative impacts need not provide as much detail as the discussion of effects attributable to the project alone. The level of detail should be guided by what is practical and reasonable. An adequate discussion of significant cumulative impacts should contain:

- an analysis of related future projects or planned development that would affect resources in the project area similar to those affected by the proposed project,
- a summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available, and
- a reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for

mitigating or avoiding the project's contribution to any significant cumulative effects.

To identify the related projects, the State CEQA Guidelines Section 15130(b) recommends either a "list" or "projection" approach. The projection approach uses a summary of projections contained in an adopted general plan or related planning document to assess cumulative impacts of a project. This EIR uses a projection approach, and the *X* serve as the basis for the cumulative analysis.

Impact Analysis by Resource

Land Use

Potential construction-related impacts identified for land use include disruption of existing adjacent land uses during construction activities; however, construction is not expected to disrupt access to or operation of surrounding land uses. The proposed project could make a cumulatively considerable contribution to construction-related effects on surrounding land uses, including construction-related traffic (i.e., access) and public safety hazards, as well as air pollutant emissions and noise. Other resource sections in this EIR address these potential impacts.

There would be no operation-related cumulative land use impacts. The proposed project components are generally consistent with City of Oakley, City of Antioch, City of Brentwood, Contra Costa County, and Sacramento County land use designations and zoning, and plans and policies. The expanded ISD WWTP facilities (Alternatives A, C, and D) and/or the additional DDSF facilities (Alternative B) and pump stations (all alternatives) could be incompatible with surrounding residential uses; however, appropriate site design and mitigation measures proposed in other resource sections of this EIR address potential incompatibilities related to air quality, noise, traffic, and visual quality. There are no cumulative impacts on land use in the vicinity of the project area to which the project would contribute.

Hydrology and Water Quality

The project location in the western Delta region has experienced an increased population growth in recent years. Additionally, locations in the watershed both upstream and downstream have grown as well. As a direct result of the growth, there has been an increased demand on hydrology and water quality resources in the form of increased demand for water supply and increased discharges of point- and non-point sources of pollution. The past, present, and reasonably foreseeable impacts to hydrology and water quality resources have the potential to be potentially significant. The treated effluent from this project will incrementally contribute to this potentially significant cumulative impact.

The project's contribution to potential cumulative water quality resource impacts would be localized. Any adverse effects identified as a result of construction or long-term operations of the project would be fully mitigated with implementation of the recommended project mitigation measures. Likewise, the primary effects of the effluent discharge on thermal and water quality contaminant conditions in the receiving water would be localized and minor outside the zone of initial effluent mixing. When considered in conjunction with all of the measurable discharges from other treatment plants, industrial discharges, and non-point source discharges, the cumulative effect from this project's effluent is not considerable. The receiving water will still maintain ample capacity for future dilution and there will be no loss of any beneficial uses. Consequently, the project's fully mitigated contribution to the future cumulative hydrology and water quality resources impact would be less than significant.

Fish

The project area is located in the Delta, which has undergone extensive growth and development in recent decades. Key past, present, and reasonably foreseeable activities occurring in the Delta, including agriculture, construction, and water supply projects, have the potential to adversely affect its aquatic biological resources. Alterations in aquatic habitat, hydrology, water temperature, and water quality associated with these activities may have substantial adverse effects on special-status fishes that use the Delta, including winter-run and spring-run Chinook salmon, steelhead, and delta smelt, and other fish species of management concern, including striped bass and American shad.

Numerous fisheries management plans and restoration programs, including the Central Valley Project Improvement Act, Anadromous Fish Restoration Program, and Ecosystem Restoration Program Plan of the CALFED Bay-Delta Program, have been initiated, in part to offset the adverse ecological effects imposed on the Delta and its fisheries resources associated with increased growth and development. However, the future condition for losses of special-status fishes is considered significant, primarily because of entrainment and impingement of juvenile fish at CVP/SWP pumping facilities.

The project's contribution to potential cumulative aquatic biological resource impacts would be localized. Any adverse effects identified as a result of construction or long-term operations of the project would be fully mitigated with implementation of the recommended project mitigation measures. Likewise, the primary effects of the effluent discharge on thermal and water quality contaminant conditions in the receiving water would be localized and minor outside the zone of initial effluent mixing. Consequently, the project's fully mitigated contribution to the future cumulative aquatic biological resources impact would be less than considerable, and the cumulative aquatic biological impact of the proposed project would be less than significant.

Vegetation and Wildlife

At present, portions of the project area have been developed. The project areas that remain mainly undeveloped either are under agricultural production or are nonnative annual grasslands, riparian forests, or emergent wetlands. These areas provide habitat for a number of rare and endangered wildlife species.

Agricultural ditches and other drainages provide potential aquatic habitat for California red-legged frogs and western pond turtles; the agricultural fields provide foraging habitat for raptors, including Swainson's hawks, white-tailed kites, and western burrowing owls, as well as migratory and wintering birds, such as sandhill cranes and white-faced ibises; riparian forests and emergent wetlands provide suitable nesting habitat for many special-status birds, elderberry shrubs throughout the project area provide suitable habitat for valley elderberry longhorn beetles, and a seasonal wetland provides potential habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp.

Construction of the project would result in the disturbance to aquatic habitat for California red-legged frogs, and western pond turtles; the loss of foraging habitat for raptors and wintering birds; potential disturbance to nesting special-status birds; the potential loss of habitat for valley elderberry longhorn beetles; and the potential loss of vernal pool fairy shrimp and vernal pool tadpole shrimp habitat. Impacts on these habitats in the project area would be reduced to a less-than-significant level through mitigation adopted by the project proponent.

Buildout under the Sacramento County General Plan, Contra Costa County General Plan, City of Antioch General Plan, City of Brentwood General Plan, and the City of Oakley General Plan would result in the additional loss of habitat for rare and endangered plant and wildlife species. While the measures and policies of the general plans will mitigate impacts on rare and endangered plant and wildlife species, the reduction of quality habitat, or the accidental take of individual plants or animal species, these impacts are potentially significant. The CEQA process requires that individual projects mitigate their site-specific impacts, and individual projects that will result in potential take of federally or state-listed species will have to consult with the USFWS or the DFG. However, the species addressed in this SEIR may still lose habitat and decline in numbers for other reasons. Implementation of the Sacramento County General Plan, Contra Costa County General Plan, City of Antioch General Plan, City of Brentwood General Plan, and the City of Oakley General Plan will still contribute to the cumulative conversion of habitat for rare and endangered plant and wildlife species and contribute to the possible decline of the species on a cumulative level.

The project will not significantly contribute to the cumulative loss of habitat for rare and endangered plants and animals.