

## 5 CUMULATIVE IMPACTS

### 5.1 INTRODUCTION TO THE CUMULATIVE IMPACTS ANALYSIS

The State CEQA Guidelines, §15130, require that an EIR discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." According to §15065, "cumulatively considerable" means the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and effects of probable future projects as defined in §15130. Pursuant to §15130 of the CEQA Guidelines, "(t)he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impacts to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact."

Mitigation measures are to be developed to reduce the project's contribution to significant cumulative effects whenever feasible. The CEQA Guidelines acknowledge that sometimes the only feasible method for mitigating or avoiding significant cumulative effects is to adopt ordinances or regulations that apply to all projects that contribute to the cumulative effect. Further, there must be a fair and reasonable relationship between the project's contribution to a significant effect and its level of mitigation.

In the case of the 2002 Zone 40 WSMP, the cumulative analysis must consider past and current projects that have resulted in the Existing Condition, and relevant, foreseeable future projects over the WSMP's 30-year period. During this time period, it is expected that many other actions would be implemented that would affect the environmental conditions in the 2030 Study Area and vicinity. A degree of speculation and uncertainty exists when attempting to characterize the study area 30 years into the future, particularly recognizing the dynamic nature of decisions related to land use and growth, surface water and groundwater supply, water quality, and terrestrial and aquatic biological resource protection in Sacramento County and its rivers.

Sacramento County has recently prepared or participated in preparation of several environmental impact studies on long-term water supply and wastewater projects. These include the Final EIR for the Water Forum Agreement (1999), the Draft EIR for the Sacramento Regional Wastewater Treatment Plant 2020 Master Plan (2003), the Final EIR for the SRCSD Interceptor System Master Plan 2000 (2003), and the Draft EIR/EIS for the Freeport Regional Water Project (2003). These projects, as well as the 2002 Zone 40 WSMP, are inherently cumulative in that they assess the impacts of projected regional growth over two to three decades from provision of public services. Therefore, their project and cumulative analyses are applicable to the proposed project in that they address the cumulative impacts of regional growth on land use, surface water and groundwater resources, terrestrial and aquatic biological resources, and other impact areas.

The Water Forum EIR assesses the impacts of a regional water supply plan in combination with other past, present, or probable future projects, including increased water demand outside the region. The Draft EIR for the Sacramento Regional Wastewater Treatment Plant 2020 Master Plan evaluates the environmental effects of facility expansion and wastewater treatment and discharge at a level of development expected in the year 2020. Cumulative impact analysis considered increased urban development, regional demand for water and wastewater services, other wastewater discharges to regional surface waters and the Delta, water quality control programs, and other related actions. The Final EIR for the SRCSD Interceptor System Master Plan 2000 evaluates wastewater conveyance needs based on land use information projected at buildout within the urban services boundary of the County. Cumulative analysis includes projections and analyses contained in the Sacramento County General Plan Update (Sacramento County 1993), the City of Sacramento General Plan (City of Sacramento 1988), City of West Sacramento General Plan (2000), and the EIRs for these general plans. The Draft EIR for the Freeport Regional Water Project includes quantitative analysis of anticipated cumulative increased water use by water rights holders, other Central Valley Project contractors, the State Water Project, and system-wide operations under the Environmental Water Account and Central Valley Project Improvement Act requirements. Qualitative analysis is also provided to assess impacts of other projects and programs including water supply and water quality programs, and construction projects in the vicinity of the FRWP facilities.

The CEQA Guidelines provide two approaches to analyzing cumulative impacts. The first is the list approach, which requires identification of past, present, and reasonably anticipated future projects producing related or cumulative impacts. The second is the summary approach wherein the relevant projections contained in adopted general plans or related planning documents designed to evaluate regional or area-wide conditions are summarized. This EIR uses the projection approach and summarizes future cumulative impacts based on regional growth projections. These projections (2020, 2030, and buildout) were used as foundations for the planning and analysis of the aforementioned water and wastewater projects. Therefore, the analysis herein is based on, and incorporates by reference the Final EIR for the Water Forum Agreement (1999), the Draft EIR for the Sacramento Regional Wastewater Treatment Plant 2020 Master Plan (2003), the Draft EIR for the SRCSD Interceptor System Master Plan 2000 (2003), the Draft EIR/EIS for the Freeport Regional Water Project (2003), and the Sacramento County General Plan Update and EIR (1993). These documents are available for review at the Sacramento County Department of Environmental Review and Assessment, 827 7th Street, Room 220, Sacramento, California 95814.

### **5.1.1 UNQUANTIFIABLE ASPECTS OF FUTURE CONDITIONS**

As noted above, characterization of the 2030 Study Area three decades into the future is inherently uncertain and speculative and it is difficult to define any one scenario as the reasonably foreseeable probable future. The 2002 Zone 40 WSMP is a planning document that identifies water supply facilities in a defined service area over a 30-year planning horizon. During that time, other plans, projects, programs, and studies could be implemented, but their timing is unknown and their effects cannot be precisely determined or quantified. These include

land use planning efforts for the new cities of Elk Grove and Rancho Cordova; regulatory, technological, and economic feasibility of remediated and recycled water supplies; the South Sacramento HCP planning process; and water quality and fisheries improvement programs.

### **Cities of Elk Grove and Rancho Cordova**

Although the County's General Plan is the guiding land use document for the 2030 Study Area, portions of the 2030 Study Area lie within the recently incorporated cities of Elk Grove and Rancho Cordova. The City of Elk Grove has prepared a draft General Plan and EIR that is currently undergoing public review and comment. The City of Rancho Cordova is initiating its General Plan process and expects to begin planning efforts in the fall of 2003. Although both cities have adopted the County's General Plan as their guiding land use document in the interim, land use and water supply demands proposed and approved by the cities in their General Plans may be different from what is planned and approved in the County's General Plan, and evaluated in this EIR. Growth within these cities could occur faster or slower than that projected in the County's General Plan. As a result, water demands in the 2030 Study Area could be more or less concentrated near these cities in the future.

Additional uncertainty exists relative to groundwater sustainable yield and future land use plans in the cities of Elk Grove and Rancho Cordova. The cities were not part of the Water Forum planning process and are not signatories to the Water Forum Agreement. Although SCWA, as the water purveyor for Zone 40, is committed to meeting the Water Forum's negotiated sustainable yield for the Central Basin (273,000 afy), the cities of Elk Grove and Rancho Cordova are not currently bound to these requirements. Although speculative, if unanticipated increases in groundwater production were to occur, the Water Forum sustainable yield could be exceeded and groundwater levels could fall to lower elevations than projected in this EIR. Because General Plans for these cities have not been approved, the cumulative analysis assumes growth within Zone 40 and the 2030 Study Area would occur as projected in the County's adopted General Plan.

### **Remediated and Recycled Water Supplies**

The 2002 Zone 40 WSMP considers reuse of remediated water as a supplemental potable water supply and use of recycled water for landscape irrigation. However, there is uncertainty related to the regulatory, technological, and economic feasibility of these water supply sources and to the volume available for use in Zone 40 in the future. Aerojet/Boeing and Sacramento County have an agreement for the remediated water which suggests that some reuse is likely. Depending on the remediation operation requirements in the future, more or less water could be available. Similarly, SRCSD is assessing the feasibility of large-scale water recycling for landscape irrigation or other approved uses. The volume of water that would be produced, however, depends largely upon the available market, conveyance feasibility and cost, and regulatory requirements. If additional remediated or recycled water supplies become available during the planning period of the 2002 Zone 40 WSMP, it is possible that less water would be pumped from the groundwater basin, or it could remove an obstacle to further growth.

## **South Sacramento Habitat Conservation Plan**

Sacramento County is developing the South Sacramento County Habitat Conservation Plan (SSHCP). Once adopted, the SSHCP is intended to be a regional approach to addressing issues related to urban development, habitat conservation, agricultural protection, and open space planning. The major goals of the SSHCP are to ensure long-term habitat viability, accommodate development of appropriate sites with fair and reasonable mitigation, protect agricultural lands, and streamline the permitting process. It is anticipated that the draft plan will be released in 2005. CEQA analysis and public hearings will follow. Although the SSHCP is a regional planning effort to protect sensitive biological resources in Zone 40, substantial uncertainty exists relative to timing of completion and adoption, and to which areas will be recommended for conservation and preservation. Conservation sites are anticipated to be outside the Urban Policy Area and within the Urban Services Boundary, and could include land areas that fall within the 2030 Study Area.

## **Water Quality and Fisheries Programs**

Many efforts are underway to address unfavorable conditions in the Sacramento River and the Bay-Delta. Populations of fish species such as Delta smelt, steelhead, spring- and winter-run chinook salmon have declined over the past decades to the point that they have been listed as threatened or endangered, and other species such as fall-run chinook salmon have been proposed for listing. At the same time, variable water availabilities and environmental requirements have resulted in water delivery deficiencies imposed on SWP and CVP water contractors. Programs underway or planned to improve Sacramento River system and Bay-Delta fisheries and habitats include Central Valley Project Improvement Act (CVPIA), Anadromous Fish Restoration Program (AFRP), and Ecosystem Restoration Program Plan (ERPP) of the CALFED Bay-Delta Program. The effectiveness of these programs to improve Sacramento River and Bay-Delta conditions, however, is not guaranteed. In addition, there could be future environmental stressors that cannot be predicted. For instance, introduction of nonnative species into aquatic habitats could have additional adverse impacts. It is not possible to speculate in the analysis how any of these considerations could affect cumulative impacts.

## **5.2 CUMULATIVE IMPACTS**

This section summarizes and tiers from the cumulative impacts analysis prepared in the Water Forum Agreement, SRWWTP 2020 Master Plan, and Interceptor Master Plan EIRs as they relate to the proposed project. The 2030 Study Area is located within the indirect study area of the Water Forum Agreement and the SRCSD service area. The proposed project would implement surface water diversions and groundwater extractions established under the Water Forum Agreement. Water supplies projected to serve regional growth in the 2002 Zone 40 WSMP and the related wastewater generation from development in the 2030 Study Area were evaluated in the EIRs for the SRWWTP 2020 Master Plan and the Interceptor Master Plan. A brief discussion of the project's cumulative impacts by resource is provided below.

### **5.2.1 CUMULATIVE LAND USE AND GROWTH-INDUCING IMPACTS**

Under the 2002 Zone 40 WSMP, water would be provided to accommodate approved growth in the 2030 Study Area. With sufficient water, development can proceed to the degree that water supply is not a constraint.

Land use designations established in the most recent Sacramento County General Plan represent the maximum long-term level of growth approved by county decision makers. The cities of Elk Grove and Rancho Cordova have adopted the County General Plan as their guiding land use document until the cities prepare, evaluate, and adopt their own general plans. The City of Rancho Cordova will initiate its general plan planning process in Fall 2003 and it is unknown at this time whether proposed land uses will substantially differ from the County's General Plan land uses. The City of Elk Grove has prepared a draft General Plan including a draft Land Use map which is currently undergoing environmental review. Based on preliminary review, the draft land uses proposed for the City of Elk Grove do not substantially differ from land uses adopted in the County's General Plan. However, the City of Elk Grove General Plan has not yet been adopted and could be subject to revision.

The 2002 Zone 40 WSMP addresses the 2030 Study Area's water demands through the year 2030 but is not sufficient to meet urban water demands expected with buildout of the Sacramento County General Plan to the current Urban Services Boundary. Additional supplies would be necessary beyond the year 2030 to accommodate growth if it is to occur. Section 4.1, Land Use and Growth-Inducing Effects, presents an evaluation of the project's potential land use effects in relation to the adopted general plans for long-term growth of the communities in the 2030 Study Area. As such, that analysis is inherently cumulative, and the reader is referred to Section 4.1 for an analysis of cumulative land use and growth-inducing impacts.

### **5.2.2 CUMULATIVE AESTHETICS IMPACTS**

The project is the provision of a water supply, which would remove an obstacle to growth within the 2030 Study Area. Growth and development would result in the replacement of open space areas with residential and commercial development. This development would substantially change the visual character of the area from existing conditions. This would be a significant and unavoidable cumulative aesthetic impact.

### **5.2.3 CUMULATIVE AIR QUALITY IMPACTS**

Under cumulative conditions, the proposed project could collectively generate construction-related air emissions. Proposed WSMP projects would be evaluated using SMAQMD thresholds, and environmental mitigation guidelines to reduce construction-related emissions as identified in Section 4.3 of this EIR would be applied. However, because the region is designated non-attainment for PM<sub>10</sub> and ozone, the project's contribution to short-term construction-related cumulative air quality impacts is considered potentially significant.

As discussed in Section 4.1, Land Use and Growth Inducing Impacts, the project would remove an obstacle to growth (i.e., providing a reliable water supply). This growth would result in an increase in regional air emissions from mobile and stationary sources. These emissions could exceed the emissions budget used for regional air quality planning efforts. Therefore, this would be a significant and unavoidable cumulative air quality impact.

#### **5.2.4 CUMULATIVE NOISE IMPACTS**

Noise is a localized issue that diminishes in intensity with distance from the source. Construction of the proposed facilities along with construction activities of other development in the project area could potentially increase construction-related noise impacts on land uses directly adjacent to the construction sites. Such cumulative noise impacts would be temporary and would not likely occur during sensitive nighttime hours. Therefore, the project's contribution to any construction-related cumulative noise impacts would be less than significant.

Noise generated from project operations in combination with future growth and development could potentially generate long-term cumulative noise impacts. Mitigation identified in Section 4.4 of this EIR would avoid significant facility operation-related noise. Growth facilitated by the project could result in increased traffic noise level on area roadways. Implementation of County General Plan policies pertaining to roadway noise would mitigate these noise impacts to a less-than-significant level.

#### **5.2.5 CUMULATIVE TRANSPORTATION IMPACTS**

The proposed project in combination with future growth and development could result in potentially significant construction-related traffic impacts. These include adding traffic to local roadways and lane closures when facilities (pipelines) are being installed in roadways. These impacts would be temporary in nature, and standard traffic controls and notifications would be implemented during project construction to mitigate these temporary impacts. Therefore, the proposed project would not contribute substantially to cumulative construction-related traffic impacts. Because a minor amount of employee trips would be generated, the proposed project would not contribute substantially to cumulative long-term operational traffic impacts.

Growth facilitated by the project could result in significant and unavoidable traffic impacts even with implementation of all transportation improvements identified in the Circulation Element and Transportation Plan of the County General Plan. Mitigation proposed in the County General Plan and Final EIR could lessen the magnitude of transportation impacts but not to less-than-significant levels. This would be a significant and unavoidable cumulative transportation impact.

## **5.2.6 CUMULATIVE BIOLOGICAL RESOURCES IMPACTS**

### **FISHERIES AND AQUATIC RESOURCES**

Based on the analyses presented in the Water Forum EIR, SRWWTP 2020 Master Plan EIR, and FRWA EIR/EIS, impacts with respect to flow volume and water quality would not be substantial, and impacts to Sacramento River fisheries would be less than significant. Therefore, any flow-related impacts to the upper and lower Sacramento River fisheries or migrating anadromous fishes as a result of project-related diversions would be less than significant. Under the cumulative condition, no substantial change in water temperature would occur at Freeport for all months of the year; however, individual months could exhibit substantial temperature increases (Water Forum EIR 1999). This represents a significant and unavoidable cumulative impact. With regard to Cosumnes River fisheries, analysis conducted for the 2002 Zone 40 WSMP is considered cumulative in that it considers groundwater pumping that, in conjunction with surface water diversions from the Sacramento River, would support projected growth to the year 2030. No direct diversions from the Cosumnes River would occur, and no known cumulative projects would affect or otherwise exacerbate existing low flow conditions in the Cosumnes River.

### **TERRESTRIAL BIOLOGICAL RESOURCES**

Growth and development within the 2030 Study Area would result in impacts on land-based resources. Growth in the 2030 Study Area and resultant impacts on environmental resources would be an indirect effect of the project. The project could result in the cumulative loss of identified sensitive resources, including wetlands, riparian vegetation, and habitat for sensitive wildlife species. Mitigation recommended in the Section 4.1 Land Use and Growth Inducing Impacts, and 4.6, Terrestrial Biological Resources, would reduce the project's biological impacts. However, there are uncertainties with the types of land use decisions that would be made and where growth would actually occur. Although the County General Plan contains policies designed to protect terrestrial biological resources and the County is developing the South Sacramento County Habitat Conservation Plan, protection of sensitive resources is not assured, so for purposes of CEQA conclusions, projected growth facilitated by the WSMP is recognized as potentially resulting in significant and unavoidable effects on biological resources.

## **5.2.7 CUMULATIVE WATER RESOURCES IMPACTS**

### **GROUNDWATER**

As water purveyor for Zone 40, SCWA is committed to meeting the Water Forum's negotiated sustainable yield of the underlying groundwater basin. Planned growth in the 2030 Study Area combined with estimated private residential and agricultural pumping is expected to remain below the 273,000 afy sustainable yield for the basin. As described in Section 4.7, Water Resources, one cumulative scenario modeled for the project analysis assumes that pumping for groundwater remediation would reach approximately 36,000 afy and none of the remediated water would be used to offset municipal water supplies in Zone 40. Although this

scenario is unlikely given a recent agreement between Sacramento County and Aerojet/Boeing for reuse of the water, that scenario would result in groundwater pumping that would exceed the Water Forum sustainable yield by approximately 16,000 afy (total of 289,000 afy). This would be a significant adverse impact to groundwater. Additional uncertainty surrounds future growth of the cities of Elk Grove and Rancho Cordova. Growth that exceeds original growth projections could be approved by these cities, served by the groundwater, and could result in exceedance of the negotiated sustainable yield. This impact would be speculative because growth plans of the new cities are not approved. If groundwater pumping exceeds the sustainable yield of the groundwater basin negotiated in the WFA, this would be a significant and unavoidable impact.

## **WATER SUPPLY**

The 2002 Zone 40 WSMP would divert water from the Sacramento River consistent with volumes assessed and agreed to in the Water Forum Agreement. Zone 40 would divert up to 78,000 af of water from the Sacramento River during wet years with reduced diversions expected during dry years. Diversions would occur in accordance with established surface water contracts. As described in the 2002 Zone 40 WSMP, SCWA may also be successful in securing other water supplies through purchase and transfer agreements with other entities that currently hold surface water rights in the north Sacramento Basin. The proposed project in combination with other future cumulative projects that include demand for water supply could result in decreased deliveries to State Water Project and Central Valley Project customers (WFP EIR 1999). The issue is statewide, however, and would result from the cumulative nature of projects within and beyond the region. This would be a significant and unavoidable cumulative impact.

## **HYDROLOGY/WATER QUALITY**

The project in combination with other reasonably foreseeable future projects could result in flow reductions in the Sacramento River at greater frequencies or magnitudes compared to what would occur under the 2002 Zone 40 WSMP alone. As flows decrease, there is less water available to dilute constituent loadings to the river. Further, as growth occurs, constituent loading to the Sacramento River would be expected to increase from urban runoff and increased wastewater discharge. The SRCSD is underway with the 2020 SRWWTP Master Plan, which would plan and construct the facilities necessary to meet increased wastewater treatment demands while also meeting regulatory requirements for discharge of wastewater (and constituents) to the Sacramento River. Further, the SRWWTP's RWQCB discharge permit, which is renewed every 5 years, imposes stringent water quality criteria with which the SRWWTP must comply. Although the SRWWTP 2020 Master Plan and EIR address projected wastewater treatment demand to the year 2020, and the 2002 Zone 40 WSMP addresses water supply needs to the year 2030, it is reasonable to assume that the SRWWTP would comply with RWQCB discharge requirements beyond 2020. This may be through implementation of advanced treatment technologies, increased water recycling, alternative disposal methods, or other options. The cumulative water quality changes in the Sacramento River would not



substantially decrease from those evaluated with the project alone. Therefore, this would be a less-than-significant cumulative water quality impact.

### **5.2.8 CUMULATIVE CULTURAL RESOURCES IMPACTS**

Because of the nature of cultural resources, adverse impacts are site specific and not generally affected by cumulative development in the region. Impacts would need to be determined on a project-by-project basis. Because cultural resources are not anticipated to be adversely affected by the proposed project and cultural resources impacts are mitigable to less-than-significant levels, implementation of the project would not be expected to contribute to cumulative cultural resource impacts.

### **5.2.9 CUMULATIVE SOILS AND GEOLOGY IMPACTS**

In the future, it is anticipated that development would continue throughout the region. Associated with this anticipated development, ground-disturbing activities have the potential to change geologic substructures. Further, construction activities could disturb surface soils and thereby induce wind or water erosion. These effects would be highly localized, and development and planning of future projects would consider geotechnical studies and implement design recommendations, as appropriate, to minimize these effects, where possible. Therefore, cumulative changes in soils and geology within the 2030 Study Area and surrounding region would be less than significant.

### **5.2.10 CUMULATIVE PUBLIC HEALTH AND SAFETY IMPACTS**

Buildout of the County's General plan would be expected to increase public health and safety impacts by increasing population densities. However, because the proposed project would have negligible effects on public health and safety in the local area, its development would not contribute substantially to cumulative public health and safety impacts.

### **5.2.11 CUMULATIVE PUBLIC SERVICES AND UTILITY IMPACTS**

Cumulative development within Zone 40 would increase demand on public services and utilities, including water supply, wastewater treatment, electricity, and natural gas. While implementation of the proposed project would contribute to these increased demands, the County, in its General Plan, includes specific policies and implementation programs that require the provision of public services and utilities prior to approving any new developments. Consistent application of these policies and programs would ensure that significant cumulative impacts would not occur.

### **5.3 ENVIRONMENTAL MITIGATION GUIDELINES FOR CUMULATIVE IMPACTS AND LEVEL OF SIGNIFICANCE AFTER MITIGATION**

#### **5.3.1 CUMULATIVE IMPACT ENVIRONMENTAL MITIGATION GUIDELINES**

The State CEQA Guidelines indicate that the focus of an EIR's discussion of mitigation for cumulative effects is on the measures necessary to mitigate or avoid the project's contribution to a cumulative impact. Section 15130(b)(3) of the guidelines indicates that "[a]n EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects." The environmental mitigation guidelines adopted as part of the 2002 Zone 40 WSMP would also serve to lessen or mitigate for the projects' contribution to the effects of the future cumulative condition.

Even with the provisions in the Water Forum Agreement and the project environmental mitigation guidelines identified in the Water Forum EIR, there would still be remaining cumulative impacts. Many of the actions necessary to mitigate or avoid the remaining cumulative impacts are the responsibility of USBR and other federal and state agencies with jurisdiction over the affected resources, such as CALFED, USFWS, NMFS, and DFG. The number and range of potential policy decisions and actions, or combination thereof, are considerable, and it is not feasible to predict which measures can and should be implemented by the involved federal and state agencies. Decision making about systemwide surface water resource management policies, programs, and mitigation actions is ongoing through the CALFED process, USBR implementation of the CVPIA, consultation with USFWS and NMFS in compliance with the Endangered Species Act, and other efforts. These decisions are influenced by statewide interests and state and federal mandates that are beyond the control of the SCWA. Therefore, attempting to define other potential cumulative impact environmental mitigation guidelines in this EIR would be too speculative at this time.

#### **5.3.2 LEVEL OF SIGNIFICANCE OF CUMULATIVE IMPACTS AFTER MITIGATION**

The ability to entirely avoid or mitigate cumulative impacts to a less-than-significant level depends on numerous state and federal policy decisions and actions beyond the control of the SCWA. Although the provisions of the 2002 Zone 40 WSMP and adopted environmental mitigation guidelines for project impacts would also help reduce cumulative impacts, it cannot be assured at this time that the significant cumulative impacts described in this EIR would be avoided or reduced to a less-than-significant level. Because of the uncertainty, it is necessary for CEQA compliance purposes to recognize and disclose that the cumulative impacts identified in this EIR could be significant and unavoidable. Consequently, any significant cumulative impacts described in Sections 5.2.1 through 5.2.11 of this EIR are considered to be potentially significant and unavoidable.