

8. GROWTH-INDUCING IMPACTS (NEW)

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8.1 INTRODUCTION

The proposed project analyzed in the Monterey Plus EIR was the Monterey Amendment and the Settlement Agreement. The Monterey Plus EIR considered five “elements” of the Monterey Amendment as follows:

- *Changes in the procedures for allocation of Table A water and surplus water among the SWP contractors;*
- *Approval to permanent transfers of 130,000 acre feet and retirement of 45,000 acre-feet of SWP long-term water supply contracts’ Table A amounts;*
- *Transfer of property known as the “Kern Fan Element property” in Kern County;*
- *Water supply management practices; and*
- *Restructured water rates.*

This REIR has changed the description of the Kern Fan Element property transfer to be:

- *Transfer of property known as the “Kern Fan Element property” in Kern County and its development and continued use and operation as a locally owned and operated groundwater banking and recovery project.*

There are no revisions to the other elements of the Monterey Amendment or of the Settlement Agreement, and no changes have been made relating to them in this REIR. (See discussion in Introduction/Executive Summary.)

This REIR does not supersede the analysis of the Monterey Plus EIR but supplements the Monterey Plus EIR. The Monterey Plus EIR focused on the transfer of the KFE property, which was fully analyzed in the Monterey Plus EIR. This REIR did not identify any new impacts or changes to impacts caused by the transfer of the KFE property. Therefore, this REIR focuses on the development and continued use and operation of the KWB as a locally owned and operated groundwater banking and recovery project (“KWB activities”).

The Monterey Plus DEIR Chapter 8 identified potential growth-inducing impacts of the Monterey Amendment and the Settlement Agreement, but did not specifically discuss potential growth-inducing impacts of the KWB activities. Substantial new information is presented in this section regarding KWB activities. All other text in DEIR Chapter 8 remains unchanged.

8.1.1 CEQA Requirements

To comply with the California Environmental Quality Act (CEQA), an EIR must discuss the ways in which the proposed project could affect economic or population growth in the vicinity of the project and how the characteristics of the project could result in other activities with adverse impacts to the environment [CEQA Guidelines Section 15126.2(d)].

Specifically, CEQA Guidelines Section 15126.2(d) states that an EIR must:

“Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects, which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

Economic growth refers to the extent to which a proposed project could cause increased activity in the local or regional economy. Economic and population growth can be induced in a number of ways, including through the elimination of obstacles to growth, or through the stimulation of economic activity. Elimination of obstacles to growth refers to the extent to which a proposed project removes infrastructure limitations or removes regulatory constraints that could result in growth. For example, an increase in the capacity of utility or road infrastructure that is installed as part of the proposed project could allow either new or additional development in the surrounding areas. Increases in the population may tax existing community service facilities, requiring new facilities, the construction of which could cause potentially significant environmental impacts.

8.1.2 Analysis of Growth Impacts

8.1.2.1 Elimination of Obstacles to Growth

Increased average annual deliveries of KWB water to affected service areas could result in the greater reliability of water and potentially construction of additional local infrastructure to deliver the water supplies. This could remove an obstacle to growth.

8.1.2.2 Economic Effects

At the local level, increased population that could result from increased reliability with KWB water, could stimulate increased economic activity as a result of an increased demand for goods and services necessary to support the population growth. The need for additional goods and services would induce increased employment. An increase in future employees would require the development of physical space. It is the characteristics of this physical space and its specific location that would determine the type and magnitude of associated environmental impacts of this economic activity.

8.1.2.3 Environmental Impacts

Because there could be an increase in population in some areas, currently undeveloped land could be converted to urban uses or current urbanization could be intensified, which could have secondary (or indirect) environmental effects such as impacts on special-status species and their habitat, changes in storm water quality and quantity due to increased impervious surface cover, reduction in air quality, increased traffic and noise levels, reduction in public service and utility levels of service, etc.

The project-specific environmental impacts of implementing the KWB activities are evaluated in Chapter 7 of this REIR. This Chapter 8 of the REIR provides a generalized analysis of potential

secondary impacts of the KWB activities based on the known environmental effects of urban development in California.

8.2.4.1 Types of Environmental Impacts Related to Growth

In general, land that would be converted to urban uses along transportation routes and on the fringes of existing urban and suburban areas is typically undeveloped or used for agriculture. Conversion to urban uses of agricultural lands removes this land permanently from being available for agricultural production. In addition, conversion of agricultural or undeveloped lands eliminates most of the wildlife habitat value of these lands. Landform and drainage patterns could be altered, with natural drainage channels largely replaced by engineered storm water systems. Impermeable roofs, parking lots, and roadways could replace permeable surfaces with a consequent increase in storm water runoff and a decrease in groundwater recharge. Various substances associated with homes, yards, and vehicle use (paints, pesticides, plasticizers, oil and grease, brake dust, pet wastes, etc.) could be deposited on urban surfaces and conveyed to natural waterways. The introduction of people and vehicles into previously unpopulated or lightly populated areas could increase traffic, noise levels, air pollutant emissions, the generation of sanitary wastewater and solid waste, and the demand for local services.

The following discussion briefly summarizes the general types of environmental impacts that could occur as a result of growth-inducing activities:

- **Aesthetics**—Temporary and permanent degradation of visual character for developed land uses during construction and operation and creation of new light, glare, and skyglow.
- **Agricultural Resources**—Conversion of Important Farmland to nonagricultural urban uses; cancellation of Williamson Act contracts; conflicts with and disruption of existing agricultural operations; and conflicts among agricultural operations and new residential, commercial land uses, or other facilities, such as parks and schools.
- **Air Quality and Global Climate Change**—Temporary, short-term construction-generated emissions of criteria air pollutants, such as particulate matter with an aerodynamic resistance diameter of 10 micrometers or less (i.e., PM₁₀), and emissions of ozone precursors (e.g., reactive organic gases [ROG] and oxides of nitrogen [NO_x]); long-term operational-generated emissions that exceed San Joaquin Valley Air Pollution Control District (SJVAPCD) thresholds for criteria air pollutants (PM₁₀, ROG, and NO_x), exposure of sensitive receptors to toxic air contaminants and odors; long-term emissions of criteria air pollutants or local mobile-source carbon monoxide; emissions of greenhouse gases; and conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions.
- **Biological Resources**—Loss and degradation of habitat for special-status wildlife and plants; potential loss and degradation of jurisdictional wetlands and other waters of the United States or waters of the state; and impacts on fisheries resulting from changes in discharge to local waterways and the Kern River.
- **Cultural and Paleontological Resources**—Loss of or damage to known and as-yet-undiscovered cultural resources, paleontological resources, and human remains during construction.
- **Geology and Soils**—Temporary, short-term construction-related erosion; damage to structures and infrastructure from seismic activity; and construction on expansive/unstable soils and soils with high shrink-swell potential.
- **Hazards and Hazardous Materials**—Exposure of construction crews and the public to contaminated soil, groundwater, and hazardous materials used in construction or present in excavated soils or from the routine transport, use, and disposal of hazardous materials;

temporary road hazards caused by lane closures, increased truck traffic, and other roadway impacts during construction; and exposure to wildlife collision hazards.

- **Hydrology and Water Quality**—Increased stormwater discharges of suspended solids, increased turbidity, and potential mobilization of other pollutants from project construction sites; and hydrologic and water quality impacts from discharge to local waterways and the Kern River.
- **Land Use and Agricultural Resources**—Conflict with Kern County or the City of Bakersfield General Plan policies, land use designations, or zoning; physically divide an established community; or incompatible land uses with adjacent agricultural land uses.
- **Noise**—Temporary, short-term exposure of sensitive receptors to noise levels above noise ordinances during construction and long-term exposure of sensitive noise receptors to new stationary-source noise and increased vehicular-related traffic that exceed County noise standards.
- **Population and Housing**—Induce population growth in Kern County and the City of Bakersfield through construction of new homes and businesses or through the extension of roads or other infrastructure or displace people or existing housing that necessitates the construction of replacement housing elsewhere.
- **Public Services**—Increase demand for fire protection facilities and services, including the City of Bakersfield Fire Department, Kern County Fire Protection District, and Kern County Fire Department facilities and services; law enforcement facilities and services, including the City of Bakersfield Police Department, Kern County Sheriff's Department, California Highway Patrol facilities and services; schools; parks; or other public facilities, thus necessitating the construction of new or expansion of existing public facilities.
- **Recreation**— Increase the use of existing neighborhood and regional parks or other recreational facilities, such as the Kern River Parkway Trail, such that substantial physical deterioration of the facility would occur or be accelerated.
- **Traffic and Transportation**— Conflict with the City of Bakersfield or Kern County ordinances, policies, or programs establishing measures of effectiveness for the performance of the circulation system or those related to bicycle or pedestrian facilities; result in traffic hazards from incompatible urban land uses and adjacent agricultural land uses, such as those; or result in inadequate emergency access; and increase traffic near centers of regional development.
- **Utilities and Service Systems**—Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities; increase demand for water supplies, including water supplies provided by the City of Bakersfield, Improvement District No. 4 (ID4), and Tejon-Castac Water District (TCWD); require the construction of new stormwater drainage facilities; or generate solid waste beyond the capacity of existing landfills.

EIRs have been prepared on several projects that receive water from KWB participants. Summaries of the significant and unavoidable impacts identified for these projects are presented below. See Section 8.2 for an analysis of growth-inducing impacts that focuses on the two KWB participants that deliver water for municipal and industrial (M&I) uses: ID4 and TCWD.

The TCWD provides water supplies to the Tejon Industrial Complex area and residential, commercial, and recreational land uses identified in the proposed Tejon Mountain Village (TMV).¹ Environmental impacts for these projects are analyzed in the *Tejon Industrial Complex Final Environmental Impact Report*, *Final Environmental Impact Report Tejon Industrial Complex East Specific Plan*, *Draft Environmental Impact Report Supplemental Analysis Tejon Industrial Complex East Specific Plan*, and *Final Environmental Impact Report Tejon Mountain Village* by TMV, LLC.^{2,3,4,5} The environmental

impact analyses and cumulative impacts analyses from these documents are hereby incorporated by reference.

Because the KWB stores water supplies for the Tejon Industrial Complex area and TMV, KWB activities potentially contribute to the significant and unavoidable impacts identified for those projects. The significant and unavoidable environmental impacts identified in the Tejon Industrial Complex EIR, Tejon Industrial Complex East EIR and Supplemental Analysis EIR, and the TMV EIR are briefly summarized below.

Tejon Industrial Complex EIR

The Tejon Industrial Complex EIR (State Clearinghouse No. 99061016) was circulated for public review and adopted by Kern County in February 2000. The significant and unavoidable environmental impacts identified in the Tejon Industrial Complex EIR are summarized below:

- **Aesthetics**—Cumulatively considerable contributions to significant cumulative impacts related to visual changes from regional development.
- **Air Quality and Climate Change**—Emissions of PM₁₀, ROG, and NO_x that exceed SJVAPCD thresholds and cumulative contributions to significant cumulative impacts on regional emissions of PM₁₀, ROG, and NO_x that exceed SJVAPCD thresholds.
- **Public Services**—Cumulatively considerable contributions to significant cumulative impacts related to generation of solid waste that exceed landfill capacity.

Tejon Industrial Complex East Specific Plan EIR

The Tejon Industrial Complex East Specific Plan EIR (State Clearinghouse No. 2001101133) was circulated for public review and adopted by Kern County on January 21, 2003. The significant and unavoidable environmental impacts identified in the Tejon Industrial Complex East Specific Plan EIR are summarized below:

- **Agricultural Resources**—Conversion of over 1,000 acres of Farmland of Statewide Importance to nonagricultural urban uses.
- **Air Quality**—Long-term operational-generated emissions of PM₁₀ and emissions of ozone precursors (e.g., ROG and NO_x) that exceed SJVAPCD thresholds.
- **Noise**—Long-term exposure of rural residences along Wheeler Ridge Road to increased vehicular-related traffic.

Tejon Industrial Complex East Supplemental Analysis EIR

Subsequent to the certification of the Tejon Industrial Complex East Specific Plan EIR, various parties challenged the County's certification and project approval in an action in Kern County Superior Court (the Court), entitled *Center for Biological Diversity; Center on Race, Poverty, and the Environment; the Sierra Club; and Kern Audubon Society v. County of Kern* (2003). A Supplemental Analysis, in accordance with the Kern County trial court's direction, was prepared that provided new technical information on air quality and biological resources; evaluated the project for impacts to air quality and biological resources; identified mitigation measures and design features, as necessary, that would reduce the impacts to air quality and biological resources; and provided a determination of the level of significance of these impacts. The applicant also revised the Tejon Industrial Complex East Specific Plan based on supplemental analysis of air quality impacts.

The Supplemental Analysis EIR determined that significant and unavoidable impacts would occur from project-related emissions of PM₁₀, ROG, and NO_x that exceed SJVAPCD thresholds and from cumulatively considerable contributions to significant cumulative impacts on regional emissions of PM₁₀, ROG, and NO_x that exceed SJVAPCD thresholds. No significant and unavoidable impacts were identified for biological resources. The Kern County trial court discharged the writ of mandate, and the Court of Appeal affirmed.⁶

Tejon Mountain Village Specific Plan EIR

The TMV Specific Plan EIR (State Clearinghouse No. 2005101018) was circulated for public review and adopted by Kern County on October 5, 2005. This EIR was also challenged under CEQA and the Court of Appeal concluded that the EIR complied with CEQA.⁷ The significant and unavoidable environmental impacts identified in the TMV Specific Plan EIR are summarized below:

- Aesthetics/Light and Glare—Changes to views along Interstate 5 and the Lebec Road interchange and introduction of new sources of light and glare.
- Air Quality and Climate Change—Temporary, construction-related emissions of ROG and long-term operational-generated emissions of PM₁₀, ROG, and NO_x that exceed SJVAPCD thresholds; cumulative contributions to regional emissions of PM₁₀, ROG, and NO_x that exceed SJVAPCD thresholds; and cumulatively considerable contributions to significant cumulative impacts associated with greenhouse gas emissions that do not meet Assembly Bill 32 greenhouse gas reduction requirements.
- Biological Resources—Cumulatively considerable contributions to significant cumulative impacts on the California condor population levels and range.
- Hazards and Hazardous Materials—Exposure to construction workers and residents from encounters with wildlife.
- Noise—Long-term exposure of sensitive receptors to increased noise from vehicular-related traffic and cumulatively considerable contributions to significant cumulative impacts on traffic noise that already exceeds the County's General Plan noise standards.
- Population and Housing—Significant project-related and cumulatively considerable contributions to significant cumulative impacts from increases in population and housing relative to existing conditions.
- Transportation and Traffic—Cumulatively considerable contributions to significant cumulative impacts from increases in traffic at intersections and freeway segments from regional development.

Tehachapi Uplands Multiple Species Habitat Conservation Plan and Environmental Impact Statement

The U.S. Fish and Wildlife Service prepared the Tehachapi Uplands Multiple Species Habitat Conservation Plan (Tehachapi HCP) and Environmental Impact Statement for issuance of an incidental take permit for approximately 141,886 acres (permit area) of the 270,360-acre Tejon Ranch. A total of 8,817 acres of the Tejon Ranch were designated for development associated with the previously discussed TMV Specific Plan EIR (see above) and associated projects covered under the TMV Specific Plan EIR. A total of 16 acres managed by the TCWD on California Department of Water Resources (Department) lands are also located within the 8,817 development footprint area. The Tehachapi HCP permanently protects 116,523 acres of the 141,886 permit area, including 23,001 acres of open space within the TMV Specific Plan area as mitigation for growth-related impacts of development projects on Tejon Ranch.⁸

8.2.4.2 Local Decision Making on Land Use Planning

It is unclear whether in certain areas increased reliability of water supply eliminates an obstacle to growth. Increased reliability of water supply would not improve infrastructure capacity or remove a regulatory constraint that had previously limited growth in the municipal contractor's service areas. However, it is possible that uncertainty in water supplies could, in and of itself, be considered an obstacle to growth because planners might have limited growth (urbanization) based on water supply availability.

Although a project may have growth-inducing potential, it may not result in growth. Neither the Department nor the Kern Water Bank Authority (KWBA) make decisions with regard to where and how growth should occur. Decisions regarding growth policy are made through the general planning process at regional and local levels. However, growth is ultimately controlled by decisions made with respect to individual development proposals at the local level by cities and counties. Availability of water is only one of many factors that land use planning agencies consider when making decisions about growth. Identifying water demands and available sources to meet those demands is now something that urban water suppliers must do in the Urban Water Management Plans (UWMPs) and water supply assessments required for projects above a certain size. See Monterey Plus DEIR Section 9.2, Reliability of Water Supply and Growth, Pertinent Laws, Regulations, and Planning Processes, for further information.

The cities and counties are responsible for considering the environmental effects of their decisions. When new developments are proposed, the cities and counties prepare environmental documents pursuant to CEQA. The impacts of growth would be analyzed in detail either in general plan EIRs or in project-level CEQA documents. Mitigation of identified impacts would be the responsibility of the local jurisdictions in which the growth would occur. Mitigation measures could include locating the growth in areas where sensitive resources are absent, minimizing the loss of resources, or replacing any loss. If identified impacts could not be mitigated to a level below the established thresholds, then the local jurisdiction would need to adopt overriding considerations.

8.2 POTENTIAL GROWTH-INDUCING IMPACTS OF THE KWB

8.2.1 Introduction

KWB activities do not involve construction of new housing and would not substantially expand or establish new employment opportunities that, in turn, would generate housing development. Nor would the KWB provide water supply infrastructure to a previously undeveloped or underserved region.

The following analysis of growth-inducing impacts focuses on the two KWB participants that deliver water for municipal and industrial (M&I) uses: ID4 and TCWD. This section describes the ID4 and TCWD service areas, reviews the population growth projections for ID4 and TCWD, and presents the existing and projected water demand and water supply conditions based on the ID4 2010 UWMP, the TCWD 2005 UWMP, and the TMV Water Supply Assessment (WSA).^{9,10,11} It evaluates the potential for KWB activities to have an indirect effect on growth by removing an obstacle to growth within the ID4 and TCWD service areas. It also describes KWB-recovered water by Irvine Ranch Water District for use in its service area.

8.2.2 Improvement District No. 4 Service Area

ID4 currently has agreements to provide wholesale treated water to the California Water Service Company, City of Bakersfield, and North of the River Municipal Water District, all of which provide treated water supplies to the City of Bakersfield, as well as East Niles Community Services District,

which provides treated water supplies to the unincorporated area of Kern County adjacent to the City of Bakersfield's eastern boundary.

ID4 does not make decisions with regard to new development that would require connections to potable water supplies nor does it have authority or responsibility for approving land use designations. The California Water Service Company, City of Bakersfield, North of the River Municipal Water District, and East Niles Community Services District provide their projected water demands to ID4 based on projects that are under evaluation, are in the planning process, or are the result of water planning efforts within each respective service area. Table 8-1 identifies the water demand projections provided by each wholesale water supplier between 2010 and 2035.

Wholesale Water Supplier	2010	2015	2025	2035
East Niles Community Services District	5,000	11,000	11,000	11,000
City of Bakersfield	0	6,500	6,500	6,500
California Water Service Company	11,500	19,500	20,500	20,500
North of the River Municipal Water District	8,500	11,000	12,500	15,000
Total	25,000	48,000	50,500	53,000

Notes:
afy = acre-feet per year
Source: Kennedy/Jenks Consultants 2011:2-5

8.2.4.1 Population Projections

The ID4 2010 UWMP provides population projections from 2015 to 2035 within its service area. ID4 based these population projections on the Kern Council of Governments' Transportation Advisory Zone population projection database. As shown in Table 8-2, the population in the ID4 service area is projected to increase from 362,447 in 2015 to 525,052 by 2035, or approximately 45 percent.

Year	Population
2015	362,447
2020	414,027
2025	466,989
2030	428,118
2035	525,052

Source: Kennedy/Jenks Consultants 2011:2-1

8.2.4.2 Water Supply and Demand

ID4's water supply consists of SWP water, banked groundwater in Kern Fan groundwater projects, water surplus to the CVP, and Kern River water. Water surplus to the CVP and Kern River water typically have no predictable pattern of yield and therefore are not considered to be part of the ID4 supplies for planning purposes. While ID4 receives supply benefits from these sources when they are available, ID4 does not make long-term planning decisions on the basis of these supplies continued availability.¹²

In the event of a short-term SWP water deficiency, ID4 can rely upon water previously banked in groundwater banking projects to augment surface supply from the SWP. ID4 participates in five groundwater banking projects: KWB, the City of Bakersfield 2800 Acre Recharge Facility, Pioneer Project, Allen Road Complex Well Field, and ID4/Rosedale Joint Use Recovery Project. Table 8-3 summarizes the recharge and recovery capacity of its currently operating groundwater banking programs. Supplies available to ID4 from previously banked water are projected to be 86,066 acre-feet per year (afy) in average water years.

TABLE 8-3

**IMPROVEMENT DISTRICT NO. 4 GROUNDWATER
RECHARGE AND RECOVERY SUMMARY (AFY)**

	City of Bakersfield 2800 Acre Recharge Facility¹	Kern Water Bank	Pioneer Project	Allen Road Complex Well Field	ID4/Rosedale Joint Use Recovery Project¹	Total
Total Recharge Capacity	--	450,000	146,000	--	--	596,000
Total Recovery Capacity	12,000	230,000	100,000	36,000	21,000	399,000
ID4 Percent Interest	100%	9.62%	10%	100%	22%	--
ID4 Recharge Capacity	--	43,290	14,600	--	--	57,890
ID Recovery Capacity	12,000	22,126	10,000	36,000	5,940	86,066

Notes:

afy = acre-feet per year; ID4 = Improvement District No. 4; Rosedale = Rosedale-Rio Bravo Water Storage District

1. In 2012 and 2025, the contracts for the City of Bakersfield 2800 Acre Recharge Facility and the ID4/Rosedale Joint Use Recovery Project are set to expire, respectively.

Source: Kennedy/Jenks Consultants 2011:3-15

As shown in Table 8-3, ID4 has a 9.62 percent interest in the recharge and recovery facilities of KWB as a result of the 1995 joint powers agreement between KWB participants and KWBA (see Revised Appendix E, Section V.B.2). As of 2010, based on its most recent UWMP, ID4 currently has approximately 140,000 af of previously banked groundwater stored in the KWB available to meet its water supply. ID4's total recovery capacity in average water years was 22,126 afy, which accounts for approximately 26 percent of the total recovery capacity available to ID4 (86,066 af).¹³

Table 8-4 identifies water supply and projected demand within the ID4 service area between 2010 and 2035 in normal, single-dry, and multiple dry years. As shown, ID4 is able to access and deliver 100 percent of its total annual water demands under all normal, single- and multiple-dry year scenarios. Deliveries made from ID4's banking programs meet water demand and supplement the annual SWP Table A allocation as needed.¹⁴ Table 8-4 shows that 86,066 afy of banked water was estimated to be available for 2010 demands in normal year and single-dry years, and a minimum of 40,130 afy of banked water is estimated to be available in future (2025+) multiple-dry years.¹⁵

ID4 has structured its participation in the water banking projects to provide sufficient recharge, storage, and recovery capacity to meet its water supply obligations. ID4's water banking projects allow ID4 to cushion impacts associated with SWP variability and re-regulate high flow waters for recovery during dry years.

8.2.3 KCWA Member Unit Tejon-Castac Service Area

TCWD provides water service to the Tejon Industrial Complex, located south of the junction of Interstate 5 (I-5) and State Route 99, and the Tejon Mountain Village Specific Plan area, located east of I-5 and surrounding Tejon Lake. Both are located in Kern County.

TABLE 8-4				
COMPARISON OF IMPROVEMENT DISTRICT NO. 4 WATER SUPPLY AND DEMAND, 2010–2035				
Total Water Supplies and Demand ¹	Projected Demands (afy) ¹			
	2010	2015	2025	2035
Normal Year				
Total Supply	169,012	157,012	151,072	151,072
Banked Groundwater Portion of Supply	86,066	74,066	68,126	68,126
Total Demand	25,000	48,000	50,500	53,000
Single-Dry Year				
Total Supply	91,872	157,012	151,072	151,072
Banked Groundwater² Portion of Supply	86,066	74,066	68,126	68,126
Total Demand³	26,250	50,400	53,025	55,650
Multiple-Dry Years				
Total Supply	114,268	72,142	68,332	68,332
Banked Groundwater Portion of Supply	86,066	43,940	40,130	40,130
Total Demand³	26,250	50,400	53,025	55,650
Notes:				
afy = acre-feet per year; SWP = State Water Project				
1. In 2012 and 2025, the contracts for the City of Bakersfield 2800 Acre Recharge Project and the ID4/Rosedale Joint Use Recovery Project are set to expire, respectively. A 12,000 and 5,940 afy reduction in overall banking capacity is shown.				
2. Groundwater recovery of previously banked supplies to supplement SWP Table A.				
3. Improvement District No. 4 assumes water demands in single- and multiple-dry years increases by 5 percent of the normal year water demands.				
Source: Kennedy/Jenks Consultants 2011; data compiled by AECOM in 2015				

TCWD's existing and future water supplies were estimated based on full buildout of proposed industrial uses in the Tejon Industrial Complex area and residential, commercial, and recreational land uses identified in the proposed TMV.¹⁶

The following discussion also relies on the TMV WSA. The WSA updated water supply and demand data identified in the 2005 UWMP reflect actual and projected water use at the Tejon Industrial Complex and refined land use plans for the proposed TMV.¹⁷ Therefore, the TMV WSA provides the most comprehensive dataset for the TCWD service area.

8.2.4.1 Water Supply and Demand

TCWD's water supply consists of a portion of KCWA's SWP Table A water, high-flow Kern River water, local groundwater from the White Wolf Basin, previously banked groundwater in the KWB and Pioneer Project, and recycled water. Table 8-5 summarizes average year and future water supplies.

TCWD has a 2.0 percent interest in the recharge and recovery facilities of the KWB as a result of the 1995 joint powers agreement between KWB participants and KWBA (see Revised Appendix E, Section V.B.2). For planning purposes, TCWD has estimated that it may request a maximum of about 6,000 afy from the KWB in the future. As of 2008, TCWD had 28,381 af of previously banked water in the KWB.¹⁸ TCWD is only able to recover water to the extent the water is TCWD banked water.

Supply	Average Year (afy)	Potential Supply (afy)
SWP Table A	3,325	5,278
High-Flow Kern River	--	187
Groundwater ¹	--	2,420
Recycled Water	1,158	1,700
Water Banking		
Kern Water Bank	4,000	6,000
Pioneer Project	750	1,000
Total	9,233	16,585

Notes:
afy = acre-feet per year
1. Groundwater only meets water supply demands for the Tejon Industrial Complex Area.
Source: TCWD 2008

Table 8-6 identifies water supply and demand within the TCWD service area between 2008 and 2028 in normal and single-dry years. Table 8-7 identifies water supply and demand within the TCWD service area over four multiple-dry years. As shown in Tables 8-6 and 8-7, TCWD is able to access and deliver 100 percent of its total annual water demands under all water year scenarios. Deliveries made from the TCWD's banking programs meet water demand and supplement the annual SWP Table A allocation as needed.

Total Water Supplies and Demand	Projected Demands (afy)			
	2008	2013	2018	2028
Normal Year				
SWP Table A	3,325	3,365	3,444	3,483
Recycled Water	1,158	1,158	1,158	1,158
Total Supply	4,483	4,523	4,562	4,641
Total Demand	4,102	4,102	4,102	4,102
Surplus	381	421	460	539
Single-Dry Year				
SWP Table A	317	330	343	369
Recycled Water	1,158	1,158	1,158	1,158
Total Supply	1,475	1,488	1,501	1,527
Total Demand	4,102	4,102	4,102	4,102
Extraction from Water Banks	2,627	2,614	2,601	2,575

Notes:
afy = acre-feet per year; SWP = State Water Project
Source: TCWD 2008; data compiled by AECOM in 2016

TABLE 8-7				
COMPARISON OF TEJON-CASTAC WATER DISTRICT WATER SUPPLY AND DEMAND FOR MULTIPLE-DRY YEARS				
Total Water Supplies and Demand	Projected Demands (afy)			
	Year 1	Year 2	Year 3	Year 4
SWP Table A	1,320	1,742	2,058	1,742
Recycled Water	1,158	1,158	1,158	1,158
Total Supply	2,478	2,900	3,216	2,900
Total Demand	4,102	4,102	4,102	4,102
Extraction	1,624	1,202	866	1,202
Notes:				
afy = acre-feet per year; SWP = State Water Project				
Source: TCWD 2008; data compiled by AECOM in 2016				

The County of Kern adopted Mitigation Measure 4.16-5 applicable to the TMV project. Mitigation Measure 4.16-5 states that prior to issuance of any building permit for residential housing, written verification must be provided from the TCWD that a 7-year indoor water supply for the number of dwelling units that have been constructed, or for which building permits have been issued, is reserved in the water banks for the TMV Specific Plan project. Mitigation Measure 4.16-5 further states that no building permits will be issued without the applicable reserve amount being available exclusively for the TMV Specific Plan area.

As stated in TCWD's 2005 UWMP and TMV WSA, TCWD is able to access and deliver 100 percent of its total annual water demands under all normal, single, single-dry, and multiple dry-year scenarios. In addition, the TCWD 2005 UWMP and WSA concluded that the reclaimed water strategy for the Tejon Mountain Village Specific Plan area and its water conservation in both services areas will maximize the use of all water resources.

8.2.4 KWB Water Used Outside the KWB Participants' Service Area

8.2.4.1 Direct Sales from KWB Participants

From 1996 through 2007, water was sold by KWB participants to the Environmental Water Account (EWA), a program that has since been discontinued. The EWA water was not growth-inducing because its primary purpose was providing water for fishery protection and recovery and providing assurances against additional water supply losses for urban and agricultural water supplies. From 1998 through 2008, other KWB participant water sales include water that went to agricultural entities within the San Joaquin Valley, a wildlife refuge, and a power plant located within Kern County. In addition to these types of sales, 4 percent of the water recharged and stored at the KWB can be purchased by adjoining groundwater districts within Kern County for overdraft correction purposes (see Revised Appendix E, Table 9A). During 2009 through 2014, there were no out-of-county sales of KWB water by KWB participants. Given the past history and current usage patterns, it is expected that sales to non-KWBA participants are likely to occur infrequently, if at all, outside of Kern County and would represent a small percentage of the total recovered KWB water by the KWBA participants. See Revised Appendix E, Section IV.A.3.

8.2.4.2 Other Water Transactions by KWB Participants

Water transfers and exchanges have historically been and continue to be a regular and critical part of water management in California, especially during dry years. Transfers are one-way transactions, where water from one agency is transferred to another, with no future return of that water. For KCWA, transfers with another agency are typically “landowner transfers,” where a landowner that owns land within both KCWA and another agency’s service area wants to transfer the water available to it from one agency for use on its land in the other agency’s service area. Exchanges are two-way transactions, where water from one agency or source is delivered to another agency, in exchange for the return of a specified quantity of water. An exchange may involve a change in the timing of delivery of water due to a critical need (e.g., one agency has a dry year water deficit which another agency can meet, and in return future water will be returned back to the providing water agency), or a change in the source of water delivered (e.g., water from a source available to one agency is delivered to another, in exchange for water from a different source). These transactions can provide a number of benefits, including improved water management, reduced costs for water delivery, and/or improved water quality. See Revised Appendix E, Section VI.A.2.

8.2.4.3 Use of Water by Irvine Ranch Water District via Dudley Ridge Water District

The KWB is designed to store water for later use by participants in Kern and Kings Counties. It is therefore expected that most KWB recovered water will remain within Kern and Kings Counties as it has in the past. However, some of the water may be used outside Kern and Kings Counties. Irvine Ranch Water District (IRWD) is a member unit of SWP Contractor Metropolitan Water District of Southern California; however, it now owns land within Dudley Ridge Water District (DRWD) as noted below. IRWD intends to bank some of its water supplies in the KWB for future use in its service area in Orange County.

IRWD acquired approximately 883 acres (the “Jackson Ranch”) located within the DRWD and its associated rights to use approximately 1,738 afy of Table A SWP allocated water. Additionally, acquisition of the Jackson Ranch land included certain participation rights in the KWB. According to IRWD’s 2010 UWMP, IRWD can store up to approximately 7,600 afy of water in the KWB. Total IRWD water supplies in 2010 from all sources were 151,751 afy.

8.2.5 Conclusions

The stored water supply that is made available as a result of the KWB contributes to meeting the needs of KWB participants ID4 and TCWD. In both cases, the KWB stored water is one of several water sources relied upon by these two water suppliers as well as other water management options (i.e., reclaimed water). Participation in the KWB provides greater flexibility for these water suppliers, allowing them to use surface water when it is available and bank water to use in dry years. Additionally, in 2011 IRWD obtained participation rights in the KWB through DRWD as a result of a land purchase in DRWD’s service area.

While an adequate water supply alone does not cause growth, it is a public service that supports growth. Other important factors influencing growth include: economic factors (such as employment opportunities); capacity of public services and infrastructure (e.g., wastewater, public schools, roadways); local land use policies; and land use constraints such as floodplains, sensitive habitat areas, and seismic risk zones.

Developing housing and implementing the services needed for population increases would generate impacts at locations where that growth would occur. The impacts of growth in ID4 and TCWD service areas have been analyzed in the City of Bakersfield and Kern County General Plan EIRs, respectively,

and the relationship between growth and water supplies has been analyzed in applicable UWMPs and water supply assessments. When new developments are proposed within the City of Bakersfield and Kern County, the City and County prepare project-level environmental documents pursuant to CEQA. Three key EIRs have concluded that urban projects that relied on several water sources including KWB recovered water would have significant and unavoidable impacts related to growth, as summarized in Section 8.1.2.3.

Growth in an area outside of the KWB participants' service area (such as with IRWD) would be similarly analyzed and mitigated by local planning authorities before it occurs. Identifying the specific locations and characteristics of growth in areas outside the KWB participants' service areas, and consequently the specific environmental impacts of that growth, can be characterized generally based on environmental impacts identified in general plans, UWMPs, and EIRs in the areas where this growth could occur and could be significant and unavoidable. See Section 8.1.2.3.

Development projects that rely upon KWB recovered water, along with other water supplies, have been found to result in significant and unavoidable impacts. Therefore, it is possible that KWB activities contribute to the significant and unavoidable impacts identified for those projects. The Department and KWBA lack the authority to approve or deny development projects or to impose mitigation to address significant environmental impacts associated with development projects; that authority resides with local cities and counties. As discussed in Section 8.1.2.4, Local Decision Making on Land Use Planning, decisions regarding growth are made through the general planning process at regional and local levels. Cities and counties in the service areas affected by the increased population are responsible for considering the environmental effects of their growth and land use planning decisions. Availability of water is only one of many factors that land use planning agencies consider when making decisions about growth. Identifying water demands and available sources to meet those demands is now something that urban water suppliers must do in the Urban Water Management Plans and that cities and counties must do in water supply assessments required for projects above a certain size. When new developments are proposed, the cities and counties prepare environmental documents pursuant to CEQA. In addition, numerous federal, state, regional, and local agencies are specifically charged with protecting environmental resources, and ensuring that planned development occurs in a sustainable manner. Together, these agencies exercise the authority to reduce the effects of development on the environment. Where appropriate, they must consider feasible mitigation measures, feasible alternatives, and statements of overriding considerations.

ENDNOTES

- 1 Stantac. 2005 (December). Tejon-Castac 2005 Urban Water Management Plan.
- 2 Kern County. 2002 (November). *Final Environmental Impact Report Tejon Industrial Complex East Specific Plan*. State Clearinghouse No. 2001101133.
- 3 Kern County. 2005 (July). *Draft Environmental Impact Report Supplemental Analysis Tejon Industrial Complex East Specific Plan*. State Clearinghouse No. 2001101133.
- 4 Kern County. 2009 (August). *Final Environmental Impact Report Tejon Mountain Village by TMV, LLC*. State Clearinghouse No. 2005101018.
- 5 Kern County. 2000 (February). *Tejon Industrial Complex Final Environmental Impact Report*. State Clearinghouse No. 99061016.
6. *Center for Biological Diversity, et al. v. County of Kern, et al.*, (Apr. 6, 2007, F050685) [nonpub. opn.], 2007 WL 1032268.
7. *Center for Biological Diversity v. Kern County*, unpublished decision, 2012 WL 1417682. April 25, 2012.
8. USFWS. 2013 (April). Tehachapi Uplands Multiple Species Habitat Conservation Plan Environmental impact Statement.
- 9 Stantac. 2005 (December). Tejon-Castac 2005 Urban Water Management Plan.
- 10 Tejon-Castac Water District. 2008 (July). Tejon Mountain Village Water Supply Assessment. Lebec, CA.
- 11 Kennedy/Jenks Consultants. 2011 (June). Kern County Water Agency Improvement District 4 and North of the River Municipal Water District 2010 Urban Water Management Plan.
- 12 Kennedy/Jenks Consultants. 2011 (June). Kern County Water Agency Improvement District 4 and North of the River Municipal Water District 2010 Urban Water Management Plan.
13. Kennedy/Jenks Consultants. 2011 (June). Kern County Water Agency Improvement District 4 and North of the River Municipal Water District 2010 Urban Water Management Plan.
- 14 Kennedy/Jenks Consultants. 2011 (June). Kern County Water Agency Improvement District 4 and North of the River Municipal Water District 2010 Urban Water Management Plan.
- 15 In 2012 and 2025, the contracts for the City of Bakersfield 2800 Acre Recharge Facility and the ID4/Rosedale Joint Use Recovery Project are set to expire, respectively. A 12,000 and 5,940 afy reduction in overall banking capacity is shown in Table 8-6.
- 16 Stantac. 2005 (December). Tejon-Castac 2005 Urban Water Management Plan.
- 17 Tejon-Castac Water District. 2008 (July). Tejon Mountain Village Water Supply Assessment. Lebec, CA.
- 18 Tejon-Castac Water District. 2008 (July). Tejon Mountain Village Water Supply Assessment. Lebec, CA.

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