

**UPDATED FINAL**  
**OFF-CHANNEL MINING PLAN (OCMP)**  
**for LOWER CACHE CREEK**

**Yolo County**

***Updated December 17, 2019***  
***Adopted July 30, 1996***

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**Clarifications to Updated Final OCMP (2019)**

On August 5, 2021, the following minor modifications were made to the document:

1 - A footnote was inserted on pages 10, 13, and 27 that clarifies the total acreage that was rezoned to SGR-O as a result of the 2019 CCAP Update (Ordinance No. 681.234).

2 - Figure 5 (pg. 14) was updated to reflect the associated rezoning.

3 - The parenthetical of OCMP Action 2.4-2 (pg. 29) was updated to reflect the County code sections where the requirement is found.

***Updated December 17, 2019 (Board Resolution 19-176)***  
***Adopted July 30, 1996 (Board Resolution 96-117)***

## TABLE OF CONTENTS

<b>SECTION</b>	<b>PAGE</b>
TABLE OF CONTENTS	i
LIST OF FIGURES	iii
<b>CHAPTER 1.0 – INTRODUCTION</b>	
1.1 History and Background	1
1.2 Planning Area	4
1.3 Relationship to Other Regulations and Plans	15
1.4 Required Approvals	22
1.5 Organization of Plan	25
<b>CHAPTER 2.0 – AGGREGATE RESOURCES ELEMENT</b>	
2.1 Introduction	26
2.2 Goals	27
2.3 Objectives	28
2.4 Actions	29
<b>CHAPTER 3.0 – WATER RESOURCES ELEMENT</b>	
3.1 Introduction	33
3.2 Goals	35
3.3 Objectives	36
3.4 Actions	36
<b>CHAPTER 4.0 – FLOODWAY AND CHANNEL STABILITY ELEMENT</b>	
4.1 Introduction	38
4.2 Goals	41
4.3 Objectives	42
4.4 Actions	42
<b>CHAPTER 5.0 – AGRICULTURAL RESOURCES ELEMENT</b>	
5.1 Introduction	44
5.2 Goals	46
5.3 Objectives	46
5.4 Actions	46

## TABLE OF CONTENTS

<b>SECTION</b>	<b>PAGE</b>
<b>CHAPTER 6.0 – BIOLOGICAL RESOURCES ELEMENT</b>	
6.1 Introduction	48
6.2 Goals	52
6.3 Objectives	52
6.4 Actions	52
<b>CHAPTER 7.0 – OPEN SPACE AND RECREATION ELEMENT</b>	
7.1 Introduction	54
7.2 Goals	55
7.3 Objectives	55
7.4 Actions	57
<b>ACKNOWLEDGEMENTS</b>	58
<b>APPENDICES</b>	
A. Yolo County Off-Channel Surface Mining Ordinance	
B. Yolo County Surface Mining Reclamation Ordinance	
C. Surface and Mining Reclamation Act	

## LIST OF FIGURES

<b>FIGURE</b>		<b>PAGE</b>
1	Boundary of Greater Sacramento Area P-C Region	7
2	State Mineral Resource Zones	8
3	OCMP Planning Area	11
4	In-Channel Boundary	12
5	Past, Current, and Future Mining	14
6	Streamway Influence Zone	23
7	Groundwater Basin Boundaries	34
8	Channel Form Template	40
9	Baseline Parkway Plan Properties	56

## **CHAPTER 1.0 – INTRODUCTION**

Pursuant to local requirements, the Off-Channel Mining Plan (OCMP) was comprehensively reviewed and updated in 2017. New hydraulic and topographic modeling was conducted along Cache Creek using HEC-RAS v5.0 and topographic data collected in 2011. Biological resources within the program area were comprehensively assessed. Over twenty years of data collected as a part of the program were analyzed for patterns and trends. This information was reported in an update to the 1995 Technical Studies entitled 2017 Technical Studies, which provided information in support of proposed updates, clarifications, and modifications to the program documents.

### **1.1 HISTORY AND BACKGROUND**

Cache Creek has long served as a regional source for aggregate. Mining within the creek dates back to the early 1900's, when sand and gravel were removed and shipped by rail to be used in the reconstruction of San Francisco after the devastating 1906 earthquake. Many of the early excavations were small and scattered along a wide expanse, meeting both local needs as well as large public projects, such as the Golden Gate Bridge. With the post-World War II economic boom in the 1950's, however, the scale and intensity of mining began to increase. The building of airports, schools, hospitals, highways, dams, and residential suburbs created a strong need for concrete and other construction materials. The production of sand and gravel in Cache Creek has continued to escalate over the past several decades, responding to the robust growth of both California and the Sacramento metropolitan region.

#### **Aggregate Resources Advisory Committee**

Yolo County has been actively involved in studying and attempting to resolve surface mining issues along Cache Creek for over two decades. Concerns over the environmental impacts of in-stream mining led to the formation by the Board of Supervisors of the Aggregate Resources Advisory Committee (ARAC) in 1975. The ARAC commissioned Woodward-Clyde Consultants to prepare a report, analyzing the potential relationships between adverse environmental conditions and the aggregate excavations operating along Cache Creek. The study was released in 1977, and made several suggestions regarding future management of the creek, including: require use permits for all mines operating at the time; establish a maximum depth of excavation; encourage the development of off-channel mining; allow for the channel to be widened in appropriate areas; emphasize erosion control measures; and improve monitoring. It was recommended that these issues be evaluated in the context of County adopted aggregate resources management policies.

In response to the recommendations made by the ARAC, and as required by the State Surface Mining and Reclamation Act (SMARA) enacted in 1976, the Board of Supervisors adopted in-channel mining and reclamation ordinances. The ordinances, adopted in 1979, required all surface mining operations to apply for use permits and reclamation plans. This was accomplished the following year, with the approval of eight permits/reclamation plans and certification of an

Environmental Impact Report (EIR) (prepared by Environ) which analyzed the impacts of mining along the creek. The EIR concurred with the ARAC's recommendation for the development of a broad-based aggregate resource management program. In addition, Environ made several other suggestions, including: allow for the development of off-channel mining; protect mineral resources against encroachment; permit mining within the A-P (Agricultural Preserve) Zone; consider reclaimed uses other than agriculture in the A-P Zone, such as groundwater storage and/or recharge; revise the interim ordinances; and gather more data about the creek.

### **Aggregate Technical Advisory Committee**

The Aggregate Technical Advisory Committee (AgTAC) was formed by the Board of Supervisors in 1979 to develop a Resource Management Plan (RMP) for the Cache Creek area. A draft RMP was submitted in 1984, containing eleven alternative scenarios for the future of the creek. The recommended plan outlined the creation of an engineered floodway to ensure that there would be sufficient capacity to safely accommodate 100-year flood events. In-stream mining would be minimized to maintenance levels, while aggregate mining would take place in deep, off-channel pits. Improvements and maintenance of the creek were to be managed by a separate public or private agency. Finally, AgTAC reiterated support for revising the mining and reclamation ordinances, as well as a review of the compatibility of the A-P Zone requirements with off-channel mining.

A draft Program Environmental Impact Report was prepared by Dames and Moore in 1989, examining the alternatives discussed in the draft AgTAC plan. Before any recommendations could be adopted; however, the draft EIR was subjected to significant controversy regarding the adequacy of its analysis. As a result, the document was abandoned by the County in 1991. Over the next two years, a series of public workshops were held by the County in order to develop a specific project description to form the basis of a Resource Management Plan. This effort was later taken up by a subcommittee of the Board of Supervisors, who made their findings in March of 1994.

### **Cache Creek Area Plan**

The Cache Creek Area Plan (CCAP) is comprised of the Off-Channel Mining Plan (OCMP) and Cache Creek Resources Management Plan (CCRMP). The OCMP is a scientifically based aggregate resource management plan that allowed for off-channel mining adjacent to Cache Creek. It facilitated the development of a sufficient supply of aggregate to meet current and future market needs, while greatly increasing the level of environmental protection and monitoring. It provided a planning area boundary, and restricted mining to certain areas within that boundary for a 50-year period. It identifies specific goals, objectives, and actions to guide mining activities that go well beyond the state-mandated requirements of the State Mining and Reclamation Act (SMARA). The OCMP was adopted on July 30, 1996 (Board Resolution 96-117), and underwent a comprehensive update in 2017.

The CCRMP is a scientifically based river management plan that eliminated in-channel commercial mining, established an "improvement program" for implementing on-going projects to improve channel stability, encouraged restoration along the creek banks pursuant to a carefully developed policy and regulatory framework, and established a framework for future recreation along the Creek. The CCRMP was adopted August 20, 1996 (Board Resolution 96-132), underwent a focused update that was adopted on July 23, 2002 (Board Resolution 02-130), and a comprehensive update in 2017. An historic overview of the development of the two plans is provided below.

In June 1994, the Board of Supervisors adopted a conceptual framework of goals and objectives for the OCMP and CCRMP<sup>1</sup>. A work schedule was also approved by the Board, describing four primary tasks: (1) adoption of a resource management plan to protect and restore the creek; (2) adoption of an off-channel mining plan and implementing ordinances; (3) processing of long-term off-channel mining and reclamation applications; and (4) processing of temporary off-channel mining and reclamation applications to allow operations to continue while the necessary plans are being developed.

In addition to adopting the conceptual framework, the Board also directed the preparation of the "*Technical Studies and Recommendations for the Lower Cache Creek Resource Management Plan*" (1995 Technical Studies). The 1995 Technical Studies provide baseline and historical information about the streamway fluvial morphology, groundwater resources, and riparian habitat, so that an accurate assessment could be made of the creek's condition and appropriate management strategies. Constraints and opportunities for activities such as mining, flood control, channel stabilization, groundwater management, and habitat restoration were also identified in the report. The 1995 Technical Studies include an extensive list of recommendations on improving the natural resources of Cache Creek. On October 24, 1995, the Board of Supervisors accepted the 1995 Technical Studies and directed staff to utilize them as the basis for preparing both the OCMP and the CCRMP.

Throughout 1995 and the first half of 1996, the CCRMP, Cache Creek Improvement Program (CCIP), OCMP, and various implementing ordinances were drafted. Program EIRs were prepared and certified for both plans and accompanying ordinances. The entire program was adopted the Board of Supervisors in 1996, and subsequently placed by the Board before the voters on the November 1996 ballot against an opposing citizen's initiative. Over 60 percent of the voters supported the CCAP and that same proportion voted against the citizen's initiative. Moreover, the CCAP carried in every supervisorial district. Implementation of the plan began in earnest in 1997.

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<sup>1</sup> The Yolo County Cache Creek Resources Management Plan (CCRMP) was adopted August 20, 1996, with an update on July 23, 2002. In 2002, the BLM released a draft of their Cache Creek Coordinated Resource Management Plan (CCCRMP). The BLM CCCRMP was adopted December 14, 2004. Though similarly named these plans are completely independent.



The entire CCAP program (sometimes referred to as the “gravel program”) is now administered through the following local regulations:

- CCRMP implemented by the CCIP (Appendix A) and In-Channel Ordinance (Appendix B and County Code Title 10, Chapter 3)
- OCMP implemented by the Off-Channel Surface Mining Ordinance (County Code, Title 10, Chapter 4) and the Surface Mining Reclamation Ordinance (County Code, Title 10, Chapter 5)
- Other important ordinances include (but are not limited to):
  - Gravel Mining Fee Ordinance (County Code, Title 10, Chapter 11)
  - Sand and Gravel Combining Zone County Code, Title 8, Chapter 2, Article 23.1)
  - Sand and Gravel Reserve Combining Zone (County Code, Title 8, Chapter 2, Article 23.8)
  - Development Agreements Ordinance (County Code, Title 8, Chapter 5)
  - Flood Protection Ordinance (County Code Title 8, Chapter 4)

## **1.2 PLANNING AREA**

Over time, California's supply of aggregate has become increasingly limited. The highways and roads, universities, public transit systems, dams, and homes that have been built throughout the state have generated a strong demand for construction materials over the past several decades. At the same time, however, increasing urbanization in other areas of the state has also threatened the continued extraction of sand and gravel. In some instances, neighborhoods, industries, and parks have been built over valuable mineral deposits. More frequently, urban development has moved closer to existing mine sites, forcing them to shut down or curtail their operations due to the nuisances and environmental impacts associated with the resulting land use conflicts.

SMARA includes provisions to encourage the production and conservation of minerals to ensure that a sufficient supply will be available for the state's future growth. In order to assist local jurisdictions in the identification of significant aggregate resources near urbanizing areas, the State Geologist is assigned the responsibility of classifying the extent and quality of mineral deposits within metropolitan regions around the state. As a part of this program, the State Department of Conservation (DOC) issued Special Report (SR) 156, "Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in the Sacramento-Fairfield Production-Consumption Region" in 1988. Included within this report is an analysis of the sand and gravel resources located along Cache Creek.

An updated report was released in June 2019 (Special Report 245, Mineral Land Classification: Concrete Aggregate in the Greater Sacramento Area Production Consumption Region, 2018). SR 245 consolidates and redefines the regional consumption area. The report provides a revised estimate of remaining available aggregate along Cache Creek that does not appear to factor in

the conclusions of the 2017 Technical Studies related to in-channel aggradation or aggregate extraction off-channel since the 1988 report. For these reasons no changes to County estimates of available aggregate resources have been made in response to this report as County estimates are believed to be more accurate.

The planning area for the OCMP is defined as the area contained within the Mineral Resource Zones (MRZs) delineated by the DOC as potentially containing mineral aggregate resources, minus the planning area for the CCRMP. The planning area for the CCRMP is equal to the active in-channel area of the creek system, as defined by the delineated channel bank line or the regulatory 100-year flood elevation, whichever is wider, modified as described in the CCRMP. The planning area for the CCRMP encompasses approximately 2,266 acres. Subtracting this area from the 28,130 acres included in the State MRZs (see following section), leaves a total of approximately 25,864 acres within the planning area of the OCMP. The area permitted for excavation as of 2017 totals 1,900 acres<sup>2</sup> of the total. Since the mineral resource zones classified in Special Report 156 form the basis for planning area of the OCMP, it is important to describe how these boundaries were developed, and the extent of the aggregate resources that they contain.

### **Mineral Resource Classification**

The aggregate deposits within the Sacramento-Fairfield region were formed through the deposition of large volumes of sand, gravels, and cobbles from mountain streams. As these streams enter the flat Sacramento Valley from the adjoining mountain ranges, the abrupt change in slope causes the heavy aggregate to fall out and form alluvial fan deposits. The extent of these deposits was determined using a wide range of information, including geologic maps, engineering test results, aerial photos, data from the mining industry, interviews, well and drilling records, and field investigations. From this information, the areas along Cache Creek were divided by the DOC into one of four Mineral Resource Zones. These zones are used by the State to define areas containing valuable deposits. Once all Mineral Resource Zones have been identified, then the local jurisdiction must take each of the mineral resource zones into account when making land use decisions, including the discouragement of uses that would inhibit harvesting, and consideration of the importance of the mineral to the market region as a whole. The guidelines for establishing these MRZs are as follows:

**MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. This zone is applied where, based upon economic principles and geologic data, it is determined that the likelihood for the occurrence of significant mineral deposits is slight or nonexistent.

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<sup>2</sup> CEMEX - 586 acres; Granite Capay - 312 acres; Granite Esparto - 313 acres; Syar - 248 acres; Teichert Esparto - 148 acres; Teichert Woodland - 252 acres; Teichert Schwarzgruber - 41 acres.

**MRZ-2:** Areas where adequate information indicates that significant mineral deposits are present, or where it is determined that a high likelihood for their presence exists. In addition, there are two economic requirements that must be met if land is to be classified as MRZ-2: (1) the deposit must be composed of material that is suitable as a marketable commodity; and (2) the deposit must meet a threshold value (gross selling price) equal to at least \$5,000,000 (1978 dollars).

**MRZ-3:** Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

**MRZ-4:** Areas where available information is inadequate for assignment to any other Mineral Resource Zone.

Mineral Resource Zone acreage within the OCMP plan area is as follows: the MRZ-1 is 1,458 acres; the MRZ-2 is 18,452 acres; and the MRZ-3 is 8,220 acres.

The aggregate resources along Cache Creek contain large concentrations of a high-grade sand and gravel called "Portland Cement Concrete" or PCC. Much of this material has not been identified as PCC-grade through formal engineering tests. Where MRZ-2 mineral resources have not been tested, they are believed to be of PCC quality because the materials are of a similar age and composition, and were deposited under similar geologic conditions as those aggregates which have been proved to be of PCC-grade. The use of extrapolation was done only when the unproven deposit extended from a formation where PCC-grade aggregate has been produced.

### **The Greater Sacramento Production-Consumption Region**

Aggregate is a low-value, high-bulk commodity. The relatively inexpensive cost of production, combined with the heavy weight and bulk of the material, means that transportation represents a major component in the price charged for sand and gravel. The shipping costs of aggregate can account for as much as 50 percent of the price of the delivered product. Because transportation costs are critical in determining the price of sand and gravel, the economic feasibility of developing deposits is evaluated on a regional basis.

The CCAP area was previously included within the former Sacramento-Fairfield Production-Consumption (P-C) Region, which encompassed portions of El Dorado, Placer, Sacramento, Solano, and Yolo Counties; the greater Sacramento metropolitan area; the Cities of Fairfield, Vacaville, Davis, and Woodland; and the Cache Creek aggregate resource area. SR 254 has consolidated six former P-C regions, including the CCAP, into one large market region identified as the Greater Sacramento Area (GSA) P-C Region (see Figure 1). The CCAP area is identified as one of only two net producers of aggregate within that region, with the Yuba/Marysville area identified as the other.

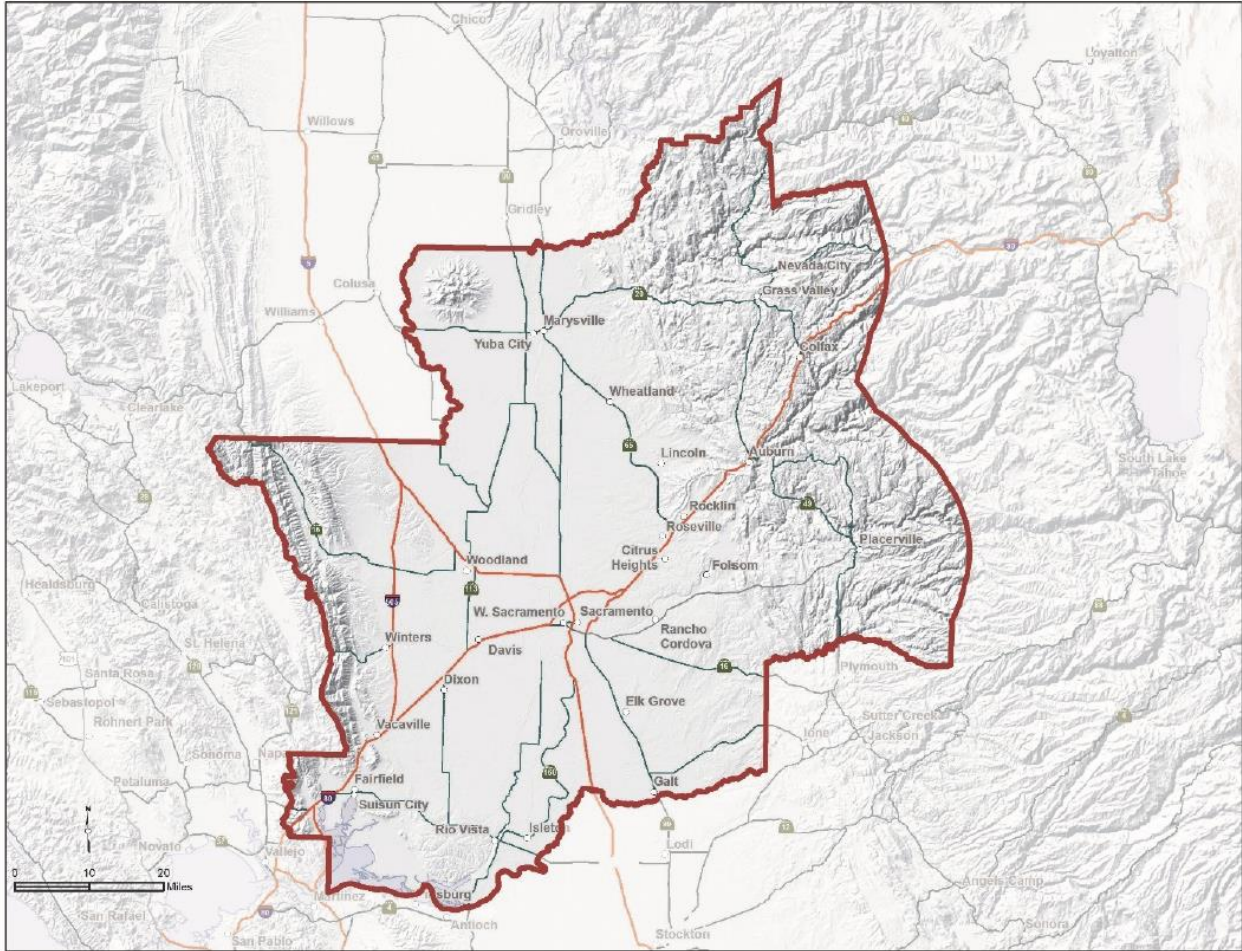
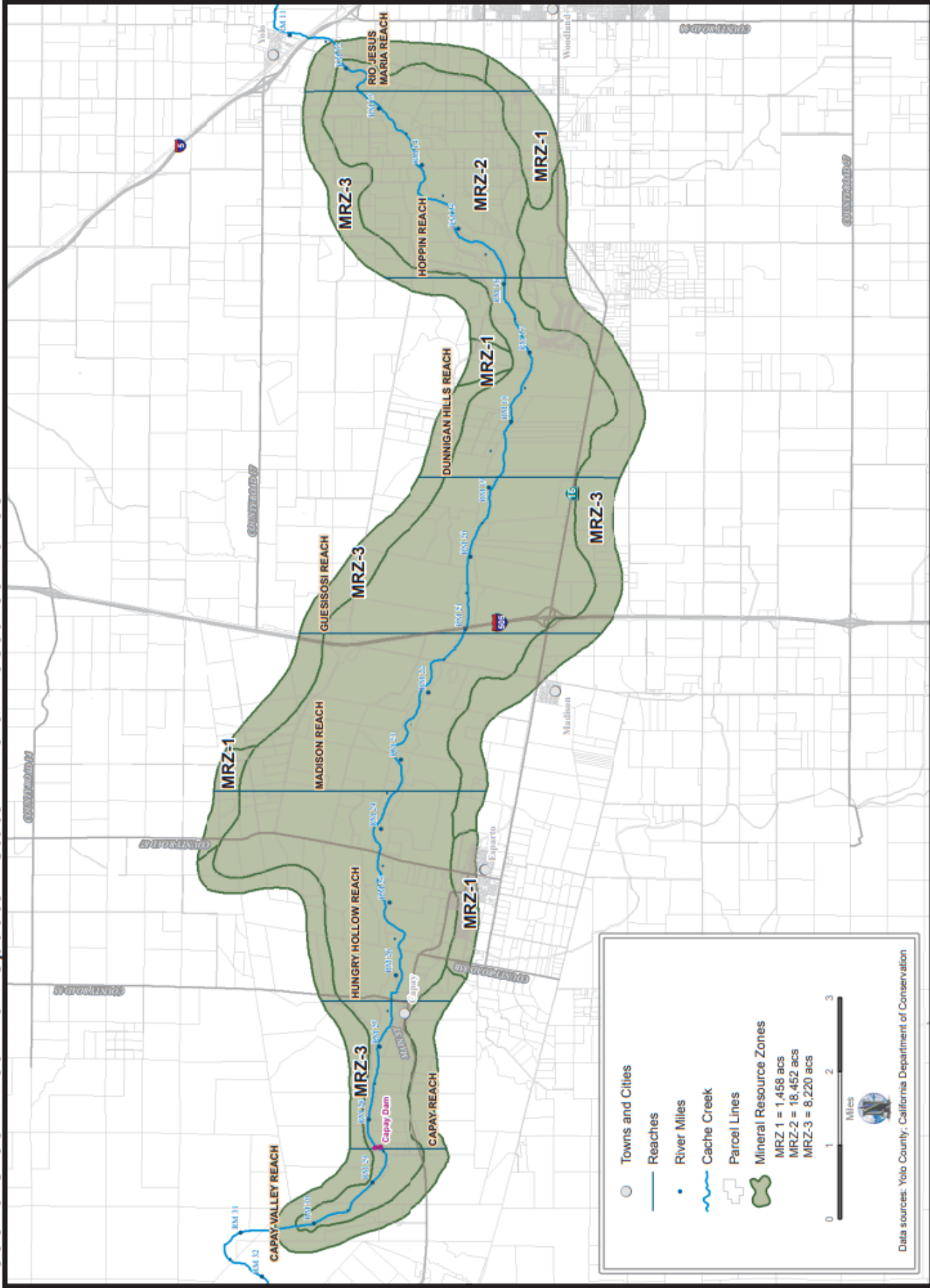


Figure 1. Boundary of Greater Sacramento Area P-C Region (SR 245, October 2018)

### Estimated Cache Creek Aggregate Resources

The 1988 classification study provided an estimate of the amount of sand and gravel deposited along Cache Creek. This estimate was based on information collected in 1982, which focused on the MRZ-2 area. The 2019 classification study does not appear to reflect off-channel and in-channel tonnage information known to the County and therefore, the following estimates may differ from the estimates provided in the 2019 DOC report. The Yolo County MRZ-2 area extends along Cache Creek from upstream of the Capay Dam to the town of Yolo (see Figure 2). For the purposes of the classification study, this area was divided into four sectors and sixteen subsectors, in order to make the ensuing calculations easier to manage and more accurate. The Mineral Resource Zone was further defined by excluding setbacks from roads, canals, pipelines, etc. The resulting MRZ-2 area encompasses approximately 18,452 acres (a little under 29 square miles).

# Cache Creek Area Plan Update - State Mineral Resource Zones



Data sources: Yolo County; California Department of Conservation

May 10, 2017

Figure 2

In 1996, when the OCMP was adopted, approximately 918 million tons of PCC aggregate reserves were remaining in the Cache Creek mineral resource zone. Since approval of the OCMP, approximately 176 million tons<sup>3</sup> have been authorized for extraction in seven approved mining permits leaving approximately 742 million tons in reserves. Although portions of this 742 million tons may not be economical to mine at the present time, markets and technologies change. SMARA encourages the protection of these deposits to ensure their future availability.

### **Alternative Sources of Aggregate**

Based on the DOC analysis of aggregate reserves in the region, which was last conducted in the 1980's, other sources of aggregate resources include the American River and Morrison Creek. These reserves were considerably smaller than the Cache Creek reserves (less than half) and have been mined subsequent to the last DOC special report. An estimate of current remaining reserves outside of Cache Creek at the time of this update are not known; however, DOC staff have started an update of the 1980's research.

There are other sources of aggregate that have not been tested or evaluated by the DOC and their utility has not been established. These other sources of aggregate material include:

1. Dredger tailings found east of Yuba City and Marysville.
2. Alluvium underlying Mather Air Force Base in Sacramento.
3. Sand and gravel beneath downtown and southern Sacramento.
4. Alluvial deposits and tailings found within and surrounding Folsom.
5. Future in-channel deposits.

The Yuba City/Marysville area is located 40 miles north of Woodland. As discussed earlier, transportation costs account for much of the price of sand and gravel. In this region, hauling the product such a distance results in a significant increase in cost, that makes this source economically infeasible for local use. The Mather Air Force Base, South Sacramento, and Folsom sources are located within areas that are already urbanized or are expected to develop in the near future. The Folsom Dam has restricted the amount of aggregate that reaches the American River, and mining within the American River Parkway is restricted to existing operations. In-channel deposits, therefore, within the Parkway are not expected to provide a significant amount of aggregates in the future. As discussed in the CCRMP, commercial mining within Cache Creek is prohibited, and marketable aggregate that is derived from excavation performed for channel stability purposes will not be sufficient to meet regional needs.

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<sup>3</sup> CEMEX - 32.17 million tons; Granite Capay - 32.26 million tons; Granite Esparto - 30.00 million tons; Syar - 33.30 million tons; Teichert Esparto - 25.88 million tons; Teichert Woodland - 17.88 million tons; Teichert Schwarzgruber - 4.65 million tons.

As an alternative to sand and gravel, it is possible to take hard rock and crush it to PCC-grade specifications. Suitable deposits of rock may be found in two places within the P-C region: (1) a wide band in the foothills extending from Folsom to Placerville, east of Sacramento; and (2) smaller pockets located in the hills to the north and west of Fairfield. It should be noted; however, that the additional expenses involved in crushing rock prevent it from being economically competitive with PCC-grade alluvial deposits at this time. Furthermore, none of the alternative sources mentioned above are located within Yolo County.

### **Planning Area for OCMP and CCRMP**

The planning area for the OCMP is defined as the area contained within the Mineral Resource Zones (28,130 acres), minus the planning area regulated under the CCRMP (2,266 acres), for a total of 25,864 acres (see Figure 3). Within the OCMP planning area, 1,900 acres are currently approved for excavation, which is a subset of the 2,464-acre total for all approved mine sites (area zoned Sand and Gravel Overlay or SG-O), 1,001 acres are zoned currently to allow for future mining (Sand and Gravel Reserve Overlay or SGR-O), and another 1,188 acres are proposed to be rezoned for future mining, as described below.<sup>4</sup>

The planning area for the CCRMP is equal to the active in-channel area of the creek system, as defined by the delineated channel bank line or the 100-year flood elevation, whichever is wider, was modified as described in the CCRMP. The in-channel area encompasses 5,109 acres, including 2,266 acres within the CCRMP boundary, plus several thousand acres located in the floodplain north of the City of Woodland (see Figure 4).

### **Off-Channel Mining and Future Regional Aggregate Demand**

The State Mining and Geology Board requires that classification reports include an estimate of the quantity of aggregate needed to supply the production consumption region over the next fifty years. In order to obtain this estimate of total future demand at the time the OCMP was being written, the State Geologist calculated an average consumption of 10.2 tons/person/year of aggregate within the region for the years 1960-1980. Approximately forty percent of the total aggregate during this time period was used in projects requiring PCC-grade materials. The per capita consumption rate was identified as higher than normal at the time, but was typical for metropolitan regions with low population density and extensive urban development. It was noted that the per-capita consumption rate could change significantly in the future, either decreasing as urban area infrastructure systems mature and stabilize, or increasing in times of disaster reconstruction and economic growth.

More recently, based on records spanning 1980 to 2010, the DOC calculated per-capital consumption of aggregate in California at about 5.7 tons per person per year or about 44 percent

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<sup>4</sup> In December 2019, in conjunction with approval of the CCAP Update, the County rezoned an additional 788 acres to add the SGR-O, bringing the total SGR-O acreage to 1,789. This is explained in footnotes added to Figure 5.

# Cache Creek Area Plan Update - Off-Channel Mining Plan Planning Area

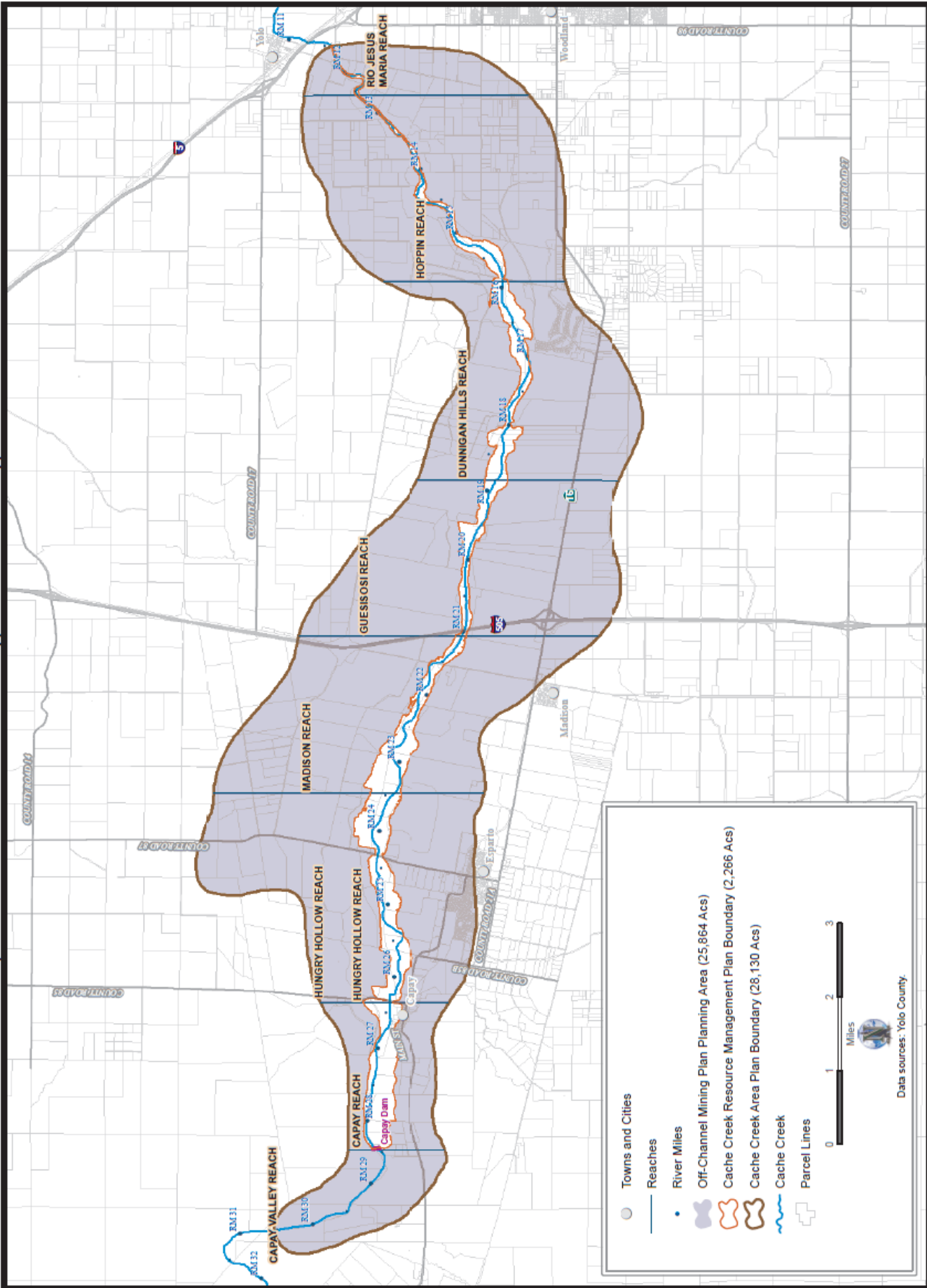


Figure 3

May 10, 2017



# Cache Creek Area Plan Update - In-Channel Boundary

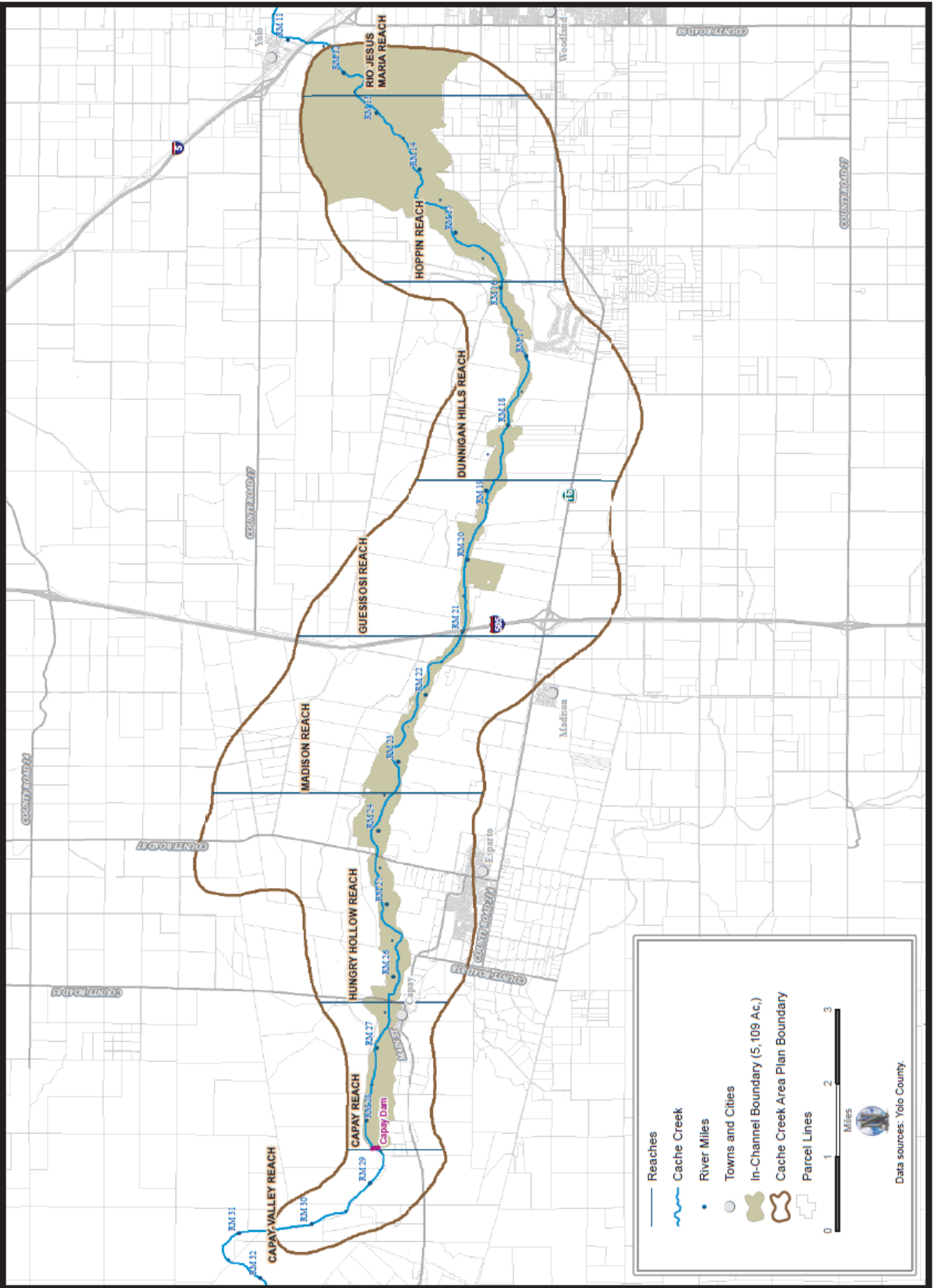


Figure 4

May 10, 2017

less than the assumptions described above. However, even with this greater efficiency, based on the current and projected population in the Sacramento-Fairfield Production-Consumption region of which Yolo County is a part, the state estimated in 2012 that permitted aggregate in the region would be exhausted within 11 to 20 years.<sup>5</sup>

In the most recent classification study (SR 256, 2019) the State estimated average annual per capita consumption at 7.6 tons and estimated more than fifty years of resources based on the expanded Greater Sacramento Area P-C Region and more recently permitted reserves.

Using population forecasts obtained from the California Department of Finance, which assumed an average 1.25 percent annual growth and the per capita consumption the State Geologist was able to estimate that total aggregate demand between 1983 and 2033 would total 888.6 million tons, of which 40 percent (355.2 million tons) would need to be PCC-grade quality.

The OCMP was approved based on a fifty-year horizon, from 1997-2046. By extrapolating the population projections contained in the State's classification study and assuming that aggregate production from Cache Creek remains steady at approximately 26 percent of the total regional production, it was estimated that 308 million tons mined (271 million tons sold) of aggregate would be required over the fifty-year horizon. Based on the above calculations, it was determined that about 173 million tons mined (152 million tons sold) would be required to meet aggregate demand through 2028. To meet estimated demand production over this period would have to average approximately 5.8 million tons mined (5.1 million tons sold) per year.

Since approval of the OCMP in 1996, the County has approved seven mining permits allowing for removal of a total of 176 million tons of material on 1,900 acres (2,464 total acres for combined mining operations). Unless extended, one of these permits will expire in 2027, four in 2028, one in 2029, and one in 2041. Approved mining areas are designated Sand and Gravel Overlay (SG-O) on the County Zoning Map. Future planned but not approved mining is zoned Sand and Gravel Reserve Overlay (SGR-O). There are currently 1,001 acres designated in this category.<sup>6</sup> In addition, some areas of additional likely mining have been identified on another 1,188 acres through work done for the draft Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Figure 5 identifies those areas where mining is approved or reasonably foreseeable over the next 50 years.

### **Horizon Year**

The horizon year for this plan is 2068. Similar to the use of this term in other long-range planning efforts, this reflects how far into the future the plan guidance extends. It also defines the period for consideration of cumulative effects for purposes of environmental impact analysis.

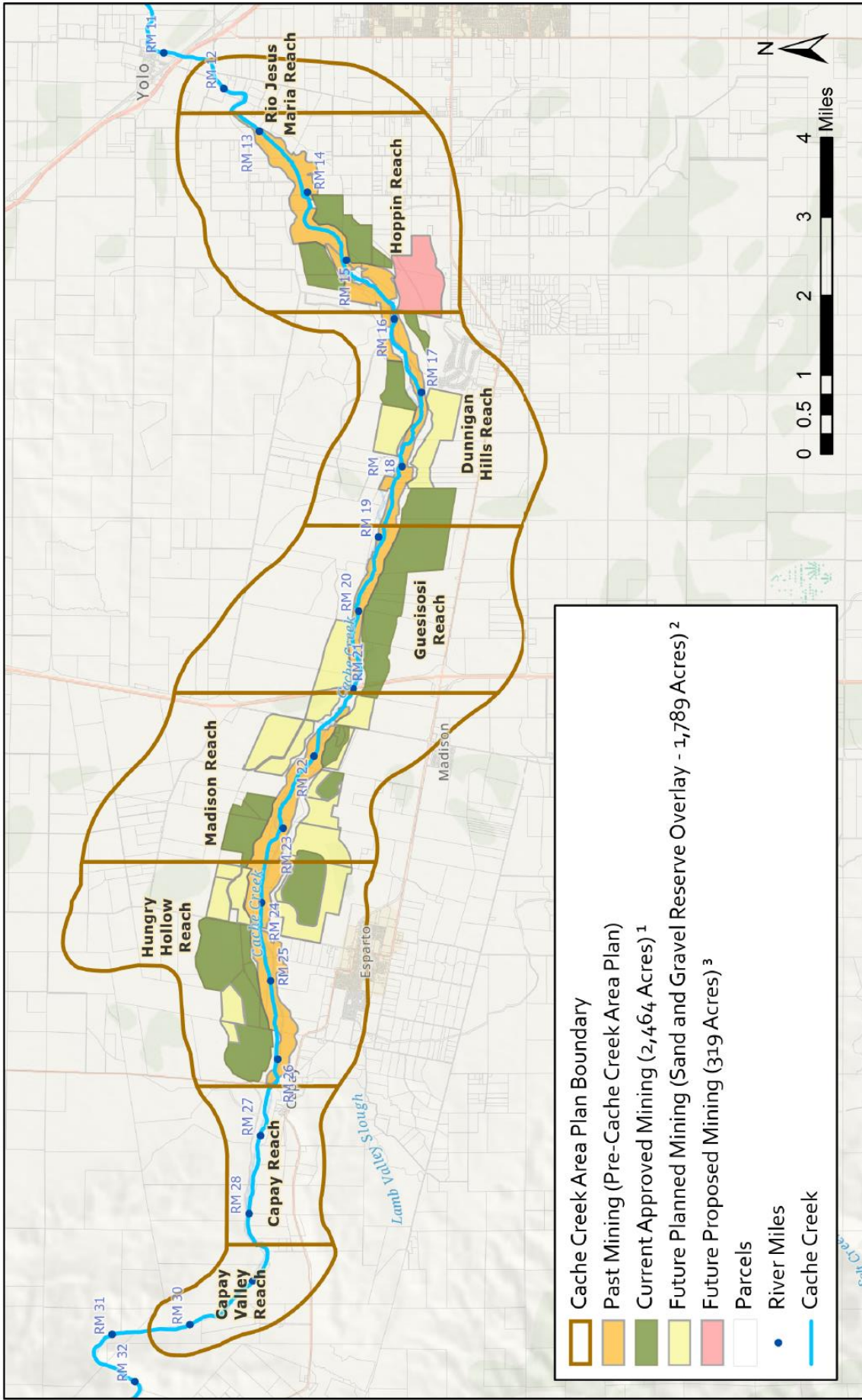
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<sup>5</sup> Aggregate Sustainability in California, 2012, California Geological Survey, Department of Conservation

<sup>6</sup> In December 2019, in conjunction with approval of the CCAP Update, the County rezoned an additional 788 acres to add the SGR-O, bringing the total SGR-O acreage to 1,789. This is explained in footnotes added to Figure 5.

# Cache Creek Area Plan - Past, Current, and Future Mining

9/17/2020



<sup>1</sup> Due to minor inaccuracies in the database and polygon boundaries, this total may be overstated by +/- 5 acres.  
<sup>2</sup> Prior to adoption of the CCAP Update in December 2019, total SGR0 zoned acreage was 1,001 acres. With adoption of the CCAP Update, the SGR0 was added to an additional 788 acres, for a total of 1,789 acres.  
<sup>3</sup> This reflects the actual proposed mining acreage in the Teichert Shifter application. An additional +/- 81 acres assumed for rezoning as a part of the CCAP Update represented portions of the Shifter property not ultimately included in the Teichert Shifter application.  
 Folder: I:\GIS\Projects\Natural Resources\Large Scale Cache Creek Maps

OCMP Figure 5

### **1.3 RELATIONSHIP TO OTHER REGULATIONS AND PLANS**

#### **The Surface Mining and Reclamation Act**

Yolo County's regulatory efforts are complemented and directed by the California Surface Mining and Reclamation Act (SMARA), which was enacted in 1976. The act created a regulatory framework for the mining industry, requiring all new excavations to obtain approval of a reclamation plan describing the methods to be employed in ensuring that the site could be beneficially used once operations had been completed. Since adoption, substantial amendments have been added to address problems not covered in the original legislation. Lead agencies are required to annually inspect each mine located within their jurisdiction to monitor permit compliance. Each operator is required to put up financial assurances, as a guarantee that money will be available to properly reclaim the property should the mining company abandon the site. In addition, the State Mining and Geology Board has adopted standards, in order to ensure that reclamation work is consistently implemented. The requirements of SMARA must be followed by all lead agencies as a minimum; however, the County may adopt stricter measures where it deems appropriate.

One of the primary problems that SMARA was designed to address concerned the loss of regionally significant aggregate deposits to land uses, such as urban growth, that would preclude mining. Included within SMARA is a requirement for the State Geologist to map areas of the state subject to urban expansion, in order to determine the presence or absence of significant mineral resources. This information is transmitted to the lead agency, so that policies can be incorporated into local General Plans to protect identified significant mineral deposits from inappropriate uses, so that they may be harvested in the future.

As discussed earlier, the DOC released Special Report 156 in 1988<sup>7</sup>, which classified the sand and gravel deposits along Cache Creek as being significant mineral resources. The DOC released Special Report 245 in 2019<sup>8</sup>, which updated some information in the 1988 report. Section 2762(a) of SMARA requires that the lead agency (Yolo County) incorporate mineral resource management policies into its general plan within twelve months after receiving a mineral land classification report prepared by the State Geologist. These policies must accomplish the following:

1. Acknowledge the information provided by the State Geologist regarding the extent of mineral resources within the jurisdiction.
2. Coordinate the management of land uses within and surrounding areas of statewide and regional significance to restrict the encroachment of incompatible uses.

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<sup>7</sup> Special Report 156, Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in the Sacramento-Fairfield Production-Consumption Region, 1988, California Department of Conservation, Division of Mines and Geology.

<sup>8</sup> Special Report 245, Mineral Land Classification: Concrete Aggregate in the Greater Sacramento Area Production Consumption Region, 2018, California Department of Conservation, California Geological Survey.

3. Emphasize the conservation and development of identified mineral deposits.

In addition, Section 3676 of the State Mining and Geology Board Reclamation Regulations requires that mineral resource management policies incorporate, but not be limited to, the following:

1. A summary of the information provided by the classification study, including, or incorporated by reference, maps of the identified mineral deposits as provided by the State Geologist; and a discussion of state policy as it pertains to mineral resources.
2. Statements of policy as required in Section 2762(a) of SMARA.
3. Implementation measures that:
  - a. Discuss the location of identified mineral deposits and distinguish within those areas between resources which are designated for conservation and those which may be permitted for future extraction.
  - b. Provide appropriate maps to clearly define the extent of identified mineral deposits, including those resources designated for conservation and those which may be permitted for future extraction.
  - c. Include at least one of the following:
    - i. Adopt appropriate zoning that identifies the presence of identified mineral deposits and restricts the encroachment of incompatible land uses in those resource areas that are to be conserved.
    - ii. Require that a notice describing the presence of identified mineral deposits be recorded on property titles within the affected area.
    - iii. Impose conditions of approval upon incompatible land uses in and around areas which contain identified mineral deposits, in order to mitigate any significant land use conflicts.

Section 2774 of SMARA requires that every lead agency adopt ordinances that establish procedures for the review and approval of reclamation plans, financial assurances, and surface mining permits. Regulations must be periodically reviewed and revised, as necessary to ensure that they remain in accordance with State policy. The ordinances implementing the OCMP have been updated to reflect the update of the OCMP, as well as the new relevant requirements mandated in recent SMARA amendments.

Prior to adoption of the updated OCMP, State Mining and Geology Board review and comment is required under Section 2762(c) of SMARA. Any future proposed amendments to the OCMP

and its policies must also be sent to the Mining and Geology Board for review and comment, prior to their adoption. Similarly, Section 2774.3 of SMARA requires the off-channel surface mining and reclamation ordinances be reviewed by the State Mining and Geology Board, and certified as being in accordance with State policy if it meets or exceeds the requirements of SMARA and the Reclamation Regulations.

The update of the OCMP was prepared in accordance with Sections 2761 through 2764 of Division 2, Chapter 9, of the Public Resources Code (SMARA). The updates are also in conformance with Article 9, Sections 3675 through 3676 of Division 2, Chapter 9, of the Code of Regulations (the Reclamation Regulations of the State Mining and Geology Board).

### **The Yolo County General Plan**

The County of Yolo 2030 Countywide General Plan includes goals, policies and actions that guide Yolo County in ensuring continued productivity and conservation of the County's mineral reserves.

Goal CO-3: Mineral Resources. Protect mineral and natural gas resources to allow for their continued use in the economy.

Policy CO-3.1: Encourage the production and conservation of mineral resources, balanced by the consideration of important social values, including recreation, water, wildlife, agriculture, aesthetics, flood control, and other environmental factors.

Policy CO-3.2: Ensure that mineral extraction and reclamation operations are compatible with land uses both on-site and within the surrounding area, and are performed in a manner that does not adversely affect the environment.

Action CO-A37: Designate and zone lands containing identified mineral deposits to protect them from the encroachment of incompatible land uses so that aggregate resources remain available for the future. (Policy CO-3.1)

Action CO-A39: Encourage the responsible development of aggregate deposits along Cache Creek as significant both to the economy of Yolo County and the region. (Policy CO-3.1)

Action CO-A40: Encourage recycling of aggregate materials and products. (Policy CO-3.1)

Action CO-A41: Regularly review regulations to ensure that they support an economically viable and competitive local aggregate industry. (Policy CO-3.1)

Action CO-A42: Implement the Cache Creek Area Plan to ensure the carefully managed use and conservation of sand and gravel resources, riparian habitat, ground and surface water, and recreational opportunities. (Policy CO-3.1)

Action CO-A43: Monitor updates to the State Mineral Resource classification map and incorporate any needed revisions to the County's zoning and land use map. (Policy CO-3.1)

Action CO-A44: Coordinate individual surface mining reclamation plans so that the development of an expanded riparian corridor along Cache Creek may be achieved. (Policy CO-3.1)

Action CO-A46: Maintain standards and procedures for regulating surface mining and reclamation operations so that potential hazards and adverse environmental effects are reduced or eliminated. (Policy CO-3.1, Policy CO-3.2)

Action CO-A47: Ensure that mined areas are reclaimed to a usable condition that is readily adaptable for alternative land uses, such as agriculture, wildlife habitat, recreation, and groundwater management facilities. (Policy CO-3.1)

Action CO-A48: Regularly update surface mining and reclamation standards to incorporate changes to State requirements, environment conditions, and County priorities. (Policy CO-3.1)

Action CO-A54: Implement the Cache Creek Area Plan. (Policy CO-3.2)

The OCMP has been evaluated and determined to be consistent with the various goals and policies of the County General Plan. The OCMP, together with the CCRMP, constitute the Cache Creek Area Plan (CCAP), which provides the policy framework for implementing this program to manage the wide variety of resources associated with the creek, including habitat, water resources, aggregate, agriculture, and recreation. The County's off-channel surface mining ordinance, reclamation ordinance, and in-channel maintenance ordinance all implement the policy framework. These ordinances include specific performance standards that ensure that the goals and objectives spelled out in the OCMP and CCRMP are achieved. Provisions are also made in the CCRMP for an on-going Technical Advisory Committee (TAC) charged with monitoring and studying Cache Creek as it responds to the programs carried out within the plans and ordinances. The Committee makes recommendations, as appropriate, to ensure that management is responsive to the dynamic nature of the creek. Although each plan was prepared as a stand-alone document, they were adopted as two co-equal parts of the CCAP and have been implemented in concert with one another since adoption.

### **Cache Creek Area Plan**

An "area plan" is a focused planning policy document that is part of a general plan. The OCMP meets all the requirements of State land use law to function as an area plan for the MRZ planning area defined herein. It addresses all of the elements specified in Section 65302 of the California Code of Regulations, to the extent that the subject of the element exists in the planning area. As allowed by State law, the degree of specificity and level of detail of the discussion of each such element reflects local conditions and circumstances. A brief summary of how the General Plan requirements are satisfied is provided below.

### *Planning Area*

By taking in the entire Mineral Resource Zone area as designated by the State, the OCMP addresses all land and resources which bear a relationship to mineral resource planning along Cache Creek.

### *Time Horizon*

The Plan contains projections of conditions over a 30- and 50-year horizon, and provides for accommodating those conditions over the long term.

### *Diagrams and Implementation Programs*

The Plan contains appropriate diagrams and specific discussion regarding implementation.

### *Consistency*

The Plan has been examined for consistency, and found to be both internal consistent and consistent with appropriate federal and State policies and regulations.

### *Land Use Element Issues*

The Plan contains data, analysis, policies, and programs related to the density, intensity, location, and distribution of mineral resources and aggregate production in the planning area. The Plan clearly specifies where mineral resource extraction is allowed, the circumstances under which it is allowed, how it shall be extracted, and the maximum intensity with which it can be extracted.

It examines the distribution of open space and agricultural land both before and after mining. The availability of mineral resources is assessed. It also addresses recreational facilities and opportunities as a result of mining reclamation.

Other typical Land Use Element issues such as educational facilities, public buildings and grounds, solid and liquid waste facilities, and areas subject to flooding are addressed only in the context of having relevance to the mining of off-channel terrace deposits.

Consistency with the Airport Land Use Plan has been addressed in the environmental analysis, and found not to be an issue.

### *Circulation Element Issues*

The Plan identifies the location and extent of major thoroughfares, transportation routes, and other local public utilities and facilities in the planning area. Haul routes and trip generation as related to maximum projected aggregate production is examined, and participation is required in a program to maintain levels of service and safety.



### *Housing Element Issues*

The Plan identifies nearby housing for purposes of assessing the potential for impact from mining activities. It indirectly addresses new construction needs by ensuring the provision of aggregate resources sufficient to meet future demands. It discusses in detail existing and planned regulation of the production of aggregate, which has relevance in terms of creation or removal of constraints to the production of housing. Opportunities for energy conservation are addressed in relation to increased transportation costs for imported aggregate under scenarios of increased or decreased regulation (supply).

### *Conservation Element Issues*

The Plan addresses conservation, development, and utilization of natural resources in the Cache Creek MRZ, including the creek and its hydraulic forces, soils within the planning area, tributaries and other waters that affect the planning area, biological resources, and mineral resources.

### *Open Space Element Issues*

The Plan includes identification of areas required for the preservation of plant and animal life, including sensitive habitat. The areas of proposed mining and other components of the Streamway Influence Zone are identified as requiring on-going monitoring and study. A detailed program for stabilizing and restoring Cache Creek is included as an adjunct to the OCMP (please refer to the CCRMP). Land within the CCRMP boundary has been designated as Open Space (OS) in the County General Plan.

The managed production of mineral resources under the OCMP is a focus of the Plan. General opportunities for recharge of the groundwater basin are identified.

Scenic resources and cultural resources have been identified in the planning area and policies and programs for preservation or mitigation are included in the Plan. Future recreation nodes that would provide access to areas targeted for future open space and passive recreation are identified. Buffers between mining and the creek, and between various activities associated with mining are required.

### *Noise Element Issues*

Existing noise sources and noise associated with mining activities have been identified and are regulated in the Plan. Methods for noise control and attenuation are provided.

### *Safety Element Issues*

The effects of seismically induced surface rupture, ground shaking, ground failure, and dam failure are addressed. Policies and specific regulations to address these concerns are provided.

Slope instability issues, general geologic hazards, and flooding are given extensive treatment as related to appropriate controls during mining and after reclamation.

### *Other*

Coastal issues and timber harvesting issues are not relevant to the OCMP planning area, and have not been addressed in the Plan.

### **Yolo County Mining and Reclamation Ordinances**

Commercial in-stream surface mining ended with the adoption of the OCMP and CCRMP in 1996 and the subsequent relinquishment of vested in-stream rights by all operators along Cache Creek. On June 24, 2008, the County Board of Supervisors adopted the In-Channel Ordinance (Yolo County Code Title 10, Chapter 3) to regulate in-stream extraction activities that implement the bank stabilization, channel maintenance, and habitat restoration necessary to carry out the CCRMP and CCIP.

Chapter 4 of Title 10 of the Yolo County Code is the County's Off Channel Mining Ordinance. This ordinance regulates aggregate mining that is allowed to be conducted along Cache Creek in the off-channel area pursuant to SMARA and the requirements of the CCAP.

Chapter 5 of Title 10 is the County's Surface Mining Reclamation ordinance. This ordinance regulates reclamation of mining pursuant to SMARA and the requirements of the CCAP.

### **The Cache Creek Resources Management Plan**

The OCMP is a companion plan to the Cache Creek Resources Management Plan (CCRMP), which is a river management plan that governs land use activities and environmental restoration within the present channel banks and 100-year floodplain. The two plans, which together comprise the CCAP adopted as a part of the County General Plan, recognize that in-channel and off-channel environments are different and require unique approaches that address their varying needs. At the same time, however, the County also recognizes that Cache Creek and its surrounding areas form an integrated system, and that activities which occur in one area affect the other. The Streamway Influence Zone (see Figure 6) described originally in the recommendation of the 1995 Technical Studies and reaffirmed in 2017 shows the approximate area subject to these interrelationships, based on the historical extent of meander migration. Thus, although the planning areas for the two plans are mutually exclusive, both plans include integrated goals and policies that maximize the positive interrelationships between in-channel and off-channel concerns.

## **1.4 REQUIRED APPROVALS**

### **Certification of the Program EIR**

Section 15168 of the Guidelines for the California Environmental Quality Act (CEQA) provides for the preparation of a Program EIR. A Program EIR may serve as an environmental document for a series of individual projects that are located within the same geographical area, or are sequentially related, or have similar environmental effects. There are several advantages to a Program EIR. It provides a more thorough consideration of potential environmental impacts, especially cumulative effects, and encourages a broader discussion of project alternatives. Program EIRs also reduce redundancies in the environmental review process, as well as allow for greater County flexibility in dealing with policy issues.

Subsequent projects approved pursuant to a Program EIR still require additional environmental documents. However, Program EIRs allow subsequent environmental documents to focus on issues unique to the site that were not specifically addressed in the Program EIR. This allows decision makers and interested parties to concentrate on the primary concerns associated with a particular project, without revisiting other issues on which there is general agreement. Although they help to streamline the process, Program EIRs and any subsequent focused project-level EIRs do not restrict public participation. They still require circulation of the documents and a comment period, notification of interested parties, and public hearings.

A Program EIR was certified for the OCMP in 1996. The County requires the preparation of focused project-level EIRs for each long-term, off-channel surface mining permit and reclamation plan application submitted for sites located within the planning area.

### **Adoption of the Off-Channel Mining Plan**

Both the OCMP and the companion CCRMP are intended to be evolutionary documents that adjust and change in response to new creek conditions. Adoption of the OCMP in 1996 allowed the County to begin taking the first steps in managing the resources along Cache Creek; however, the plan was not seen as a static vision of what the ultimate disposition of the creek would be in the future. Rather, it was expected that the OCMP would undergo periodic review and updating, as additional data is gathered through monitoring and the success of habitat restoration projects and channel stabilization are known. The OCMP is required to be updated every ten years to respond to new regulatory requirements. This will allow sufficient time for trends to become evident, yet still be early enough to change any policies that are having an unexpectedly adverse effect on resource management before significant harm is done. Amendments to the OCMP are to be appropriately processed under CEQA.

# Cache Creek Area Plan Update - Streamway Influence Zone

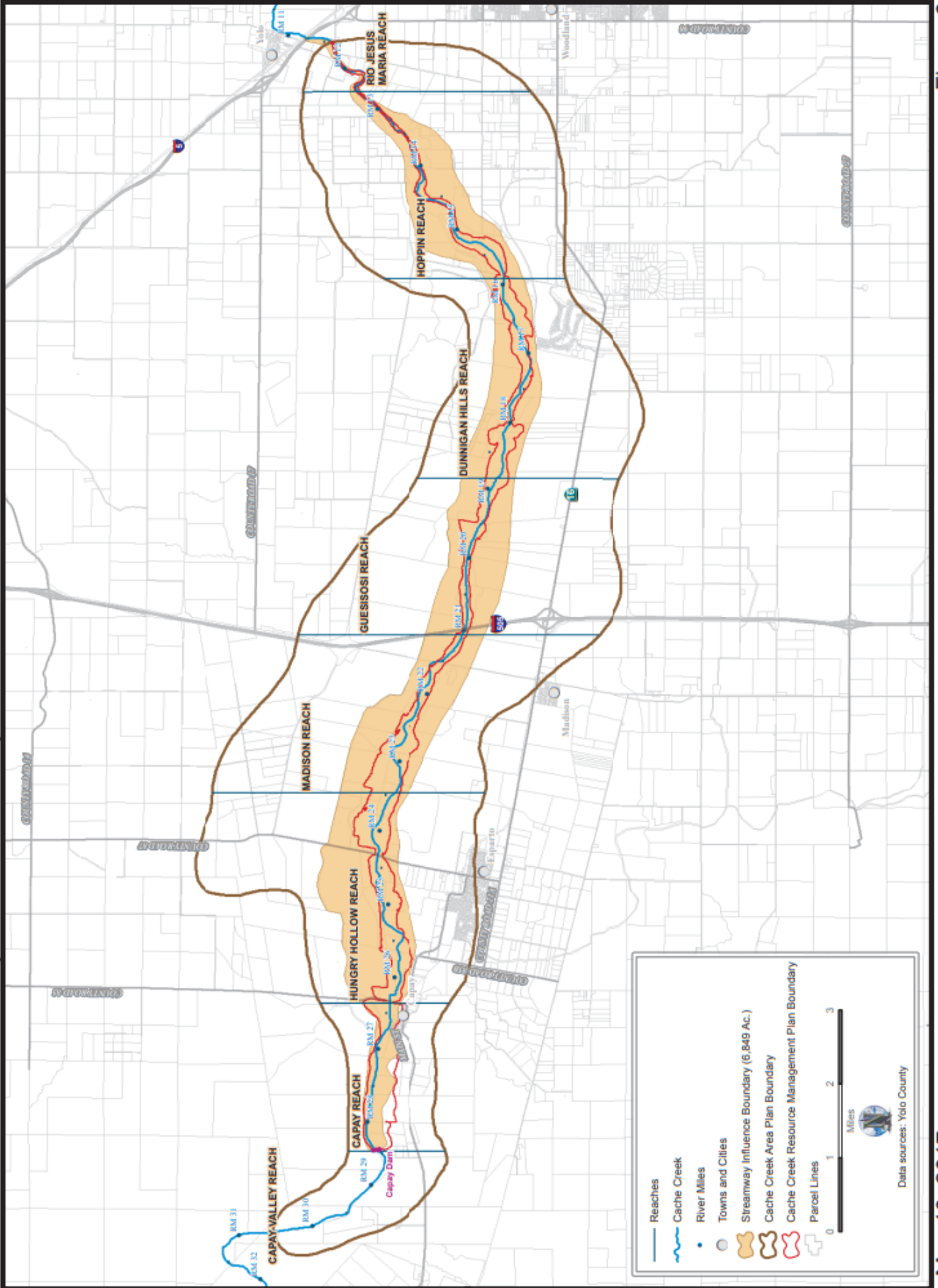


Figure 6

May 10, 2017

## **Adoption of the Surface Mining and Reclamation Ordinances**

In order to simplify the administration of managing the resources along Cache Creek, in-channel management requirements and off-channel mining regulations have been given separate chapters within the County Code Chapter 3 (In-Channel Ordinance), Chapter 4 (Off-Channel Surface Mining Ordinance), Chapter 5 (Surface Mining Reclamation Ordinance) respectively of Title 10.

In the fall of 1998, the County requested a ruling from the State Mining and Geology Board regarding whether implementation of the CCRMP/CCIP would be subject to, or exempt from, SMARA. The Board determined that the CCRMP/CCIP did not qualify for an exemption from SMARA due to the amount of sand and gravel expected to be removed over the 30-year horizon of the plan. Subsequent to that action, special legislation was passed to amend SMARA to recognize the CCRMP/CCIP as the functional equivalent of a Reclamation Plan for purposes of SMARA compliance (Assembly Bill 297, H. Thomson, Statutes of 1999). This law had a five-year sunset date, but was subsequently reauthorized every five years. On August 29, 2016, Governor Brown signed Senate Bill 1133 (Wolk) which removed the sunset clause and made this statute permanent.

In June 2008, the County's In-Channel Ordinance was adopted to regulate in-stream extraction activities that implement the bank stabilization, channel maintenance, and habitat restoration necessary to carry out the CCRMP and CCIP.

## **Approval of Zone Changes**

The OCMP has designated an area for future surface mining to meet the long-term future aggregate needs of Yolo County and the surrounding region. Those areas permitted for mining are designated with the SG-O zone in order to identify the land as being appropriate for mining in the near-term. Surface mining operations within Yolo County may only occur on properties designated SG-O on the County's Zoning Map. The SG-O may be combined with either the A-N (Agriculture Intensive) or A-X (Agriculture Extensive) zones outside of the CCRMP boundary.

Those areas where mining could occur in the future are zoned SGR-O. This designation indicates that gravel mining is appropriate for the site at a future date. The SGR-O zone also serves to notify existing and future property owners, as well as land use decision-making bodies, that mining will likely occur in these areas. Potentially incompatible uses that are proposed to be located on sites adjoining SGR-O zoned properties should take the likelihood of future mining into account and be designed accordingly.

## **Mining Within an Agricultural Preserve**

The California Land Conservation (Williamson) Act, which governs the administration of agricultural preserves, was amended in 1994 to restrict the types of uses allowed on contracted land. All new uses must meet all of the findings described in Section 51238.1 to protect

agricultural activities and agricultural land. Compatible uses may include permitted uses on prime agricultural land which contain conditions or mitigations that ensure the long-term productive capability. Specific criteria for permitted uses on non-prime agricultural land are also provided. In general, the use must be consistent with the intent of the Williamson Act to conserve agricultural land, open space uses, and/or natural resources. To meet this finding, the use of mineral resources must also comply with Section 51238.2.

Section 51238.2 was added to the California Land Conservation Act in 1994, specifically addressing surface mining within contracted land. It states that any mineral extraction operation which is unable to meet the findings described above may still be approved as a compatible use, as long as there is the commitment to preserve prime land for agricultural purposes and non-prime land for open-space use are not significantly impaired. All such mining operations must include conditions that comply with the State Reclamation Regulations.

## **1.5 ORGANIZATION OF PLAN**

The OCMP contains seven chapters including six elements, each dealing with a specific resource associated with the Cache Creek area. The elements contained within the OCMP are as follows:

- Chapter 2.0 Aggregate Resources
- Chapter 3.0 Water Resources
- Chapter 4.0 Floodway and Channel Stability
- Chapter 5.0 Agricultural Resources
- Chapter 6.0 Biological Resources
- Chapter 7.0 Open Space and Recreation

Each element begins by briefly describing the past and current status of the resource under consideration. Next is a summary of the general direction proposed by the OCMP to manage this resource in the future. Following these initial discussions are a series of goals, objectives, and actions that explain how the general direction will be carried out and what measures will be used to ensure its success. Although each element has its own goals and objectives that address management of the specific resource, the plan was written so that these policy statements are mutually supportive and coordinated to minimize conflict.

## CHAPTER 2.0 – AGGREGATE RESOURCES ELEMENT

### 2.1 INTRODUCTION

#### Present Conditions

Off-channel mining is allowed on SG-O zoned land outside of the CCRMP boundary but within the OCMP Planning Area (see Figure 4). There are currently seven mining operations that have approvals to mine under the regulatory framework of the OCMP. These operations include: (1) CEMEX, located south of Cache Creek and west and east of I-505 (±586 acres); (2) Granite Capay, located north of Cache Creek between County Road 85 and County Road 87 (±312 acres); (3) Granite Esparto, located north of Cache Creek and just west of County Road 87 (±313 acre); (4) Syar Industries, located south of Cache Creek between County Road 87 and County Road 89 (±248 acres); (5) Teichert Esparto, located north of Cache Creek between County Road 87 and I-505 (±148 acres); (6) Teichert Woodland, located north and south of Cache Creek and west and east of County Road 94B (±252 acres); and (7) Teichert Schwarzgruber, located south of Cache Creek at the northern terminus of County Road 97 (±41 acres). In total, there are approximately 1,900 acres approved for excavation and 2,464 acres (including the excavation acreage) permitted as part of the mining operations (total acreage zoned Sand and Gravel Overlay or SG-O).

As previously noted, the seven operations summarized above are collectively approved to extract 176 million tons of sand and gravel. From 1996 through 2015, approximately 72 million tons have actually been extracted, leaving 115 million tons approved but not yet mined. Based on estimates of the size of the Cache Creek mineral reserves, approximately 742 million tons of aggregate will remain even after this approved tonnage has been extracted.

#### OCMP Vision

As is stated in SMARA, the extraction of sand and gravel is essential to the continued economic well-being of the state and to the needs of society. However, mining must also be balanced against other valuable considerations, including water resources, agriculture, wildlife, aesthetics, and recreation. Due to concerns about the impacts of in-stream mining to structures, property, and riparian habitat, commercial in-stream mining was prohibited under the CCRMP in 1996. The OCMP and CCRMP provided the policy and regulatory framework for a redirection of the focus of the gravel industry from in-channel to off-channel operations. Mining facilities and operations within Cache Creek currently were considered "vested." This meant that the County could not adversely affect those rights without compensation. By providing what was, in effect, a sort of transfer of property rights, the gravel mining in the creek channel was discontinued, and exchanged for rights to mine in the off-channel areas.

The OCMP allows for the development of a sufficient supply of aggregate to meet future needs, while increasing the level of environmental protection and monitoring. In order to provide a sufficient source of sand and gravel 2,464 acres are designated for off-channel surface mining.

An additional 1,001 acres have been designated SGR-O<sup>9</sup>. This overlay delineates where the County will encourage future mining, so that land use decisions can be planned accordingly. It also ensures that additional reserves will be available for development once current mining operations are completed. In addition to the SGR-O designated lands, another 1,188 acres have been identified as likely sites for future mining. Remaining areas within the MRZ areas that are feasible for mining may be considered in the future. In addition to the use of overlay zones, the OCMP contains a commitment to maintain the existing agricultural zoning within the planning area. This not only reinforces the County's general policy of encouraging the agricultural industry, but will ensure that mining is buffered from residential and other sensitive land uses.

Although the County recognizes that mining is important to the regional economy, it also acknowledges that mining is an activity that carries with it the potential for adverse environmental impacts. The OCMP includes provisions to regulate surface mining to reduce or prevent adverse effects. Specific performance standards have been incorporated into the off-channel mining and reclamation ordinances that complement and go beyond the requirements already mandated by SMARA and the State Reclamation Regulations. The OCMP also imposes a 30-year maximum term for any off-channel mining permit, as well as 10-year reviews that allow for the addition of new environmental regulations to the permit, if appropriate. A 20-year extension to the mining permit may be granted, if approved aggregate reserves have not yet been exhausted. All plants and facilities will sunset when permits to mine expire, thereby precluding the future "unregulated" processing of imported material. Similarly, the requirements for annual reporting have been substantially expanded, to provide staff with better information to monitor both mining operations and reclamation efforts.

Off-channel aggregate deposits are essentially non-renewable resources. While new sand and gravel deposits are laid down by Cache Creek, the geological processes involved in replenishment take centuries to occur. By placing a cap on the amount of aggregate that can be mined in any one year, the use of a non-renewable resource can be regulated to ensure its continuing availability. In addition, by restricting production, the potential environmental impacts that vary with the amount of aggregate extracted (e.g., traffic, air quality, noise) can be effectively limited. Setting a maximum annual production level must balance a variety of factors, including the environmental impacts that result from mining, the regional market demand for sand and gravel, the direct and indirect costs/benefits of aggregate production, and the economic interests of the mine operators.

## **2.2 GOALS**

2.2-1 Protect lands containing identified mineral deposits from the encroachment of incompatible land uses so that aggregate resources remain available for future use, as needed.

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<sup>9</sup> In December 2019, in conjunction with approval of the CCAP Update, the County rezoned an additional 788 acres to add the SGR-O, bringing the total SGR-O acreage to 1,789. This is explained in footnotes added to Figure 5.



- 2.2-2 Encourage the production and conservation of mineral resources, balanced by the consideration of important social values, including recreation, watershed, wildlife, agriculture, aesthetics, flood control, and other environmental factors.
- 2.2-3 Prevent or minimize the adverse environmental effects of surface mining.
- 2.2-4 Eliminate or minimize hazards to the public health and safety that are associated with surface mining operations and reclamation.
- 2.2-5 Ensure that mined areas are reclaimed to a usable condition which are readily adaptable for alternative land uses, such as agriculture, wildlife habitat, recreation, and groundwater management facilities.
- 2.2-6 Provide a responsive process to consider future changes in environmental and regulatory conditions.
- 2.2-7 Maintain an economically viable and competitive local aggregate industry that provides a stable job base and tax revenue to Yolo County and contributes to other resource enhancements through the investments in improved technology and reclamation planning.

### **2.3 OBJECTIVES**

- 2.3-1 Recognize that the aggregate deposits along Cache Creek are significant to the economy of Yolo County, as well as surrounding jurisdictions.
- 2.3-2 Discourage the encroachment of incompatible land uses into areas designated for future off-channel surface mining operations.
- 2.3-3 Provide standards and procedures for regulating surface mining operations and reclamation so that hazards are eliminated or minimized and potential adverse environmental effects are reduced or prevented.
- 2.3-4 Coordinate individual surface mining reclamation plans so that the development of an expanded riparian corridor may be achieved.
- 2.3-5 Create regular opportunities to incorporate new information into the OCMP.
- 2.3-6 Structure mining so that the disturbance of the existing landscape is minimized and will be reclaimed so that the property can be used and enjoyed in perpetuity by current and future generations.
- 2.3-7 Avoid damage to important cultural resources, in order to document and/or preserve the historic and prehistoric record.

- 2.3-8 Ensure through the CEQA process and ongoing permit compliance review that operators are paying their fair share of the costs of impacts to local roadways from truck use associated with each approved mining operation. This obligation is separate and distinct from the Mining Fee Program.

## **2.4 ACTIONS**

- 2.4-1 Provide an open space buffer around the community boundaries of Capay, Madison, Esparto, Woodland, and Yolo to reduce potential conflicts between urban areas and nearby surface mining operations. Commercial mining shall not take place east of County Road 96. *(See Section 10-4.429(h) of the County Mining Ordinance.)*
- 2.4-2 Hazardous materials business plans (or equivalent) must be submitted annually, as required by the California Health and Safety Code, unless the types of hazardous materials used change, in which case revised business plans must be submitted within thirty (30) days of the change. *(See Section 10-4.403 and 10-4.419.1 of the Mining Ordinance.)*
- 2.4-3 Establish a "sunset clause" for each surface mining permit. This would set defined length of time during which mining may occur. Any extensions beyond the permit expiration would require further environmental review and discretionary approval. The term of mining should be balanced so as to allow sufficient time for the operator to amortize investments, without sacrificing regulatory effectiveness. The maximum length of time for which any surface mining permit may be approved is thirty (30) years, with ten (10) year reviews to examine actual environmental impacts and to apply any relevant environmental regulations or statutory changes promulgated by a responsible or trustee agency with authority over a particular environmental resource (such as air, water, habitat, state lands, etc.), including Yolo County. The reviews will also be used to verify whether per-ton fees are sufficient to meet actual costs. The mining permit may be extended for a maximum period of twenty (20) years, if necessary, subject to the same ten-year review requirements. *(See Section 10-4.426 of the County Mining Ordinance.)*
- 2.4-4 Revise the existing mining and reclamation ordinances contained in the Yolo County Code to incorporate recent amendments to SMARA; performance standards to prevent hazards and reduce potential environmental impacts; and programs to carry out the policies included within the OCMP. *(Completed in 1996.)*
- 2.4-5 Rezone those lands necessary to meet aggregate needs for the next thirty years with the SG-O Zone. Those lands designated for mining within the next 30 to 50 years shall be rezoned with the SGR-O Zone. The SG-O and SGR-O Zones will serve to notify existing and future property owners that mining operations may occur within these properties, in order to discourage the encroachment of incompatible uses.
- 2.4-6 Update the OCMP every ten years. This will allow the plan to be amended so that the results of monitoring programs and reclamation efforts can be taken into account.

- 2.4-7 Require that all surface mining applications within the OCMP plan area include a proposal for providing a "net gain" to the County, as determined by the following criteria:
- a. Reclamation to multiple or conjunctive uses;
  - b. Enhancement and enrichment of existing resources;
  - c. Restoration of past sites where the requirements of reclamation at the time no longer meet community expectations in terms of good stewardship of the land; and/or
  - d. Provision of new dedications and easements to supplement/benefit the Cache Creek Parkway including reclaimed mining sites, restored habitat, trail connections, and related enhancements.

*(See Section 10-4.502(i) of the County Mining Ordinance.)*

- 2.4-8 Monitor and regulate aggregate extraction in a manner that supports the ability of mining operations to perform long-range business planning and helps ensure that they will carry out their project responsibilities. The costs to the County of administering and monitoring the aggregate industry shall be borne by the mining operators.

*(Permit compliance is addressed in Article 7 of the Mining Ordinance commencing with Section 10-4.701. Program costs are addressed through the Gravel Mining Fee Ordinance, Section 8-11.01 et. seq. of the County Code. The Fee Ordinance was updated in 2007 as part of ten-year review.)*

- 2.4-9 Reduce the amount of sand and gravel mined, by not including any waste concrete and asphalt processed as recycled materials for use in construction, as part of an operation's maximum annual production. *(See Section 10-4.405 of the County Mining Ordinance)*

- 2.4-10 Encourage off-channel excavation operations to access additional aggregate reserves through the use of wet pits, in order to increase mining efficiency and to minimize the surface land area disturbed by mining.

- 2.4-11 Define the OCMP boundaries to include approved and planned future mining operations.

- 2.4-12 Establish a maximum annual production level for off-channel mining of 5.97 million tons sold. This total production limit applies to all off-channel mining included within the plan area. Individual producers may exceed their maximum annual allocation in order to meet temporary market demand. Aggregate sold in excess of the maximum annual production shall be subject to additional surcharges, which shall be used to benefit the Cache Creek area. *(See Section 10.4.405 of the Mining Ordinance and Section 8-11.01 of the Fee Ordinance.)*

- 2.4-13 Sunset the aggregate processing plants and facilities at the greater of thirty (30) years following the commencement of mining under the approved permit, unless extended under subsequent permits to mine additional aggregate deposits. *(Addressed in each development agreement.)*
- 2.4-14 Recognize the funding provided by Cache Creek Aggregates, Solano Concrete, Syar Industries, and Teichert Aggregates in preparing the OCMP and related documents. Prior to the approval of any new surface mining permits within the OCMP boundary, the County shall adopt a fee ordinance that requires new surface mining applicants to pay their proportionate fair-share cost of preparing the OCMP, implementing ordinances, and the Program EIR. *(Completed. Agreement No. 94-298 was entered into December 6, 1994 and expired ten year later in December 2004.)*
- 2.4-15 Establish a mechanism for compensating property owners who may have vested in-channel mining rights without having yet received reasonable financial consideration resulting from the mining associated with said permits, and who do not own land within the OCMP plan area. *(Completed in 1996 through the execution of development agreements.)*
- 2.4-16 Execute development agreements between the County and mining operators in order to document in a contractual setting the transfer of mining rights in Cache Creek, whereby in-channel mining will be discontinued in exchange for rights to mine off-channel. The development agreements will also provide a mechanism for documenting the linkage of the plants to the mining permits; the payment of a per-ton fee for implementation of the OCMP and CCRMP; funding of the Cache Creek Conservancy; implementation of approved net-gain projects; dedication of reclaimed lands; and compensation of property owners who would not otherwise receive consideration. *(Completed for original applications; on-going for subsequent applications.)*
- 2.4-17 Withhold the granting of each surface mining permit applied for under the OCMP, until the CCRMP has been adopted and in-channel mining rights have been relinquished by the applicant. *(Completed in 1996 through the execution of development agreements.)*
- 2.4-18 Institute an exchange of property rights, whereby existing in-channel mining permits and allocations are discontinued, and exchanged for rights to mine off-channel aggregate deposits. *(Completed in 1996 through the execution of development agreements.)*
- 2.4-19 Surface mining permits and the production allocations associated with the permits apply only to the subject lands for which they are approved and may not be transferred. Mining permits are use permits which run with the land and are not transferrable to alternate locations without additional analysis and permit amendment.

- 2.4-20 Create a fund to ensure that money is available to address unforeseen environmental concerns and problems once mining and reclamation activities have been completed. The aggregate industry shall be fully responsible for subsidizing the fund. *(See Section 8-11.02(b) of the Fee Ordinance and Section 10-4.803 of the Mining Ordinance.)*
- 2.4-21 Ensure that each mining operation adheres to approved haul routes and approved ingress/egress locations. Ensure through conditions of approval and other appropriate mechanisms that mining operations are funding their fair share of roadway and related impacts, including both one-time improvements and ongoing operations and maintenance, along approved haul routes and in proximity to approved operation ingress/egress locations.

## **CHAPTER 3.0 – WATER RESOURCES ELEMENT**

### **3.1 INTRODUCTION**

#### **Present Conditions**

Cache Creek is located within a groundwater basin that is generally defined by the Coast Range to the west, the Sacramento River to the east, the Colusa Basin watershed to the north, and the Putah Creek watershed to the south (see Figure 7). Groundwater quality is hard to very hard in this area, due to above average concentrations of constituents such as calcium, and magnesium. Boron is the constituent of most concern, brought down by tributaries of Cache Creek from saline springs in the Rumsey Hills.

The single-most significant factor affecting groundwater storage is rainfall. Groundwater levels drop rapidly due to increased pumping and decreased recharge during times of drought, and rise back up again after wet periods. Secondly, the most important change has been the development of irrigated agriculture. The diversion of surface water has reduced in-channel recharge and increased the levels of total dissolved salts in the aquifer, while the widespread use of well pumping has altered groundwater flow patterns and cycled the water through the aquifer more rapidly. Both activities have significantly increased the consumption of water for crops, which has resulted in an overall lowering of the water table from levels seen at the turn of the century. Nevertheless, the basin has a substantial capacity for recovery.

#### **OCMP Vision**

In order to make the best use of the recovery capacity of the groundwater basin, the Yolo County Flood Control and Water Conservation District (YCFCWCD) retains their canals and ditches in an unlined condition. The YCFCWCD seeks to place more water into the aquifer to increase the availability of groundwater. In the past, the YCFCWCD has expressed interest in experimenting with groundwater recharge using reclaimed mining pits. Given the interrelated goals of both agencies, the County will continue to work with the YCFCWCD in coordinating efforts to protect and improve both the quantity and quality of groundwater supplies.

The 1995 Technical Studies noted that groundwater data, especially as related to water quality was poorly developed and unorganized. Having a sufficient body of information was identified as crucial for monitoring development that extends into the groundwater table, such as off-channel excavations. The OCMP addresses this deficiency by requiring that each off-channel mining operation maintain a detailed monitoring program, to include both groundwater level measurements and water quality tests the number and extent of which vary as mining and reclamation activities progress. As a part of the 2019 CCAP Update, the data that has been generated through the program was assembled and analyzed for long-term trends and influences. This effort has served as the basis for specific recommendations regarding water resource management policies that are included as a part of this update.

# Cache Creek Area Plan Update - Groundwater Basin Boundaries

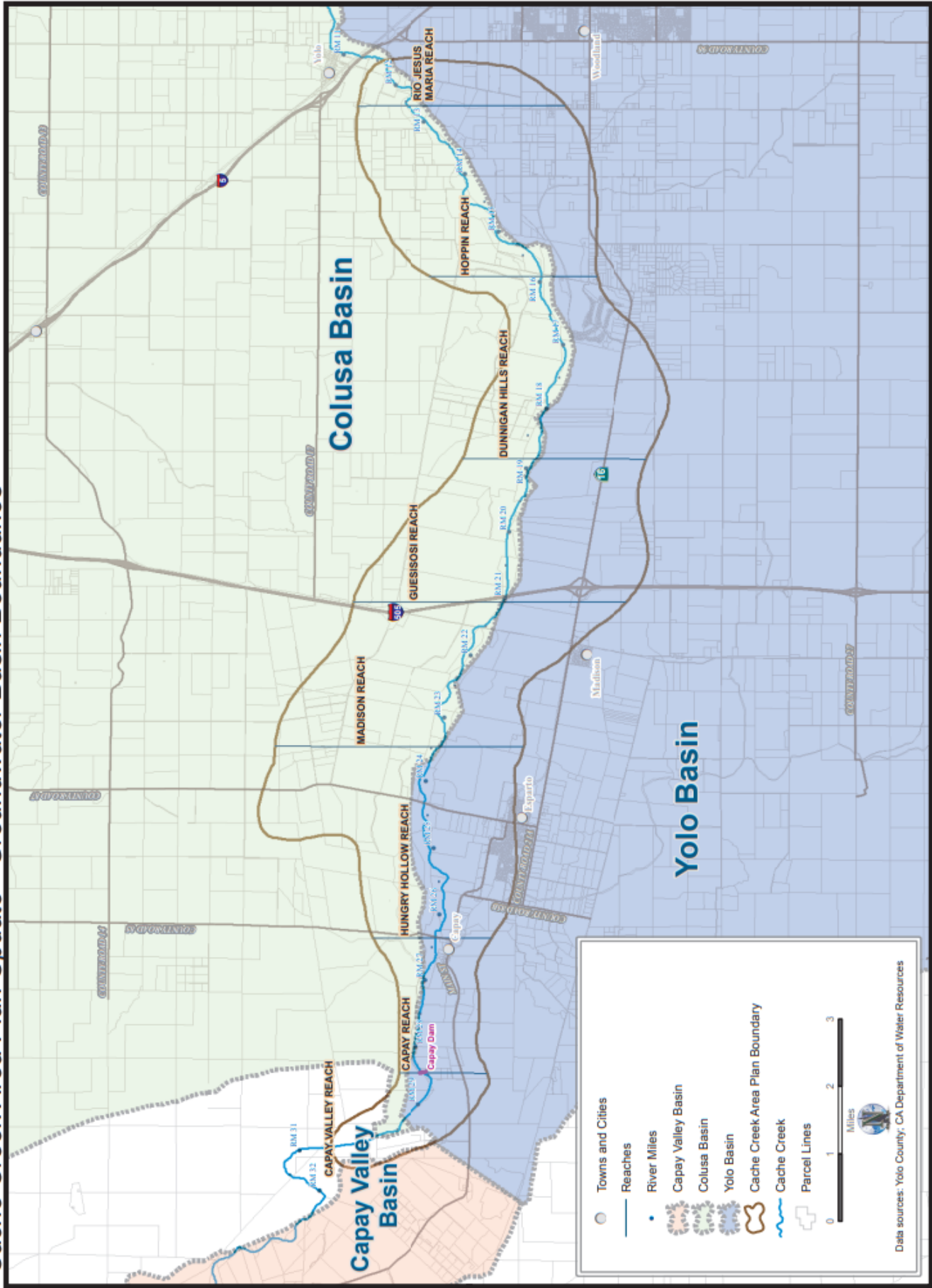


Figure 7

May 10, 2017

Although water is a vitally important issue to both agriculture and urban areas, the OCMP acknowledges that other resources have a need for water that must be accommodated. Open bodies of water, such as those that may result from wet pit mining allowed under the OCMP, may lose water regularly due to evapotranspiration. This amount can be reduced through the avoidance of shallow water depths of less than 10 feet. However, these same shallow depths provide the necessary conditions for recreational uses and wetland habitat. The OCMP encourages the balanced use of wet pits, so that they may serve the variety of goals expressed for Cache Creek.

Other areas around the state use permanent lakes reclaimed from mined lands in a number of diverse ways in order to benefit the local economy and/or the environment. Recreational parks have been established at Oak Lake in Stanislaus County and at Shadow Cliffs Park, near Livermore in Alameda County. Also, near Livermore is the "Chain of Lakes," which links several former mine pits into a groundwater storage and recharge facility. Surface water is conveyed through a series of gravel excavations that have been converted into sealed settling basins, before it is introduced into a permanent lake for recharge into the aquifer. The Chain of Lakes is operated by the Alameda County Water District. Sand and gravel operators along the San Joaquin River, near Fresno, have reclaimed their mines into permanent lakes and wetland habitat. These lands have been dedicated to the Department of Fish and Wildlife, which operates them as wildlife areas, with limited tours in the springtime for bird watchers and other enthusiasts. The habitat areas are located immediately next to the San Joaquin River Parkway and serve to increase the amount of open space along the riparian corridor. Through careful management, permanent lakes created through mining can be used in a variety of beneficial ways.

There is a tremendous potential for off-channel excavations to provide a range of opportunities for Cache Creek, including the groundwater management, recreation, and habitat uses discussed above. As an example, in December 2014, the Board of Supervisors formally agreed to partner with the Yolo Habitat Conservancy to allow certain reclaimed properties that will be dedicated to the County as a part of the CCAP to be included in the countywide HCP/NCCP. It is important, however, to ensure that proposed mining pits are designed so as not to adversely affect the existing aquifer flow patterns, water table levels, or groundwater quality for the surrounding area. Backfilled pits can create localized obstructions to groundwater flow, while pits located too close to nearby wells may serve as a conduit for potential contamination. In order to address these issues, the OCMP includes specific performance standards for protecting both groundwater and surface water quality and quantity. These standards apply both to the off-channel mining operations, as well as their reclaimed uses.

## **3.2 GOALS**

- 3.2-1 Promote the conjunctive use of surface and groundwater to maximize the availability of water for a range of uses, including habitat, recreation, agriculture, water storage, flood control, and urban development.



- 3.2-2 Maintain the quality of surface and groundwater so that nearby agricultural productivity and available drinking water supplies are not diminished.
- 3.2-3 Improve the gathering and coordination of information about water resources so that effective policy decisions can be made.

### **3.3 OBJECTIVES**

- 3.3-1 Encourage the development of a countywide water management program, including the participation of the YCFCWCD and other relevant agencies, to coordinate the monitoring and analysis of both surface and groundwater supplies.
- 3.3-2 Ensure that off-channel surface mines are operated such that surface and groundwater supplies are not adversely affected by sedimentation, lowering of the water table, and/or contamination during mining and reclamation.

### **3.4 ACTIONS**

- 3.4-1 Consider evaporation losses as an acceptable result of exposed groundwater, when reclaimed wet pit areas are included as a part of proposed riparian habitat or recreational facilities.
- 3.4-2 Coordinate with the Yolo County Flood Control and Water Conservation District in developing an integrated groundwater recharge plan for Cache Creek, in order to increase the available groundwater supply for municipal and agricultural uses.
- 3.4-3 Include a groundwater monitoring program as a condition of approval for any surface mining and reclamation operation that proposes off-channel excavations that extend below the groundwater level. The monitoring program shall require regular groundwater level data, as well as a water quality monitoring program based on a set of developed standards. *(See Section 10-4.417 of the Mining Ordinance.)*
- 3.4-4 The County shall designate staff and resources to coordinate with city, county, regional, state, and federal agencies that may wish to receive copies of data generated from the off-channel mining operations regarding water resource issues, including the towns of Capay, Esparto, Yolo, and Madison; the City of Woodland; the Yolo County Flood Control and Water Conservation District; the Water Resources Agency; the Central Valley Regional Water Quality Control Board; and the California Department of Water Resources. The database shall be expanded to include other relevant sources of information, so that it can be used as reference material for regional water planning efforts. A data inventory shall be developed including a data management system with formal protocols.

3.4-5 Require that surface mining operations demonstrate that proposed off-channel excavations extending below the groundwater level will not adversely affect the producing capacity or water quality of local active wells. *(See Sections 10-4.412, 10-4.417, 10-4.427, and 10-4.502(b)(2) of the Mining Ordinance.)*

## CHAPTER 4.0 – FLOODWAY AND CHANNEL STABILITY ELEMENT

### 4.1 INTRODUCTION

#### Present Conditions

Cache Creek has changed extensively due to human influences over the past 100 years. Generally speaking, by the time in-channel mining was eliminated from the program in 1996, that portion of the creek within the planning area had become narrower, faster, and deeper than it was a century or more ago. Some reaches of the creek were less than a third as wide as they once were, in some cases a difference of nearly a half-mile. Overall, the area of Cache Creek had decreased by over two-thirds, from 5,000 acres in 1905 to just under 1,600 acres in 1996. These changes created higher shear stress conditions in Cache Creek that resulted in accelerated erosion, streambed lowering, and loss of riparian vegetation.

Nearly 10.4 million tons of sand and gravel have been deposited in Cache Creek throughout the CCRMP area since 1996, resulting in increased channel bed elevations and development of more diverse channel conditions and establishment of more riparian vegetation. However, the channel is still significantly narrower than it was a century ago and elevated shear stresses now interact with more sediment than was the case in 1996. Cache Creek in 2017 is still in the process of establishing a dynamic equilibrium since the cessation on in-channel commercial mining.

Most of the 10.4 million tons of deposition occurred during the extreme high flows in the winter of 1997-1998. Subsequent high-flow years have both eroded and deposited sand and gravel from reaches of Cache Creek. Stated more simply, really big floods add sand and gravel to Cache Creek, while normal winter high flows move sand and gravel from reach to reach. These conditions have resulted in areas of Cache Creek with high rates of channel change and others with much more stable conditions.

Assuming the prohibition of in-stream mining, and assuming the creek was left to its own devices, long-term simulations in the 1995 Technical Studies indicated that a more balanced condition would likely be achieved over the next 100 years. However, the continued diversion of surface water during the irrigation season would inhibit the development of a stable low-flow channel that would encourage stabilization of the creek. In addition, Cache Creek is a dynamic watercourse, subject to extreme flood events, that make the establishment of a natural equilibrium difficult given other constraints along the creek. While the net deposition of sand and gravel since 1996 has been nearly four-times greater than anticipated in 1996, restoring Cache Creek to the condition it was in over one hundred years ago (prior to mining) is not possible. However, the past twenty years have shown that careful management, even the mostly passive management that has been possible since the program's inception, helps the river repair itself and achieve a condition closer to a natural equilibrium.

## OCMP Vision

In 1996, the County realized that the assumptions behind the regulation of in-channel and off-channel mining in the 1970's, 1980's, and early 1990's had become obsolete. Adoption of the CCAP replaced those obsolete concepts (e.g., theoretical thalweg<sup>10</sup>) with a policy framework and regulations better suited to community values, modern theories of environmental regulation, and the physical characteristics of the creek system. These concepts included a data-based delineation of in-channel versus off-channel areas and a Streamway Influence Zone (see Figures 3,4, and 6), which depicts the extent to which the creek affects off-channel land uses.

In addition, the CCAP included a conceptual configuration for the reshaping of Cache Creek, to maintain flood flow conveyance capacity and decrease channel instability. The boundaries of this new configuration were described originally in the 1995 Technical Studies as the "Test 3 Run Boundary," which was created from the results of a HEC-6 sediment transport computer model that assumed the banks of Cache Creek would be smoothed to remove abrupt width and slope changes, and that the channel sections upstream and downstream from the bridges along Cache Creek would be hardened to allow smooth flow transitions into and out of the narrow bridge openings. Few channel modifications of this type have been completed since 1996, and hardening of the bridge transitions did not occur. However, the analysis of changes and trends in geomorphic, hydraulic, and biological conditions since 1996 has shown that nearly 10.4 million tons of sediment have deposited in Cache Creek since in-channel mining was halted, and more natural channel slope and sinuosity has been restored in some reaches. In addition, native riparian forest and other habitat types have increased along much of the channel, while flood flow conveyance capacity has remained mostly unchanged.

Based on this more data-driven understanding of Cache Creek and the new hydraulic modeling of the creek conducted as part of the 2017 Technical Studies, the Test 3 Run Boundary has been updated and renamed the "Channel Form Template" (CFT) to better reflect the intent (see Figure 8).

As the OCMP and CCRMP are reviewed every ten years, updates will be undertaken, based on the information provided by required monitoring programs. These updates will account for the habitat restoration and channel stabilization efforts that have been completed, as well as for property owners who chose not to participate in the reconfiguration of Cache Creek. Thus, the in-channel boundary and the Channel Form Template will continue to shift in the future as Cache Creek continues to adjust to aggradation occurring under current management practices, especially after extreme peak flows. Limited flooding and erosion are beneficial, in that healthy riparian systems require a dynamic balance between erosion, deposition, and periodic inundation to maintain vegetation regeneration and succession. Therefore, the OCMP is not intended to be a static document, but a dynamic one, evolving to meet the shifting conditions of

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<sup>10</sup> The theoretical thalweg is the middle of the deepest part of the channel of a river or stream; the bottom of the low-flow channel. The County's mining regulations in effect prior to the CCAP allowed in-stream mining down to this depth. The purpose of the thalweg was to minimize streambed lowering as a result of in-channel mining.

# Cache Creek Area Plan Update - Channel Form Template

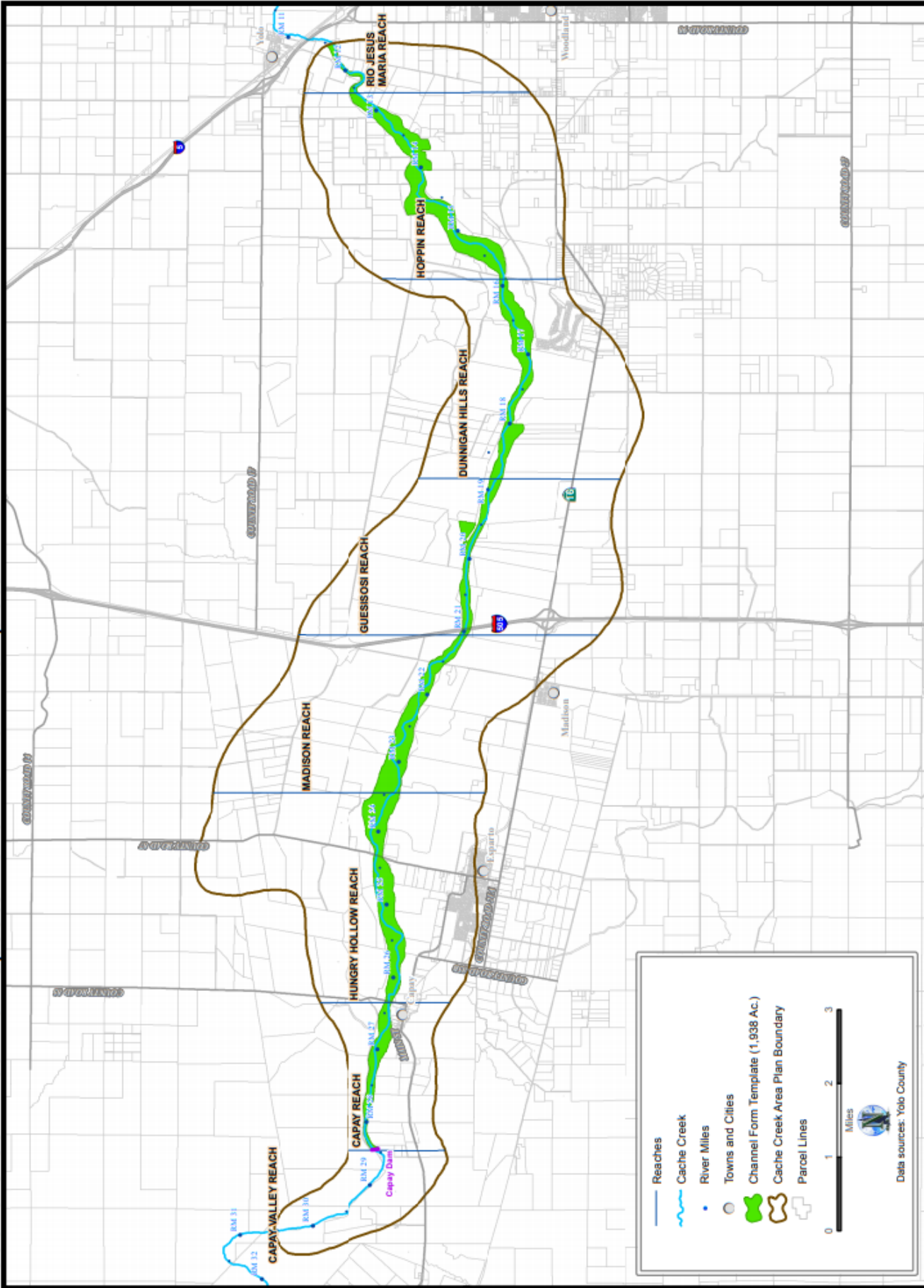


Figure 8

June 1, 2017

the creek in the future. Nevertheless, the in-channel boundary and Channel Form Template shall guide management of the creek to achieve a natural equilibrium state, and the design of off-channel excavations shall take this into account.

Channel stability issues are more thoroughly discussed in the CCRMP, which deals specifically with the regulation of in-channel uses; however, the two plans overlap within the Streamway Influence Zone. The 1995 Technical Studies estimated that Cache Creek may meander as much as 700 feet in a single flood event, threatening to erode levees and significantly changing the geomorphology of the creek through uncontrolled pit capture. In recognition of the interrelationships between off-channel and in-channel uses within this area, the OCMP requires that off-channel excavations be set back a minimum of 700 feet, unless a project-specific, site-specific engineering analysis can demonstrate that measures incorporated into the project can ensure that a lesser setback will provide similar protection against channel destabilization. The minimum setback is 200 feet from the existing channel bank.

While measures can be included as a part of individual mining applications to provide protection against pit capture and channel instability, the presence of mining and other land use activities within the historical floodplain (as defined by the Streamway Influence Zone) affect the creek's configuration. In order to offset these effects and as a further means of ensuring that there is a continuing effort to protect off-channel mining areas from 100-year floods, each mine operator shall participate in channel maintenance and reshaping activities through conditions on their operations and shall contribute to the funding of the CCIP through the payment of per-ton fees.

The OCMP contains provisions for requiring that mining operations be protected from the 100-year flood, and ensuring that program activities do not increase flood risk affecting other land use activities. The OCMP does allow for engineered features to facilitate controlled flooding of off-channel mining pits during peak flows that exceed the 100-year flood. Although such measures could reduce flow rates in the early stages of a flood, they may not be sufficient to resolve flooding downstream. As pointed out in the 1995 Technical Studies, the creek is severely restricted by the bridges and levees located at Interstate 5 and eastward. The OCMP does not directly address flooding issues due to a lack of jurisdiction. Solutions must be developed on a regional basis, taking the entire riparian system of Cache Creek into consideration. The County strongly supports the inter-agency approach to resolve flooding and other regional issues related to Cache Creek.

## **4.2 GOALS**

- 4.2-1 Recognize that Cache Creek is a dynamic system that naturally undergoes gradual and sometimes sudden changes during high flow events.
- 4.2-2 Coordinate land uses and improvements along Cache Creek so that the adverse effects of flooding and erosion are minimized.

- 4.2-3 Establish a more natural channel floodway capable of conveying floodwaters without damaging essential structures, causing excessive erosion, or adversely affecting adjoining land uses.

#### **4.3 OBJECTIVES**

- 4.3-1 Support flood management objectives as required to protect the public health and safety.
- 4.3-2 Recommend actions to create a more stable channel configuration and flood flow conveyance capacity consistent with regional flood management programs.
- 4.3-3 Support regional efforts to protect against downstream flood impacts on communities such as Yolo and Woodland.

#### **4.4 ACTIONS**

- 4.4-1 Recognize that mining activities located within the Streamway Influence Zone, as described in the 1995 Technical Studies, have a potential to influence the flow characteristics of the creek. In response, mine operators shall be required to participate in funding the Cache Creek Improvement Program (CCIP), as outlined in the CCRMP, and implement the Channel Form Template (CFT) as described in Section 10-4.429 of the Mining Ordinance. Funding may be provided through a per ton surcharge or other mechanism to support activities that stabilize the creek channel. *(See Section 8-11.02(a) of the Fee Ordinance)*
- 4.4-2 Evaluation of proposed significant modifications to the floodplain, including off-channel mining areas, shall be made with reference to the channel improvement strategy and guidelines presented in the Cache Creek Resources Management Plan. This will ensure a consistent frame of reference and allow consideration of such modifications in the context of an integrated creek management program. *(See Section 10-4.429(d) of the Mining Ordinance)*
- 4.4-3 Work with other entities, including, but not limited to, the YCFCWCD, the U.S. Army Corps of Engineers, the California Department of Resources, the Federal Emergency Management Agency, landowners, and regional groups in developing a coordinated solution for managing the watershed of Cache Creek. *(In December 2010, the TAC identified a primary and alternate Flood Coordinator. The County Office of Emergency Services (OES) designated the position of TAC Flood Coordinator as a Technical Specialist to the County OA EOC during periods of activation.)*
- 4.4-4 Manage activities and development within the floodplain to avoid hazards and adverse impacts on surrounding properties. This shall be accomplished through enforcement of the County Flood Damage Ordinance and ensuring that new development complies with the requirements of Flood Hazard Development Permits. *(This is addressed through the*

*County's requirement for a Flood Hazard Development Permit (FHDP) for any work within the 100-year floodplain of the creek. In correspondence dated July 14, 2005, the Chief Engineer of the State Reclamation Board confirmed that the Reclamation Board's authority is from I-5 downstream and the County's authority extends from I-5 upstream. In 2008, the State Reclamation Board became the Central Valley Flood Protection Board.)*

- 4.4-5 Allow for the design of spillways or other engineered features that provide controlled flooding of off-channel mining pits during events which exceed the 100-year flood. *(See Sections 10-4.413, 10-4.416, and 10-4.502(a)(3) and (b)(8) of the Mining Ordinance.)*
- 4.4-6 Enter into a Memorandum of Understanding with the YCFCWCD to provide a regular source of surface water flow in Cache Creek throughout the year, when annual precipitation is sufficient. The timing and volume of flows should be coordinated with the TAC, in order to create a stable low-flow channel and allow for the natural revegetation of in-channel areas along the creek, where appropriate.
- 4.4-7 Deleted.
- 4.4-8 Establish a setback from the banks of Cache Creek outside of which off-channel mining project must remain. The setback fulfills the following policy objectives:
- Sufficient buffer to protect off-channel mining areas from lateral river adjustments;
  - Additional buffer against failure for un-engineered levees and natural streambanks;
  - Adequate area in which to maneuver heavy equipment during an emergency;
  - Access for continuing maintenance activities;
  - Flexibility for future channel sculpting during implementation of the CCIP;
  - Available space for revegetation and habitat restoration efforts along the creek;
  - Potential future corridor for recreational activities; and
  - Consistent and uniform treatment of channel banks throughout the OCMP planning area.

*(This was incorporated into Section 10-4.429(d) of the Mining Ordinance. The setback also creates a potential future corridor for recreational activities and allows for consistent and uniform treatment of channel banks throughout the OCMP planning area.)*



## CHAPTER 5.0 – AGRICULTURAL RESOURCES ELEMENT

### 5.1 INTRODUCTION

#### Present Conditions

As described in Chapter 2, the planning area largely consists of lands zoned A-N (Agricultural Intensive) and A-X (Agricultural Extensive). Agricultural uses are an allowed use in these zones and are not subject to any discretionary approval by the County, except where building permits or property adjustments and divisions are required.

Since its inception, the CCAP has required 1:1 mitigation for permanent loss of prime farmland, with no separate mitigation requirements for non-prime land or for land impacted on an interim basis during the term of the mining but ultimately reclaimed to agricultural uses. There are a variety of reasons for this including:

- The County’s mining program is already one of the most stringent in the state and exceeds the requirements of SMARA for operator obligations.
- The CCAP imposes burdens for the protection of open space and agriculture on the mining industry that exceed those imposed on other land uses.
- The CCAP includes a requirement for special community benefits called “net gains” that include the provision of property dedications and easement for/on reclaimed mining sites, restored habitat, trail connections, and related community enhancements (see OCMP Action 2.4-7).
- Integral to the program is a focus on managing lower Cache Creek resources to balance and maximize multiple competing goals.
- Each operator along Cache Creek has an agreement with the County to fund the entire program plus specified open space and restoration activities through the payment of fees for each ton of aggregate sold (see OCMP Action 2.4-16).
- The program is already structured to minimize the geographic impacts of mining by limiting it to a defined area and by encouraging the removal of the full depth of available resources.
- The program includes an obligation to develop and implement the Cache Creek Parkway Plan.

- The program includes, and has since 1996, special protections and monitoring of groundwater and recharge, management of the creek for the protection of adjoining land uses, and permanent protection of reclaimed lands as open space or agriculture.
- Aggregate mining is a unique land use in that it is interim by definition – permits are limited to a maximum term of 30-years (Mining Ordinance Section 10-4.426) and reclamation to a beneficial end use (e.g., agriculture, open space, or habitat) is not only required, but ensured through special bonding called “financial assurances.”
- Aggregate mining is also unique in that it is the only land use that can result in the creation of net new prime agricultural land through reclamation.
- Aggregate mining is an important economic development engine for the County.

In order to address inconsistency between the County Code and the CCAP as related to mitigation for agricultural conversion, the CCAP Update expanded the obligation to mitigate beyond prime farmlands to also include unique farmlands, and farmlands of statewide significance consistent with the requirements of CEQA. This update also required mitigation equivalent to, but not necessarily identical to, the increased ratios in the County Code. It applies the same 3:1 and 2:1 mitigation ratio requirements from Section 8-2.404 of the County Code that apply elsewhere throughout the county, but allows new mining applications to demonstrate equivalency (down to a minimum 1:1 base mitigation ratio) to the applicable ratio using several options identified in Section 10-5.525 (Farmland Conversion) of the Reclamation Ordinance. These options include improvements to farmland quality, permanent easements, dedication of additional net gain lands beyond those already required under the CCAP program, and/or other benefits consistent with the Cache Creek Parkway Plan that would not otherwise already be achieved through agreements and obligations of the program.

### **OCMP Vision**

The OCMP acknowledges Yolo County's continued commitment to the preservation of agricultural land and farming activities. Strict performance standards governing the reclamation of farmland and maintenance of the A-N and A-X Zones throughout the planning area have been included to further protect agricultural uses. However, the goal of the OCMP is to balance the various resources that coexist along Cache Creek. In order to expand opportunities for habitat, recreation, and groundwater recovery, the CCAP acknowledges that some agricultural land will be lost.

This approach is consistent with the scope of the Williamson Act, which not only includes the preservation of agricultural land, but also applies to the preservation of wildlife habitat, recreation space, and open space. The OCMP is intended to provide for the full range of land uses along Cache Creek, of which agriculture is a component. In fact, in terms of acreage, agriculture will remain the primary activity within the planning area.

In order to maintain as much land as possible within agricultural preserves, the Williamson Act contract may continue through both the mining and reclamation phases, as long as the proposed project is consistent with the applicable Williamson Act findings. This would especially apply to projects which would mine the majority of a parcel under contract, but continuously reclaim as mining occurs so that a portion of the parcel is always in agricultural production. Temporary conservation easements on undisturbed farmland may offset the impacts of mining on contracted land, until successful reclamation is achieved.

In accordance with both the Williamson Act and other applicable State regulations, the OCMP requires that any surface mining operation on contracted property that includes prime farmland, which proposes agricultural uses in its proposed reclamation plan, must return the land to agricultural productive capacity similar to that before mining commenced. Non-prime agricultural land shall be reclaimed so it is capable of producing crops commonly grown in the area at an economically sustainable rate.

## **5.2 GOALS**

- 5.2-1 Improve soil and water resources so that a diverse agricultural economy, supporting a variety of crops and products, is maintained.
- 5.2-2 Ensure the compatibility of land uses adjacent to agricultural operations, so that productivity is not adversely affected.
- 5.2-3 Recognize that although multiple uses are encouraged along Cache Creek, agriculture remains the primary economic activity in the region.

## **5.3 OBJECTIVES**

- 5.3-1 Encourage the preservation of prime and important farmland along Cache Creek, while giving consideration to other compatible beneficial uses, such as groundwater storage and recharge facilities, surface mining operations, riparian habitat, and public recreation. Reclamation of agricultural lands to other uses; however, is discouraged wherever agricultural reclamation is feasible.
- 5.3-2 Ensure the use of appropriate agricultural management practices in reclaiming mined areas to productive farmland.

## **5.4 ACTIONS**

- 5.4-1 Maintain the existing A-N (Agricultural Intensive) or A-X (Agricultural Extensive) base zoning within the off-channel planning area, except where it serves as a holding area for growth within the community spheres of Capay, Madison, Esparto, and Yolo, so as to preserve the agricultural character of the region.

- 5.4-2 Deleted
- 5.4-3 Provide for the protection of farmland within the planning area, including mined and reclaimed farmland, through the use of agricultural preserves and/or conservation easements. *(Each approved mining permit under the CCAP contains a condition of approval that states: "Upon the completion of reclamation within each phase of the project, the operator shall enroll each reclaimed parcel in Williamson Act contracts, and provide long-term easements or an equivalent (e.g., deed restrictions) to protect open space and agriculture.")*
- 5.4-4 Ensure that all proposed surface mining operations that include reclamation to agricultural uses comply with the requirements of the Land Conservation (Williamson) Act and the State Mining and Geology Board Reclamation Regulations.
- 5.4-5 Assess property taxes on permitted mineral reserves within contracted land, in order to account for the increased value of the property and ensure that the tax incentives associated with agricultural preserves are not misapplied.
- 5.4-6 Encourage off-channel excavation operations to access additional aggregate reserves through the use of wet pits, in order to minimize the amount of agricultural land disturbed by mining.
- 5.4-7 Ensure maximum public benefit from reclaimed uses by establishing the following priority to be used to assess the adequacy of proposed reclamation plans:
1. Reclamation to viable agricultural uses;
  2. Reclamation to native habitat;
  3. Reclamation to public recreation/open space uses; and
  4. Reclamation to other uses.

## CHAPTER 6.0 – BIOLOGICAL RESOURCES ELEMENT

### 6.1 INTRODUCTION

#### Present Conditions

In California's Central Valley, intact riparian ecosystems are critically important habitat for numerous native wildlife, fish, and invertebrate species. Riparian forests are particularly valuable for both common and special-status species of birds, mammals, insects, and other species seeking food, shelter, dens, or nesting sites. Riparian areas also provide many important ecosystem services for people including hiking, birdwatching, hunting, fishing, education, and carbon sequestration that may reduce the effects of climate change.

Prior to the 1850's, Cache Creek was likely bordered by extensive riparian forests composed of cottonwoods, willows, and oaks, spanning a broad vegetated floodplain. Much of the forest was eliminated in the early to mid-1900's, largely as the result of cattle grazing, timber harvesting, clearing of fields for agriculture and homesteads, and water diversion. In-stream mining that began with small operations in the early 1900's, and which grew to industrial-scale operations in subsequent decades, further decreased riparian forests and native vegetation in general.

The 1995 Technical Studies estimated that only 200 acres (ac.) of riparian forest remained within the present-day CCAP area. Substantially more willow scrub and herbaceous (non-woody) vegetation was estimated to have remained, yet large stretches of the creek were devoid of any significant vegetation. However, a more refined re-analysis of the 1995 vegetation data as part of the 2017 Technical Studies revealed that riparian forest area was substantially underestimated at the time of the Technical Study. In 1995, there was an estimated 353.8 ac. of riparian forest, 589.0 ac. of oak woodland, 529.9 ac. of willow scrub, and 113.5 ac. of herbaceous vegetation within the CCAP area. As of 2015, there was an estimated 372.5 ac. of riparian forest, 593.9 ac. of oak woodland, 259.6 ac. of willow scrub, and 1835.5 ac. of herbaceous vegetation within the CCAP area. Changes in these values from 1995 to 2015 represent actual changes in vegetation in addition to significant differences in methodology used to classify vegetation and estimate acreage between the two time periods.

The most extensive riparian forests are presently found in the Dunnigan Hills reach, in which large patches of gallery forests comprised of cottonwoods, willows, oaks, black walnuts, buckeyes, and other species of trees and shrubs can be found. Bands of dense willow/mulefat scrub line the channel, interspersed with patches of herbaceous wetland vegetation. Large patches of riparian forest are also found in the Capay, Guesisosi, and Hoppin reaches. Herbaceous vegetation has increased significantly along the channel banks in the Dunnigan Hills and Hoppin reaches, primary in the form of dense stands of cattails and tules. Much of the remaining off-channel riparian habitat consists of isolated forest patches, small stands of oak trees in agricultural fields and rangelands, and willow scrub with some taller trees growing along the canals and ditches that run through the area. Notably, substantial recovery of woody vegetation has occurred in

historically mined areas, including off-channel sites, within the Guesisosi and Dunnigan Hills reaches, and to a lesser extent within the Hungry Hollow and Madison reaches.

Numerous threats to the remaining vegetation were identified in the 1995 Technical Studies, including the narrow creek channel, lack of surface water, invasive plant species, and lowered groundwater levels. These factors are still present in 2017. The narrow width of the channel increases the velocity of the streamflow, making it more likely that native plant seedlings are scoured away during high flows. The diversion of surface water often occurs during the growing season for riparian vegetation and removes the primary source of water in losing reaches of the creek. Lowered groundwater levels leave tap roots withered and reduces colonization by new native seedlings, especially in riparian forest patches on upper terraces. In addition, the invasion of aggressive non-native species inhibits the recovery of diverse native habitat. The latter two factors are especially relevant for vegetation within the off-channel lands that characterize the OCMP area.

However, additional threats to native vegetation have arisen over the past two decades, including off-highway vehicle (OHV) use, brush fires, numerous new invasive species, and the lack of active revegetation after fires and invasive species treatment. Rampant OHV use along lower Cache Creek damages or removes native vegetation, potentially promotes invasive species, and likely has negative impacts on wildlife such as nesting birds. Fires set by landowners to clear brush in forested areas have spread to encompass entire forest stands, resulting in large-scale damage to riparian forests. Numerous new invasive species have established along lower Cache Creek, including Ravenna grass, perennial pepperweed, tree of heaven, nonnative thistles, tree tobacco, Himalayan blackberry, fig, poison hemlock, barbed goatgrass, and medusahead. These species compete directly with native plants and generally have little value for native wildlife. Finally, the lack of active revegetation with native species after fires and invasive species treatment has allowed many of these invasive species to rapidly increase and spread across the area. Some patches of arundo, Ravenna grass, and tamarisk (formerly widespread in large, continuous patches) have either persisted along backwater channels or under dense forest canopy, or have re-sprouted after being treated in previous years. More recent invasive species, such as perennial pepperweed and Himalayan blackberry, are widespread and often occur in large, homogeneous patches that exclude native vegetation.

Wildlife and invertebrate species are also important components of the biological resources present within the OCMP area. The 1995 Technical Studies presented an overview of native species that were known to be present within the CCAP area, as well as those species that could be present given suitable habitat. Some of these species, such as Western pond turtle (*Actinemys marmorata*) and bank swallow (*Riparia riparia*) are associated with either the creek itself or adjacent habitat, and thus not present or potentially present within the OCMP area. Notable species that were present or potentially present within the OCMP area at the time of the 1995 Technical Studies included Swainson's hawk (*Buteo swainsoni*; present), tricolored blackbird (*Aegelaius tricolor*; present), Cooper's hawk (*Accipiter cooperi*; potentially present), yellow warbler (*Stenophaga petechia*; potentially present), ring-tailed cat (*Bassariscus astutus*; potentially present), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*;

present), Sacramento anthicid beetle (*Anthicus sacramento*; potentially present), as well as numerous common species such as black-tailed deer (*Odocoileus hemionus columbianus*).

As of 2017, notable species observed within the OCMP area include Swainson's hawk, tricolored blackbird, yellow warbler, bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), golden eagle (*Aquila chrysaetos*), loggerhead shrike (*Lanius ludovicianus*), long-eared owl (*Asio otus*), Northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), ring-tailed cat, bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), American badger (*Taxidea taxus*), nonnative wild pig (*Sus scrofa*), Valley elderberry longhorn beetle, California red-legged frog (*Rana aurora halophilus*), and potentially Sacramento Valley red fox (*Vulpes vulpes* spp. *patwin*). More than 100 additional common species of snakes, lizards, birds, mammals, and invertebrates also occur across the OCMP area.

Threats to native wildlife and invertebrates include non-native competitors and predators such as brown-headed cowbird (*Molothrus ater*) and bullfrog (*Rana catesbeiana*); poaching; rodenticides that can poison native mammalian and avian predators; damage to or loss of habitat due to development, drought, or disturbances including fires and OHV use; and establishment and spread of invasive plant species that reduce habitat value.

### **OCMP Vision**

Although the OCMP cannot reestablish the diversity and extent of riparian habitat that existed 150 years ago, there is substantial opportunity for improving the degraded situation that occurs today. Habitat enhancement and restoration projects should be implemented within the OCMP area to complement similar projects within the CCRMP area in order to conserve and protect biological resources within the CCAP area. Habitat enhancement refers to removal of invasive species, woody debris, and other impediments to the recovery and persistence of biological resources. Habitat restoration includes both passive and active restoration; the former is essentially equivalent to habitat enhancement in that impediments to habitat recovery are removed, while the latter is generally a more-intensive form of management in which native seeds or seedlings are planted after site preparation and invasive species removal. Habitat enhancement and restoration within the OCMP area should complement similar efforts within the CCRMP by creating larger patches of functional habitat, reducing fragmentation, increasing patch connectivity, increasing habitat complexity, and providing a habitat buffer around the CCRMP to reduce invasion by nonnative species. All of these outcomes directly benefit native vegetation, wildlife, and invertebrate species. Habitat enhancement and restoration within the OCMP area should also be consistent with the goals, objectives, and conservation guidelines of the County's Habitat Conservation Plan and Natural Community Conservation Plan (Yolo HCP/NCCP).

Habitat enhancement efforts should focus on control of invasive species, including but not limited to arundo, barbed goatgrass, Himalayan blackberry, Italian thistle, medusahead, milk thistle, Ravenna grass, tamarisk, perennial pepperweed, tree tobacco, and yellow starthistle. These species are abundant throughout the CCRMP and OCMP areas, but tend to co-occur with

native vegetation and are thus more common in more vegetated reaches such as Capay, Dunnigan Hills, and Hoppin. The spatially-explicit framework for invasive species mapping, treatment, and monitoring within the CCRMP area should be implemented within the OCMP area to maximize cost-efficiency and success. Areas treated for invasive species should be replanted with native species to minimize re-invasion and improve habitat. Invasive species treatment efforts should focus on County-owned properties, but also include off-channel mining pits that are in the process of revegetating, properties with large remnant populations of arundo and/or tamarisk, and other locations as deemed appropriate.

Habitat restoration efforts should focus on County-owned properties to ensure site access and to align with the on-going development and implementation of the Cache Creek Parkway Plan. For example, significant restoration opportunities exist for the Capay Open Space Park (native grassland and riparian forest), the Millsap property (oak woodland and riparian forest), the Wild Wings property (native grassland and oak woodland), the Woodland Reiff property (native grassland and oak woodland), and the Correll-Rodgers property (riparian forest). Former off-channel mining sites, such as those within the Dunnigan Hills and Hoppin reaches, are also good candidates for habitat enhancement and restoration.

In general, restoration efforts should be prioritized within the area generally located between Interstate 505 and Road 94B, which is a fairly stable and gaining reach of the creek. A gaining reach is one where the streambed is lower than the surrounding groundwater elevation, which allows water to seep from the aquifer and collect in the channel, thus providing a consistent source of surface water. Depth to groundwater is an important factor to consider for all restoration projects implemented within the OCMP area, since groundwater depth will largely dictate the pool of species that can be used in restoration.

It is anticipated that much of the habitat restoration work along Cache Creek will continue to be undertaken by Cache Creek Conservancy staff and contractors. In addition, reclamation plans for off-channel mining along Cache Creek call for several hundred acres of habitat to be created, largely consisting of wetland areas adjoining permanent ponds and lakes. Perhaps the most critical component in ensuring the success of these efforts is the maintenance of a year-round flow in Cache Creek. The availability of water is presently driven by the demands of irrigated agriculture, leaving little surface water for habitat restoration.

In addition to riparian habitat enhancement and restoration, provisions should be made for wildlife and invertebrate species within the OCMP area especially special-status species known to be present or historically present, which include Swainson's hawk, white-tailed kite, Northern harrier, tricolored blackbird, American badger, and Valley elderberry longhorn beetle. Where populations of these and other special-status species already exist, mitigation measures must be incorporated into approved project to ensure that their habitat is maintained. Mitigation measures should be developed in conjunction with the State Department of Fish and Wildlife, and/or the U.S. Fish and Wildlife Service, and should be consistent with the goals, objectives, and conservation guidelines of the Yolo HCP/NCCP. Wherever possible, restoration and reclamation



projects should incorporate features to conserve existing populations and to encourage the establishment of new populations.

## **6.2 GOALS**

- 6.2-1 Provide for a diverse, native ecosystem within the OCMP area that is self-sustaining and capable of supporting native wildlife and invertebrate species.
- 6.2-2 Seek to enhance, expand, and connect existing patches of native woody and herbaceous vegetation to reduce habitat fragmentation and support similar efforts with the CCRMP area.
- 6.2-3 Integrate climate-smart adaptation strategies to increase resiliency and prepare for future uncertainty

## **6.3 OBJECTIVES**

- 6.3-1 Conserve and protect existing wildlife habitat within the OCMP area to the greatest extent possible.
- 6.3-2 Establish conditions to encourage the development of a variety of natural habitat types in the off-channel areas along the Cache Creek channel.
- 6.3-3 Adopt standards for planning, implementing, and monitoring habitat revegetation and restoration projects in order to ensure consistency, to maximize success and account for future uncertainty due to climate change.
- 6.3-4 Coordinate restoration programs with relevant planning efforts of both the County and other private and public agencies. Encourage regional mitigation to occur within the CCAP plan area, consistent with the program and the Parkway Plan. Require mitigation obligations resulting from mining applications to be implemented within the CCAP plan area, consistent with the Parkway Plan.

## **6.4 ACTIONS**

- 6.4-1 Coordinate with appropriate entities, such as the Cache Creek Conservancy, YCFCWCD, Yolo County Resource Conservation District, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers to ensure that proposed habitat restoration projects are consistent with or complement the Off-Channel Mining Plan and the Parkway Plan. Restoration plans shall complement the preservation and enhancement measures in the Yolo County Natural Communities Conservation Program (HCP/NCCP).

- 6.4-2 Provide for the development of shallow areas along reclaimed off-channel excavations that extend below the groundwater level, to create wetland and riparian habitat. *(See Section 10-5.529 of the Reclamation Ordinance.)*
- 6.4-3 Mitigate for short-term and long-term loss of agricultural land and habitat pursuant to applicable County requirements and CEQA. Comply with the Yolo HCP/NCCP for species covered by that Plan. For non-covered species for which impacts may occur, ensure compliance with appropriate measures in site-specific biological assessments required under the OCMP and CCRMP, in compliance with the State Fish and Wildlife Code, Migratory Bird Treaty Act, and other applicable regulations, plans and programs, as appropriate.
- 6.4-4 Implement strategic mapping, prioritization, treatment, and monitoring of invasive plant species including arundo, barbed goatgrass, Himalayan blackberry, Italian thistle, medusahead, milk thistle, Ravenna grass, tamarisk, perennial pepperweed, tree tobacco, yellow starthistle, especially in areas where they inhibit the growth and development of native riparian vegetation.
- 6.4-5 Include provisions to enhance habitat for special-status species in restoration components of reclamation plans, where feasible. *(See Section 10-5.523 of the Reclamation Ordinance.)*
- 6.4-6 Encourage cooperative agreements and voluntary conservation easements with private landowners to preserve, protect, and enhance the biological resources of Cache Creek, and to implement provisions of the OCMP.
- 6.4-7 Restore riparian habitat throughout the planning area, wherever appropriate. However, re-vegetative efforts should be primarily focused on implementing recommendations described in the Technical Studies and the subsequent Restoration Recommendations incorporated into the CCRMP. Integrate off-channel and in-channel revegetation plans with the goal of reducing fragmentation by expanding and connecting existing habitat patches, optimizing restoration planning in alignment with the Parkway Plan, and supporting future funding proposals. Ensure that elements such as soils, drainage, slopes, and habitat types complement one another in a coordinated effort.
- 6.4-8 Include native-planted hedgerows and other vegetated buffers between restored habitat areas and adjoining farmland, in order to minimize the potential for riparian areas to serve as harbors for predators and insect pests. These buffers will also reduce the noise, dust, and spraying generated by agricultural operations, in addition to providing valuable pollinator resources that in turn could enhance agricultural production.

## **CHAPTER 7.0 – OPEN SPACE AND RECREATION ELEMENT**

### **7.1 INTRODUCTION**

#### **Present Conditions**

As of 2016, the County has several open space properties along lower Cache Creek: Capay Open Space Park (41 acres), Millsap property (17 acres), Wild Wings Park (17 acres), Cache Creek Nature Preserve (123 acres), County Borrow Pit (7 acres), Rodgers Property (30 acres), and Correll Property (39 acres). In the upper reaches of Cache Creek, the County also owns parks near Rumsey and Guinda, and several campgrounds and whitewater rafting areas near Bear Creek. Due to the high proportion of land in private ownership, access to the creek is limited. Other recreational facilities within the immediate area include the Esparto Community Park, the Madison Community Park, and the Flier's Club (a private golf course and clubhouse). In addition, there are several private equestrian facilities on the north side of the creek, just west of County Road 94B.

Recently, trespass and illegal off-highway vehicle activity are significant management issues along lower Cache Creek as the vehicles use formerly mined pits and streambanks, creating erosion and damaging riparian vegetation. Trespassing is frequent, including poaching, camping, and loitering along the creek, resulting in graffiti, property damage, and trash. These areas of the creek are typically found in remote locations, away from nearby residences and areas frequented by authorized visitors. The County faces important decisions about how to manage, improve, and integrate the public properties it owns, and new properties that will be dedicated to the County in the future as a result of development agreements with mining operators and implementation of the CCAP program.

Pursuant to the vision and direction articulated below, the County in 2016 started the process of drafting the Cache Creek Parkway Plan which will provide a detailed vision and integrated management plan for: 1) properties currently under public ownership and managed by the County pursuant to the CCAP; 2) properties and trail easements that will be dedicated to the County in the future pursuant to the CCAP; and 3) additional properties accepted or purchased for management pursuant to the CCAP.

#### **OCMP Vision**

The OCMP and the CCRMP, which together comprise the CCAP, address with the "first phase" of creek management: re-stabilizing the creek channel and restoring the riparian habitat. The "second phase" involves a more detailed analysis of the recreational needs of Yolo County and the resulting environmental effects that recreation would have on surrounding properties. The OCMP anticipates that the County will pursue an integrated system of trails and recreational areas along Cache Creek, similar to facilities along the San Joaquin and American Rivers, although at a less intensive scale of development. The County has undertaken a more detailed analysis of the recreational needs of Yolo County, which will include consideration of resulting

environmental effects (including land use conflicts) of a regional parkway. Development of the Cache Creek Parkway Plan will allow for community involvement and provide specific proposals as well as projected costs for developing and maintaining a parkway system. It will also be valuable for addressing creek ownership and access issues.

The OCMP has designated six general areas for recreational use (see Figure 9). These areas are conceptual in nature. They are located at regular intervals of approximately two miles along Cache Creek, in order to function as trailheads or staging areas for a future system of bicycle, pedestrian, and/or horse paths. These recreational areas are located on lands included for mining, where proposed reclamation is to permanent ponds. This ensures that no additional farmland would be lost, while taking advantage of the amenities associated with the bodies of water to be reclaimed through mining. Frontage to County roads and State highways was an important consideration, to ensure that the public would have adequate access to the sites and the trail system. Also, a variety of sites were included in order to provide a range of potential recreational uses. The three easternmost areas are located near reaches proposed for habitat restoration, and may be suitable for passive activities, such as hiking, birdwatching, horseback riding, and educational exhibits. The three westernmost sites are located in areas of the creek that contain more open space and may be appropriate for intensive activities, including non-motorized boating, catch and release fishing, bicycle riding, and picnic grounds. Active recreational uses in the western sites, would directly benefit the nearby communities of Madison, Esparto, and Capay, and could serve as a future basis for expanded tourism opportunities and economic benefits.

## **7.2 GOALS**

- 7.2-1 Preserve scenic resources within the off-channel planning area.
- 7.2-2 Establish a variety of outdoor recreational and educational opportunities along Cache Creek for use by the public.
- 7.2-3 Ensure the compatibility of recreational facilities with surrounding land uses, in order to minimize adverse impacts.

## **7.3 OBJECTIVES**

- 7.3-1 Continue to use the "Open Space" zoning designation for the area located within the creek's existing banks and other areas where resource management and habitat protection is warranted.
- 7.3-2 Create a continuous corridor of natural open space along the Creek and provide for limited access, at specific locations, to recreational and educational uses.
- 7.3-3 Discourage the encroachment of incompatible uses into areas surrounding designated recreation sites.

# Cache Creek Area Plan Update - Baseline Parkway Properties

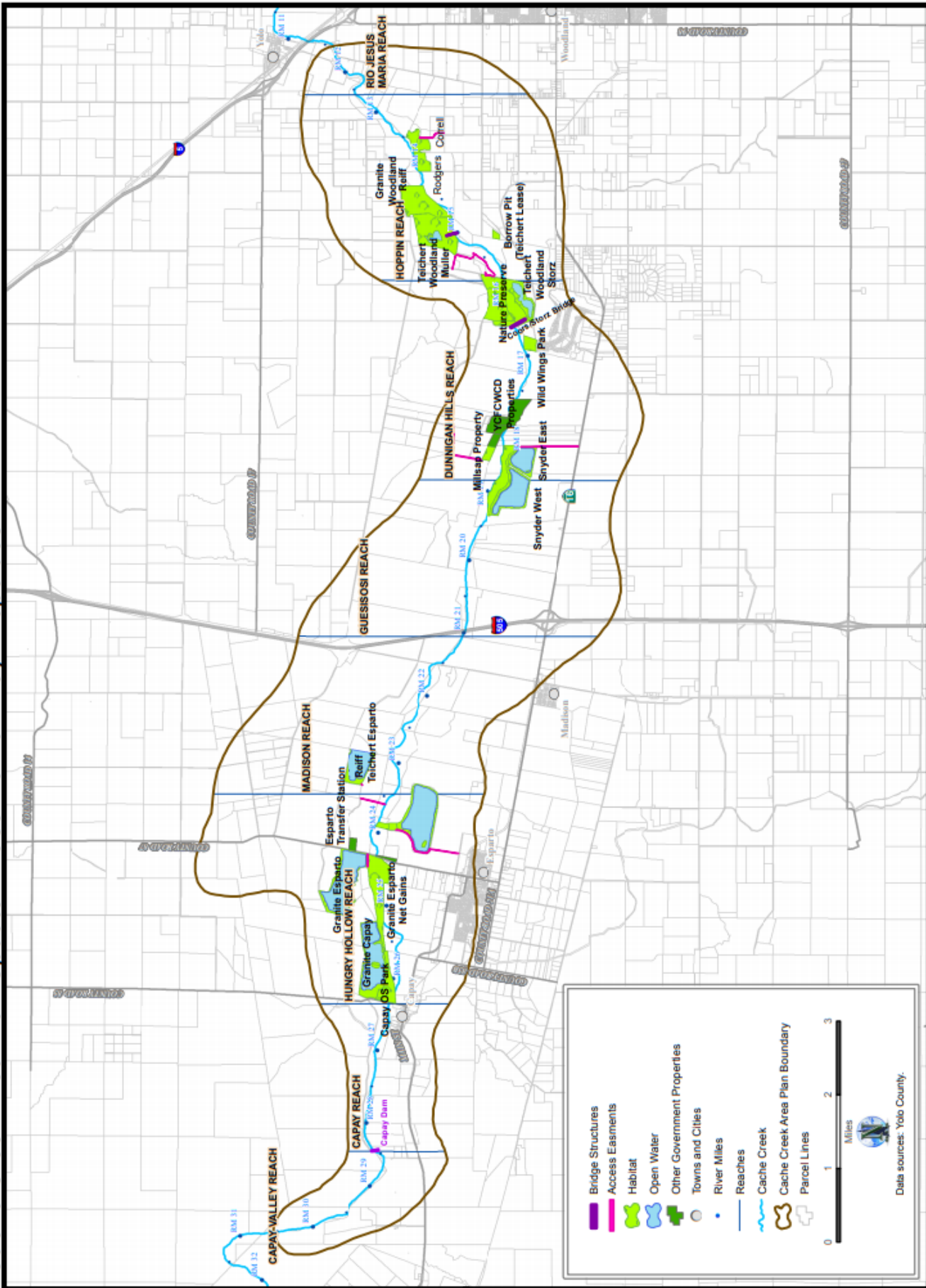


Figure 9

August 9, 2018

7.3-4 Design recreational facilities to maintain the privacy and security of surrounding property owners.

#### **7.4 ACTIONS**

7.4-1 Continue to solicit the dedication of restored habitat areas and/or recreational areas to the County or to an appropriate land trust such as the Cache Creek Conservancy, in order to provide continuous open space along the creek.

7.4-2 Develop a future Cache Creek Parkway Plan for Cache Creek, in consultation with the County Parks Administrator, to provide a range of public activities and uses. Suggested recreational uses may include, but are not limited to hiking, horseback riding, fishing, picnic grounds, boating, educational exhibits, and birdwatching.

7.4-3 Identify locations for future recreational and educational uses along Cache Creek. Sites shall be located at regular intervals throughout the planning area, with access to a County Road or State Highway. The location and operation of such facilities shall be compatible with surrounding residences, agriculture, mining, and wildlife habitat.

7.4-4 Designate dedicated recreational areas as "Open Space" in the OCMP.

7.4-5 Coordinate with the U.S. Bureau of Land Management to investigate the eventual linkage of recreational uses located along the upper watershed of Cache Creek to the designated recreational sites located within the planning area. *(The BLM Cache Creek Coordinated Resource Management Plan was adopted in December 2004.)*

7.4-6 Ensure that active surface mining operations are located away from public areas, such as County roads, residences, and sites reclaimed to recreational uses, unless adequate mitigation is provided. *(See Section 10-4.429 of the Mining Ordinance.)*

7.4-7 Design and manage recreational sites so that trespassing, vandalism, and other undesirable activities are discouraged. Suggested options include controlled and gated access, day-use fees, and volunteer docents to patrol the site.

## ACKNOWLEDGEMENTS

### 2019 Update

The Cache Creek Area Plan (CCAP) is a rivershed management plan that sets policy for and regulates off-channel surface mining along, as well as in-channel restoration and maintenance within, Lower Cache Creek. The program is based on the concept of adaptive management, and relies on on-going detailed monitoring, analysis, and re-evaluation. A comprehensive ten-year review is mandatory under the program. The 2019 CCAP Update constitutes the second mandatory ten-year program review since the program was put into effect in 1996. The purpose of the Update was to analyze trends and adjust the program to avoid unexpected effects on Cache Creek resources focusing on changing in creek conditions; analysis of collected data; and new regulatory requirements.

### 2019 Yolo County Board of Supervisors

Don Saylor	District 2 (Chair)
Gary Sandy	District 3 (Vice-Chair)
Oscar Villegas	District 1
Jim Provenza	District 4
Duane Chamberlain	District 5

### 2019 Yolo County Planning Commission

Patrick Reynolds	District 4 (Chair)
Darin Hall	District 1 (Vice-Chair)
Elisabeth Dubin	District 2
Chuck Dudley	District 3
Amon Muller	District 5
Trini Campbell	At Large
Marcia Gibbs	At Large

### 2019 Key Members of Staff

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Casey Liebler	Natural Resources Program Coordinator
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Jeff Anderson	Senior Parks Planner
Ronald Miller	Senior Mining Planner

Project management was provided by Heidi Tschudin of TSCHUDIN CONSULTING GROUP, under contract to the County as an extension of staff.

The primary technical basis for this Update was provided by the *2017 Technical Studies and 20-Year Retrospective for the Cache Creek Area Plan* (March 2017). Andrew Rayburn, CERP, Ph.D., Paul Frank, P.E., CED, and Mark Tompkins, P.E., Ph.D. were the primary authors of this report.

Funding for this project was provided by CEMEX, Granite Construction Company, Syar Industries, and Teichert Aggregates.

### **1996 Plan**

For the last twenty years countless hours have been spent by elected officials, citizens, landowners, aggregate operators, farmers, agency representatives, staff members, and consultants trying to agree on an appropriate balance between the use of natural resources and the sustainability of the riparian environment. From those efforts a mountain of studies have been produced, providing a ready source of technical data upon which policy and planning may be based. We will have foregone an opportunity and failed as stewards of the land if we do not translate this knowledge into a plan of action. The past debate concerning Cache Creek has been vital in assuring the investigation of a wide variety of alternatives, but there is a general feeling that the coordinated management and planning for the creek must begin now. Further delays would not appreciably improve our understanding of the creek. Continued inaction, however, will allow the existing degraded conditions to worsen. It is time to concentrate less upon our differences and to devote our energies towards achieving the goals that we have in common. Through these efforts, and the tremendous resiliency of our natural resources, Cache Creek will once again achieve the vitality that makes it one of the County's unique treasures.

### **1996 Yolo County Board of Supervisors**

Mike McGowan	District 1
Helen Thomson	District 2
Tom Stallard, Chair	District 3
Betsy Marchand	District 4
Frank Sieferman	District 5

### **1996 Yolo County Planning Commission**

Bob Heringer	District 1
Barbara Webster	District 2
Harry Walker	District 3
Jim Gray, Chair	District 4
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Project management was provided by Heidi Tschudin of TSCHUDIN CONSULTING GROUP, under contract to the County as an extension of staff.



The primary technical basis for this Plan was provided by the *Technical Studies and Recommendations for the Lower Cache Creek Resource Management Plan* (October, 1995). A special thanks to the authors of this comprehensive report.

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To find out more about this Plan, or the process through which it was developed and updated, please contact:

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### **Appendix A: Off-Channel Surface Mining Ordinance**

The current version of this ordinance can be accessed online via the following link:

<https://codelibrary.amlegal.com/codes/yolocounty/latest/yolo/0-0-0-17331>



### **Appendix B: Yolo County Surface Mining and Reclamation Ordinance**

The current version of this ordinance can be accessed online via the following link:

<https://codelibrary.amlegal.com/codes/yolocounty/latest/yolo/0-0-0-17871>



### **Appendix C: Surface Mining and Reclamation Act**

The current version of these regulations can be accessed online via the following link:

<https://www.conservation.ca.gov/dmr/lawsandregulations>

