4.3 Water Supply and Availability

This chapter assesses impacts related to water supply and availability for the September Ranch Project for purposes of CEQA, and, for clarity, also provides additional information related to water rights. In conjunction with the Draft REIR, Kennedy/Jenks Consultants (KJC) prepared a hydrogeologic report for the proposed project. The purpose of the KJC hydrological report was to assess the long-term water supply for the project, to prepare a water balance for the project, to determine where September Ranch's water rights fit in the hierarchy of relevant water rights, and to determine the environmental impact of diversions for September Ranch on nearby water supplies.

For purposes of the CEQA impact analysis, this chapter uses an amount of three (3) acre-feet per year as the environmental baseline. Based on this baseline and the determination that the project will have a water demand of 57.21 AFY, this chapter concludes that the September Ranch Aquifer (SRA), which underlies the project site, will provide an adequate and reliable long-term water supply for the proposed project. This conclusion is based upon a historical record of variable rainfall and on a detailed understanding of the water resources in the SRA and vicinity. Even in the driest years on record, there has been sufficient rainfall and recharge to ensure sufficient water is stored within the SRA to meet long-term project demand. This chapter also evaluates demand on the CVA based on water pumping and water rights data and concludes that the exercise of water rights by September Ranch will not result in injury to water rights that are more senior to, or of the same priority as, September Ranch.

Finally, this chapter concludes that the project will result in a less than significant impact on the water resources of the September Ranch Aquifer (SRA) and the adjacent Carmel Valley Aquifer (CVA).

4.3.1 Interplay of California Water Rights and CEQA Analysis

California administers water rights under a bifurcated system that generally separates water rights associated with surface water from water rights associated with "percolating groundwater." One exception to this separation exists when groundwater is deemed to be underflow or subsurface flow of a surface water system (also called a subterranean stream flowing through a known and definite channel). There is no clear judicial or regulatory test for when groundwater is deemed underflow/subsurface flow of a surface water system versus percolating groundwater, and there is currently an ongoing and extensive debate in the water rights community on this issue. (See, for example, Review of the Laws Establishing the SWRCB's Permitting Authority Over Appropriations of Groundwater Classified as Subterranean Streams and the SWRCB's Implementation of Those Laws, SWRCB No. 0-076-300-0 (January 19, 2002)). The conclusion is drawn from a century of judicial and regulatory opinions that some limited hydrologic connectivity between water under the ground and a surface water system does not automatically mean that the water under the ground is surface water rather than percolating groundwater. Beyond this conclusion, there is no factual bright-line test to determine whether water under the ground is percolating groundwater or a subterranean stream. To address the uncertainty in this area, the courts have developed a presumption that water under the ground is percolating groundwater, and not surface water, unless there is sufficient evidence to the contrary. (*Los Angeles v. Pomeroy* (1899) 124 Cal. 597, 628.) The burden of proof is on the person asserting that groundwater is not percolating but is instead a subterranean stream flowing through a known and definite channel. (*Id.*) The State Water Resources Control Board (SWRCB) has permitting authority over post-1914 appropriative rights to subterranean streams, but does not

have jurisdiction over riparian or pre-1914 rights to subterranean streams. The SWRCB likewise does not have jurisdiction over percolating groundwater.

In 1995, the SWRCB evaluated the water rights of the California-American Water Company (Cal-Am) in the Carmel Valley and concluded that the water in the Carmel Valley Aquifer (CVA) below and surrounding the Carmel River was not properly classified as percolating groundwater, but rather was classified as underflow of the Carmel River (*i.e.,* a subterranean stream) and, thus, subject to the surface water rights system (SWRCB Order No. WR 95-10, [July 6, 1995] at 12 ("Cal-Am and other parties did not contest the testimony and evidence which describes the subsurface flow of the Carmel River as a subterranean stream flowing through a known and definite channel.")). Documents from the Monterey Peninsula Water Management District, the SWRCB, and other sources alternately refer to this subsurface flow as the Carmel Valley Aquifer (or CVA), the Carmel Valley Alluvium Aquifer, the underflow of the Carmel River, the subterranean flow of the Carmel River, and underflow of the Carmel River. This Draft REIR uses the term "Carmel Valley Aquifer" or "CVA" to refer to this subsurface flow.

There has been no definitive classification as to whether the September Ranch Aquifer (SRA) adjacent to the CVA is properly classified as "percolating groundwater" or as a subterranean stream which is part of the CVA. As explained herein, the evidence in the record demonstrates that there is a limited and inconsistent hydrologic connection resulting in relatively little exchange of water between the SRA and the CVA. Based upon this evidence, this chapter concludes that the CVA and SRA are separate groundwater basins, that the SRA is percolating groundwater, and that the project would be exercising overlying groundwater rights to the SRA. An overlying right exists by nature of the parcel of land overlying an aquifer of percolating groundwater. Such a right may be exercised anywhere on the parcel. The overlying right is a right to withdraw percolating groundwater from the aquifer in an amount that may be used in a reasonable and beneficial manner on the overlying parcel. The overlying right is a correlative right, meaning that all parcel owners overlying that basin must share the water of the basin according to their reasonable use.

There has been a competing, but less persuasive, suggestion that the CVA and SRA may be a common or single basin, best summarized by a letter from individual staff members at the SWRCB, Division of Water Rights (See analysis of SWRCB staff letter in Appendix to KJA Hydrology Report). As noted above, if this were true then water pumped for the project would be considered surface water, and would be pumped either pursuant to: (1) a riparian or pre-1914 appropriative right to the adjacent CVA; or (2) a post-1914 appropriative right issued by the State Water Resources Control Board. A riparian right is a right that exists by nature of a parcel sitting adjacent to a water course. Because of the proximity of the parcel to the water course, the law imputes to the parcel a right to divert water to the parcel. All owners of riparian parcels may divert the water necessary for use on their parcel, so long as the use is reasonable and beneficial. The right, however, is said to be "correlative" with all other riparian rights.

While these issues of water rights provide useful context for this Draft REIR, CEQA is solely concerned with determining the nature and magnitude of any physical change (*i.e.,* "impact") in the environment that may result from a proposed project. With respect to water supply, CEQA is concerned with whether the proposed supply is physically available, and whether the use of the supply will result in any reasonably foreseeable significant adverse physical changes to other environmental resources such as, for example, the integrity of a groundwater basin, water supply for

other users, or impacts to biological resources. Accordingly, this chapter describes the very limited and inconsistent connectivity between the September Ranch Aquifer and the Carmel Valley Aquifer, and the even more tenuous connection between the September Ranch Aquifer and the Carmel River, and assesses the nature and magnitude of any physical change in all three systems associated with pumping water for the project from the September Ranch Aquifer.

In contrast, the purely legal issues of whether the September Ranch Aquifer is properly classified as "percolating groundwater" or "surface water," and whether the September Ranch property holds either an "overlying" (groundwater) or "riparian" (surface water) right do not, by themselves, implicate changes to the physical environment, and therefore are not relevant (except as to context) to the CEQA impact analysis. As an analogy, an EIR on a proposed development project does not analyze whether the applicant is the legal owner of the property with the right to construct/ on that property. Rather, the EIR analyzes the impacts of construction and operation of the project, and leaves the question of ownership and property rights to other regulatory approval processes.

Other than context, there is only one circumstance in which a water right analysis may be relevant to a CEQA analysis, and that is if the exercise of a riparian or overlying right would displace existing water uses by virtue of the "seniority" of the riparian or overlying right, so that the existing uses were required to obtain a water supply elsewhere. For this reason, and in order to respond to specific questions from the Court of Appeal in *Save Our Peninsula Committee v. Monterey County Bd. of Supervisors* (2001) 87 Cal. App. 4th 99, Monterey County has included a water right analysis in this Draft REIR. This Draft REIR thus describes relevant hydrogeologic evidence and assesses water rights, and concludes that: (i) substantial evidence indicates that the September Ranch Aquifer is properly characterized as percolating groundwater, and therefore the relevant right held by the September Ranch property is an overlying right, and not the riparian right which would be relevant if the SRA was classified as surface water; and (ii) under either water right system, the project's use of water from the SRA will not injure any senior water right holders and will not displace junior water users. In this regard, it should be noted that Monterey County is not the final arbiter of whether any particular property has riparian or overlying rights. Such a binding determination may only be made by a court of competent jurisdiction.

In order to determine whether the September Ranch property held riparian rights to the CVA (assuming for purposes of the question that the SRA and CVA had an extensive hydrologic connection and the SRA otherwise qualified as sub-surface "surface water"), in the fall of 2002, the County retained Downey Brand LLP (Sacramento, CA) to perform an independent review of the water rights of September Ranch and to determine what water rights (if any) were associated with that parcel of land. Downey Brand LLP's review was based on public records of the SWRCB and a chain of title of deeds and other conveyance documents for the September Ranch parcel (gathered by an independent researcher) that reviewed every land conveyance document associated with the project lands back to the original patenting of the parcel. In this way Downey Brand could confirm whether previous subdivisions of the September Ranch site had resulted in some parcels losing riparian rights. After reviewing the complete chain of title, in January 2003 Downey Brand LLP issued a legal opinion that (assuming extensive hydrologic connection between the SRA and the CVA) the September Ranch parcel is riparian to the Carmel Valley Aquifer (and hence to Carmel River). Downey Brand also noted that as a result of an agreement that is part of the chain of title (between the predecessors-in-interest of September Ranch Partners and Cal-Am) the riparian right held by September Ranch had been subordinated to the pre-1914 rights held by Cal-Am. In order to

effectuate this subordination, for purposes of the water right analysis Downey Brand LLP assigned a priority date to September Ranch which is junior to the priority date of Cal-Am's pre-1914 rights. For purposes of analyzing the relative priority of the water rights, Downey Brand LLP adopted the most conservative assumption—*i.e.*, that September Ranch's riparian right was also subordinated to all other riparian parcels. The results of the water right analysis are presented below.

4.3.2 Analysis of Senior Water Rights

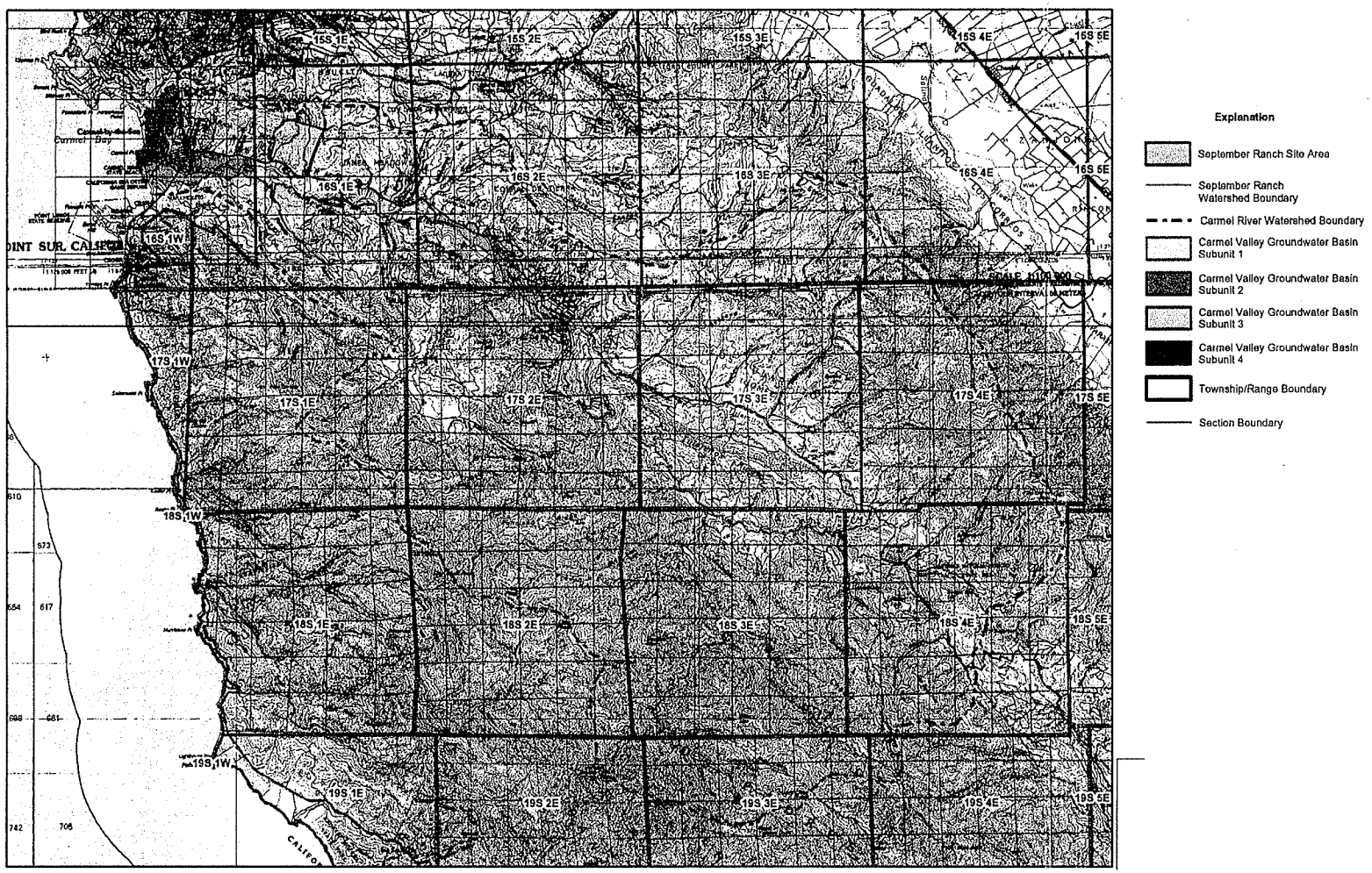
As noted above, this chapter concludes that the SRA and CVA are separate and distinct basins. As a result, the project would exercise an overlying groundwater right. Under this analysis, no consideration is required of the impact of the project on water rights to the CVA. However, due to the inquiries posed by the Court of Appeal, this chapter does include a discussion of the water rights of the CVA, and the extent to which a diversion by September Ranch from the CVA would affect those water rights. This analysis is divided into two inquires:

- Identify the quantities associated with relevant superior (i.e., "senior") water rights to those of September Ranch, if September Ranch was exercising a riparian right to the CVA; and
- Determine whether pumping by September Ranch might negatively affect senior water rights.

Analysis of Relevant Water Rights

The Water Rights Information Management System (WRIMS) database managed by the State Water Resource Control Board was used to collect data for the water rights analysis. Use of the database required substantial preprocessing of data including holder of rights locations. The method used was as follows:

- The rich text format (RTF) file provided by the SWRCB was manually entered into a spreadsheet database because there was no expedient means of converting the file and SWRCB could not provide an electronic file that could be easily converted into a spreadsheet or database format. Duplicate records were eliminated.
- The data that were classified as of type "STATE" (short for Statement) were assembled, since they represent those records that could include riparian water rights and pre-1914 rights, those types of rights for which water users are required to file statements with the SWRCB). All of the other data types were for post-1914 appropriative rights that are therefore subordinate to September Ranch.
- A map that shows the Carmel River Watershed with the township, range, and section delineations consistent with the U.S. Geological Survey topographic mapping was prepared (see Exhibit 4.3-1). It was determined that those water rights found in Aquifer subunits 1 and 2 (AQ 1 and AQ 2) were not considered further for the analysis because the water balance analysis accounts for water rights by only examining that flow of water that exists after diversions in AQ 1 and AQ 2, since the project site is downstream from these subunits. The water balance will be the basis for determining the potential effects of pumping in the SRA on the CVA as discussed in further detail under 4.3.4, Project Impacts.



Source: Kennedy/Jenks Consultants, November 2004.

NORTH

22641 11320.5 0 22641

SCALE IN FEET

Exhibit 4.3-1
Carmel River Watershed

- The records in the WRIMS database that remained after removing all record types except those identified as STATE and removing all record types associated with the point of diversion locations upstream of the project site in AQ 1 and AQ 2, are those potential riparian and appropriative water rights in Aquifer subunits 3 and 4 (AQ 3 and AQ 4), which are relevant for consideration to evaluate the potential effects of pumping in the SRA.

Water Rights Decision 1632 Tables 5, 12, and 13 and WRD 95-10

Since the remaining data in the WRIMS database does not distinguish between riparian and appropriative water rights, Tables 5, 12, and 13 from Water Rights Decision 1632, were reviewed because they contain some limited information on those entities that filed water rights claims and the basis (riparian, pre and post 1914 appropriative, and groundwater) for the claim. Water Rights Decision 1632 - Table 15 is entitled Prior Right Protests, Table 12 is entitled Protests Based Upon Riparian Claims and Table 13 is entitled Carmel River Watershed - SWRCB Determination of Priority and Quantities Obtained from Stipulations, Applications, or Protests (AFA).

Based on the information contained in those tables, the remaining data in the WRIMS database were reviewed to remove those entries that were based on an application number (i.e., post-1914 appropriative). Any record from Table 12 that was based on a tributary to the Carmel River was also removed since it is assumed that most of the tributaries are in AQ 1 and AQ 2. Table 12 does not provide any information on the location of the water diversion. Cal-Am's pre-1914 appropriative rights are set at 1,137 AFA; however, it should be noted that Water Rights Decisions 95-10 requires Cal-Am to cease and desist diversion of any water in excess of 14,106 AFA from the Carmel River "until unlawful diversions from the Carmel River are ended." The analysis in this section relies upon the results of Carmel Valley Simulation model (CVSIM) provided by MPWMD, which accounts for all Cal-Am diversions from the Carmel River, not just those exercising the pre-1914 appropriative rights.

MPWMD Pumping Reports

MPWMD pumping reports for 2002 were reviewed and as previously discussed, pumping in AQ1 and AQ2 were not considered. Those records that remained for AQ3 and AQ4 were compared to the information in the WRIMS database that remained after applying filters. For those entities that remained, the actual 2002 production values were compared with claims made as part of Statements of Diversion submitted to the SWRCB and entered into the WRIMS database. In most cases, the estimated diversions made in the Statements of Diversions were much higher than those reported as actual usage to MPWMD.

Then, those entities in AQ3 and AQ4 that reported pumping to MPWMD but did not report the pumping to the SWRCB were assumed to be riparian users. The actual pumping in 2002 for each of these riparian users was summed to provide a point of reference for the quantities. The information is summarized in Table 4.3-1 below.

Table 4.3-1: MPWMD 2002 Pumping Data in AQ3 and AQ4

Aquifer Subunit	Total Pumped and Reported to MPWMD (AFA)(excludes Cal-Am)	Total Reported as STATE to SWRCB (AFA)	Total Not Reported to SWRCB (AFA)
3	1,161	513	648
4	786	570	216
Source: Kennedy/Jenks Consultants, February 2006.			

Relevant Water Rights

Table 8 of Appendix C of this recirculated REIR, summarizes those water rights that remained after applying the appropriate filters to remove irrelevant records. Under the methodology of the data analysis model used for this report, those records that remain represent riparian rights holders and pre-1914 appropriative Cal-Am rights of 1,136 AFA.

The data from the different sources were reviewed and an estimate created of the maximum annual use that these water rights holders may represent. Where available, the information from Table 13 of WRD 1632 was used, otherwise, the Maximum Annual Use in the WRIMS database was used. In the case where neither of these information sources was available, the maximum direct diversion rate was applied for 365 days per year to estimate a total maximum use.

The 2002 estimated pumping in AQ3 and AQ4 from MPWMD were each increased by 20 percent to represent the inherent variability in pumping as well as under-pumping and unreported pumping by riparian users. It is estimated that 20 percent is appropriate because of the limited potential for additional large development, and hence additional large water demands, in the area of influence of the Carmel River. In addition, in most cases, actual pumping is much lower than the water rights claims that have been documented with the SWRCB.

Some of the WRIMS records that remain are for APPLC, which appears to indicate that even though the entity has a riparian right they have chosen to file for an appropriative right as well, or based on other information, that the entity is a riparian rights holder.

Based on this evaluation, there appears to be a maximum annual use of up to 4,550 AFA for riparian rights and pre-1914 appropriative rights holders in AQ3 and AQ4. Although there is not sufficient information to better allocate these water rights holders to AQ3 and AQ4, an estimate based on pumping reported to MPWMD is that 60 percent of the pumping may occur in AQ3 and 40 percent in AQ4. At these ratios, AQ3 may represent about 2,705 AFA and AQ4 may represent about 1,845 AFA of water use by riparian and pre-1914 appropriators.

This maximum annual use number is conservative in that it assumes that the maximum use cited by an entity is pumped, plus a further 20% increase to address uncertainty. Based on the MPWMD pumping data, actual water use appears to be significantly lower than that which an entity cites.

This evaluation does not include the following:

- Estimates of future demands for riparian water based on changes/maturing of land uses because such estimates would be extremely speculative.

- Conclusive identification of all pre-1914 appropriative rights holders. It appears likely that all of the significant pre-1914 water rights have been identified through the methodology used by KJC. In addition, the conservative factors built into the methodology should cover other unidentified pre-1914 right holders.
- Confirmation of points of diversion in WRIMS database for accuracy and cross-referencing with assessors parcel numbers or other information that could improve the accuracy of locating water rights users. Once again, however, the conservative factors built into the methodology should cover any errors in this area.

Conclusions of Water Rights Evaluation

As may be expected, there is considerable water use in AQ3 and AQ4 that may fall into the category of riparian or pre-1914 water rights holders. In order to evaluate whether pumping by September Ranch (if it were exercising a riparian right to the CVA) could affect these potentially senior water rights that have been identified in the CVA, several things should be considered.

- There is extremely limited hydraulic connectivity between the SRA and the CVA AQ3; and in most cases, it is likely to be flow from the SRA to the CVA AQ3. It is extremely unlikely for the hydraulic gradient to allow flow from the CVA AQ3 to the SRA. Therefore, it is expected that there is almost no effect of pumping in the SRA to the CVA AQ3.
- To evaluate whether the exercising of September Ranch's pumping (if it exercised riparian rights to the CVA) would impact those water rights identified in this report that are (or potentially are) senior within the CVA, one must determine whether there is more water available than is needed, and if so, how much water is available. Analyses of CVSIM water balance simulation model results provided by MPWMD for AQ3 and AQ4 were prepared with results as follows:
    - CVA AQ3 - Based on the 45 year CVSIM simulation results provided, the water balance in AQ3 is such that the average difference between the inflow and the outflow is about 7,500 AFY. During the 1984 - 1991 dry period, the average difference between the inflow and the outflow in AQ3 is about 6,800 AFA. When compared to the approximately 2,705 AFA that is needed to meet the estimated maximum annual use in AQ3 described above, it appears that sufficient groundwater is available in storage in AQ3 on average as well as during a dry period to meet the needs of the riparian and pre-1914 appropriative rights holders with significant water remaining. Therefore, there appears to be sufficient water in AQ3 with excess flow to meet the needs of the riparian and pre-1914 appropriate rights holders.
    - CVA AQ4 - The analogous analysis of the 45-year CVSIM simulation results provided for AQ4 indicates that the average difference between the inflow and the outflow is about 2,500 AFY. During the 1984 - 1991 dry period, the average difference between the inflow and the outflow in AQ4 is about 2,300 AFA. When compared to the approximately 1,845 AFA that is needed to meet the estimated maximum annual use in AQ4, it appears that sufficient groundwater is available in storage in AQ4 on average as well as during a dry period to meet the needs of the riparian and pre-1914 appropriative rights holders with significant water remaining. Therefore, there appears to be sufficient

water in AQ4 with excess flow to meet the needs of the riparian and pre-1914 appropriate rights holders

- Aggregate CVA AQ3 and AQ4 - Since the distribution of riparian and pre-1914 appropriators in AQ3 and AQ4 were estimated and have not been confirmed, it is appropriate to evaluate the water availability in aggregate for AQ3 and AQ4 against the aggregate water rights for AQ3 and AQ4 based on a water balance as summarized below:

  Inflow - Outflow AQ3 for 45 years = 7,500 AFA
  Inflow - Outflow AQ4 for 45 years = 2,500 AFA
  Total Inflow - Outflow for AQ3 and AQ4 for 45 years = 10,000 AFA

  Total Riparian and Pre-1914 Riparian Water Rights for AQ3 and AQ4 = 4,550 AFA which is less than 10,000 AFA available

  Inflow - Outflow AQ3 for 1984 - 1991 dry period = 6,800 AFA
  Inflow - Outflow AQ4 for 1984 - 1991 dry period = 2,300 AFA
  Total Inflow - Outflow for AQ3 and AQ4 for 1984 to 1991 dry period = 9,100 AFA

  Total Riparian and Pre-1914 Riparian Water Rights for AQ3 and AQ4 = 4,550 AFA which is less than 9,100 AFA available

Under existing conditions, there appears to be sufficient water on aggregate in AQ3 and AQ4 to meet the needs of the riparian and pre-1914 appropriate rights holders with significant water remaining. Moreover, potential spillage from the SRA is not needed to meet the maximum use in AQ3 and is likely to be part of excess outflow from AQ3 to AQ4 and AQ4 to the ocean.

4.3.3 Environmental Setting

Baseline Water Usage

Kennedy/Jenks' analysis does not include an independent evaluation of the baseline water usage. During the certification of the 1998 Final EIR the County Supervisors determined that a baseline of 51 acre-feet per year was appropriate. This amount, however, included within the baseline water pumped after the initiation of the EIR process, and also included water pumped as part of an aquifer test. This methodology was found by the Court of Appeal to be flawed based upon the period of the pumping, the inclusion of water pumped for an aquifer test, and the failure to present documented water usage from prior to the initiation of the EIR:

> "... there is no objection to the EIR's methodology of estimating historical water use on property where no documentation is available to verify actual use. But estimating water used for irrigation where there was no substantial evidence to show that the property was in fact irrigated does not accurately reflect existing conditions. Appellant's argument that it was entitled to use this amount of water for irrigation is not the same as actual use. As various courts, including this one, have held, the impact of the project must be measured against 'real conditions on the ground."