

Sonoma County Water Agency

**History of the Development of the
Water Resources of the Russian River**

By Robert F. Beach

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Preface

The Sonoma County Water Agency was established as the Sonoma County Water Conservation and Flood Control District by an act of the California Legislature adopted in 1949. During the succeeding one-half century the Agency evolved into a complex governmental entity with extensive facilities, resources and responsibilities. While the Sonoma County Water Agency played a central role in developing the water resources of the Russian River during the last one-half century, the history of this development began much earlier.

Since its establishment, the Agency has had four executive officers, Paul L. Nichols, Gordon W. Miller, Robert F. Beach and Randy D. Poole. Of these, the latter three are still actively involved with the Agency in one capacity or another. The Agency has also had three general legal counsels, Richard M. Ramsey, James P. Botz and Steven M. Woodside. Of these the latter two are also still actively involved with the Agency. This document represents an effort to preserve the institutional memory of the Agency and to summarize the available written accounts and documentation of the development of the water resources of the Russian River. It is based upon the personal involvement of the author in the events that occurred during the last two decades, and the author's review and interpretation of records and accounts of the events transpiring during the last century.

In addition to serving as a general reference work, it is hoped that this document will provide a valuable resource in the training of current and new Agency employees. In addition, it should assist current and future new members of the Board of Directors in understanding the historical events that profoundly affect the current attitudes of the public and institutions with which they must deal relative to the activities of the Agency.

Finally, it is intended that this history serve as a testament to the dedication and perseverance of the past and present members of the Board of Directors of the Agency and its staff. In this day and age the complaint is often heard that it is terribly difficult to implement a project to develop or expand facilities that utilize, or even affect, the water resources of the Russian River. This is unarguable, and the federal and state regulatory legislation of the last few decades certainly has not made it any easier. However, as even a casual reading of the history of development of the water resources of the Russian River will reveal, it has always been excruciatingly difficult to carry out any major water resources development project. Most of the accomplishments of the last century were secured only after substantial litigation. Several were subjected to review by the electorate through the referendum or initiative process. And all took many years to accomplish.

Robert F. Beach
Santa Rosa, California

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Table of Contents

Preface	II
Table of Contents	III
Potter Valley Project	1
Cape Horn Dam	1
Scott Dam	2
Potter Valley Irrigation District	3
The Second Fifty Years	4
Russian River Project	11
Coyote Valley Dam	12
Fish Mitigation Facility	15
Warm Springs Dam	16
USA ex rel. Hagood v. SCWA	22
Dry Creek Riparian Mitigation Project	24
Appropriative Water Rights	26
Water Transmission System	37
Santa Rosa Aqueduct	38
Petaluma Aqueduct	38
Forestville Aqueduct	39
Sonoma Aqueduct	39
Russian River-Cotati Intertie	40
Water Supply and Transmission System Project	45
Marin County Water Contracts	48
North Marin Water District	48
Marin Municipal Water District	50
Mendocino County Water Contract	53
Hydroelectric Projects	63
Coyote Valley Dam	63
Warm Springs Dam	63
East Fork Russian River	67
McFadden Farm Project	68
J. Air Powerhouse Canal Project	68
BES Hydro Company's Power Canal Project	68

Flood Control	69
Upper Russian River	70
Lower Russian River	72
Laguna de Santa Rosa and Mark West Creek	72
Dry Creek	73

Potter Valley Project

Cape Horn Dam

The Eel Power and Irrigation Company was incorporated in February 1905 by a San Francisco financier named W. W. Van Arsdale, who was President of the new company, and his business partner George W. Scott, who was Vice-President, to construct a hydroelectric power project on the Eel River. The initial project would consist of a diversion dam on the Eel River at point called Cape Horn, a tunnel to Potter Valley through the ridge that separates the Eel River and Russian River basins, and a penstock and powerhouse.

A notice of appropriation of 20,000 miners inches to be diverted from the Eel River for the purposes of generation of electrical energy and irrigation purposes in Potter Valley was recorded by Mr. Van Arsdale on July 31, 1905 in Mendocino County and rerecorded August 19, 1905. Construction began that same year. During construction various changes in plans were made to enlarge the project and, in order to secure more capital, the company was reorganized as the Snow Mountain Water and Power Company in February 1906.

Construction continued until the April 18, 1906 earthquake brought a halt to all activity. Construction resumed in the fall of 1906 and the system that included Cape Horn Dam and Lake Van Arsdale began operating on April 1, 1908. The powerhouse contained two turbine-generator units rated at 2 megawatts each. The generated power was wholesaled to the City of Ukiah, the California Telephone and Light Company, the Mount Konocti Light and Power Company, the Cloverdale Light and Power Company and the Napa Valley Electric Company.

In September 1908 a transmission line was constructed between Ukiah and Pacific Gas and Electric Company's Santa Rosa substation interconnecting the two systems to permit the interchange of power and to enable the Snow Mountain Water and Power Company to assure reliable service to its wholesale customers. The following summer a fish ladder was constructed to allow fish access to the Eel River upstream from Cape Horn Dam.

An additional 3 megawatt turbine-generator unit was added to the powerhouse in 1910 and a second penstock was added in 1912. A fourth turbine-generator unit was added in 1917, bringing the total installed capacity to 9 megawatts. By 1919 the distribution system of the Snow Mountain Water and Power Company included substations at Ukiah, Hopland, Asti, Healdsburg and in Santa Rosa.

Scott Dam

The Snow Mountain Water and Power Company had applied to the U.S. Department of Agriculture for a permit to flood lands in Gravelly Valley located 12 miles upstream from Cape Horn Dam on February 6, 1907. The permit was granted on September 24, 1908, however, at the company's request the permit was cancelled on July 16, 1912 because development plans for a proposed dam at that site were indefinite.

In 1918, the Snow Mountain Water and Power Company resumed their plans for constructing a dam in Gravelly Valley, and on May 20, 1919 again applied for a permit for the use of the public lands that would be flooded by the proposed reservoir. The permit was issued on February 16, 1920 and W. A. Kranar, the original contractor began construction soon thereafter. Kranar completed about three-fourths of the work but stopped in August 1921. The construction work was resumed and completed by a new contractor, Stone and Webster.

During construction the dam was under the jurisdiction of the State Railroad Commission, and most of what is known to have taken place comes from their records. From the beginning the dam site was described by geologists as less than ideal for a Portland cement concrete gravity dam. As construction progressed, the state engineers became more concerned about the suitability of the foundation materials encountered and additional structural features were constructed in a cutoff trench to increase the shear resistance of the dam.

By the fall of 1920 Kranar had completed the dam to near its south abutment, leaving a gap to pass the winter flows. High flows that winter caused a landslide and the movement of a huge boulder, which had been thought to be bed rock and was intended to be the foundation for the south abutment of the dam. To avoid this area, the dam was angled about 45 degrees downstream at this point. The boulder was shored up with a block of concrete to keep it from slipping any further.

As construction progressed further toward the south abutment a huge serpentine pinnacle was exposed at what became the second angle point of the dam. At the time it was not clear whether this was actually a pinnacle of bedrock or a boulder. It was eventually decided to support the rock with a concrete wall, remove the soft material at the base and replace it with concrete, and then encase the entire rock as part of the dam. Construction was completed in December 1921 and soon after leakage was noted at the south abutment near where the serpentine rock had been encased. In later years this would become a matter of substantial concern.

The dam was named Scott Dam in honor of Mr. George W. Scott. The reservoir was named Lake Pillsbury in honor of Mr. E. S. Pillsbury, an officer of the Snow Mountain Water and Power Company. On April 15, 1922 The Federal Power Commission issued a fifty-year license for the project pursuant to the Federal Power Act. The license required the release of a minimum of 2 cubic feet per second (cfs) of water from Cape Horn Dam to satisfy the prior appropriative water right of S. O. Homes.

Potter Valley Irrigation District

With the presence at the tailrace of the powerhouse during the summer of the greatly expanded flow of water that resulted from releases from Lake Pillsbury, water became available for irrigation in Potter Valley. The Potter Valley Irrigation District was formed in 1924 to distribute the newly available water throughout Potter Valley. The District entered into an agreement with Snow Mountain on September 30, 1926 for the delivery of irrigation water from the tailrace to the District's two main canals. The term of the agreement ran until April 15, 1972, which was the date of expiration of the license for the project, with an option for a fifty-year extension. On June 18, 1930 this agreement was superseded by a new agreement. The new agreement increased the quantity of water to be delivered to the District to 13,000 acre-feet per annum at a maximum delivery rate of 40 cfs.

In September 1929 Pacific Gas and Electric Company (PG&E) acquired all the outstanding stock of the Snow Mountain Water and Power Company and merged the entire Snow Mountain system with PG&E's North Bay Division system. The fifty-year license transfer to PG&E was approved by the Federal Power Commission on August 29, 1930.

On April 11, 1934 the California Water Rights Board issued to PG&E License No. 1424 on Application 1719 for 102,366 acre-feet per annum to be stored in Lake Pillsbury from about November 1 to about June 1 of each year. The 102,366 acre-feet included 4,500 acre-feet for irrigation purposes within the boundaries of the PVID under License 1199 that had been issued to PG&E on May 7, 1932 on Application 5661.

On March 30, 1936 the 1930 agreement between PG&E and the Potter Valley Irrigation District was superseded by a new agreement. The new agreement was approved by the California Railroad Commission in a decision adopted March 16, 1936. The 1936 agreement increased the quantity of water to be delivered to the District to 19,000 acre-feet with no more than 16,660 acre-feet to be delivered during the period May 1 to October 15. The agreement increased the maximum delivery rate to 50 cfs.

The new agreement also revised the water rates and provided that anytime after the expiration of five years, and each like period thereafter, the water rates charged by PG&E to PVID could be revised by mutual agreement, and failing that, by decision of the California Railroad Commission. The water rates were reduced by amendment to the agreement in 1939. In the interim the California Railroad Commission had become the California Public Utilities Commission. The amended agreement was approved by the Public Utilities Commission on April 25, 1939.

The Second 50 Years

As noted earlier, soon after completion of construction of the dam leakage had been detected at the south abutment near the serpentine rock that had been embedded in the dam. This leakage was monitored over the years. Then in 1955 high ground water and slides were noted in the same area. In 1956 it became apparent that parts of the south abutment were moving and deteriorating. PG&E undertook an exploratory drilling program that revealed that the serpentine rock was a boulder rather than protruding bedrock. In 1958 a remedial drilling and grouting program was begun. In 1959 additional measures were taken to stabilize this area, including the construction of a retaining wall to protect the abutment from erosion and the placing of earth fill on the upstream side of the dam. These measures greatly reduced the leakage and improved the dam stability.

The California Water Rights Board issued License 5246 to PVID July 2, 1958 on Application 13557. Under this license, PVID has an appropriative water right to divert water from the East Fork Russian River independent of the 1936 agreement and PG&E's appropriative water rights. This right is for a direct diversion of 50 cubic feet per second from about April 1 to "about" November 15 of each year.

On March 24, 1959 the State Water Rights Board issued to PG&E License 5545 to PG&E on Application 6594 for an additional 4,908 acre-feet per annum for irrigation purposes within the boundaries of the PVID.

On July 31, 1965 the Agency entered into an agreement with PG&E in anticipation of Federal Energy Regulatory Commission (FERC) consideration of the relicensing of the Potter Valley Project upon the expiration of PG&E's 50-year license. This agreement acknowledged that the continued operation of the Potter Valley Project was important to the successful operation of the Coyote Valley Dam Project and the Agency's water transmission system. The agreement provided for the parties "cooperating in the public interest to secure, insofar as may be possible, such continuation of operation." PG&E agreed to sell the project to the Agency in the event the 50-year FERC license was not renewed. The agreement also addressed the possibility that substitute facilities might have to be constructed if the English Ridge Dam proposed to be constructed on the Eel River by the California Department of Water Resources, which would have inundated Cape Horn Dam, was constructed. In consideration of the obligations PG&E assumed under the agreement, the Agency agreed to maintain the banks of the East Fork Russian River and a series of check-dam structures that were constructed by PG&E downstream from the tailrace to stabilize the streambed and control bank erosion.

The 1965 agreement with PG&E was not the earliest effort by the Agency to attempt to ensure the continuation of the Potter Valley Project diversions of Eel River water to the Russian River. On June 9, 1959 the Agency and the Mendocino County Russian River Flood Control and Water Conservation Improvement District (Mendocino District) filed Application 18785 with the State Water Resources Control Board to appropriate 345 cfs by direct diversion at Cape Horn Dam and 93,700 acre-feet per annum by

storage at Scott Dam for municipal, domestic, industrial, irrigation and stock watering purposes. Application 18786 was filed on the same date in the same quantities and points of diversion for the purpose of power generation, wildlife enhancement, recreation and mining. These applications were filed to position the Agency and the Mendocino District to take over the operation of the Potter Valley Project in the event the federal license for the project, the term of which expired in 1972, was not renewed.

The California Department of Fish and Game protested the applications on the basis that the Agency and Mendocino District proposed to continue the same method of operation as PG&E. The Department argued that PG&E's project operation was detrimental to the fishery resource. Of particular concern was the lack of an adequate fish screen at Cape Horn Dam.

On May 3, 1967 PVID exercised its option under the 1936 agreement with PG&E and extended the term of the water supply agreement for fifty years to April 14, 2022.

On October 8, 1968 the State Water Resources Control Board held a hearing on the Agency and Mendocino District's appropriative water right applications. At the hearing the California Department of Fish and Game urged the Board to reserve jurisdiction over any permits issued for the purpose of imposing terms and conditions for the protection of the fishery resource involved to allow the Department time to make a study of fishery protection needs and make appropriate recommendations.

On September 18, 1969 the State Water Resources Control Board issued Decision 1345. The Board found that although PG&E owned the diversion and storage facilities, the requirement that applicants must show that they can obtain access to the source covered by the applications was met, in spirit if not the letter, by the Agency's 1965 agreement with PG&E. The Board approved Application 18785. However, it limited diversions to the historical diversions of Eel River water by PG&E, and limited diversions from the Russian River under the permit to those authorized by Permit 12947 held by the Agency and the Mendocino District. The Board added recreation to the purposes under the permit and denied the balance of Application 18786. The Board reserved jurisdiction to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water but denied the California Department of Fish and Game's request for a reservation of continuing jurisdiction to impose fishery protection requirements, which had been vigorously opposed by the Agency.

Thirty days later, on October 17, 1969, the Attorney General of the State of California, representing the California Department of Fish and Game, filed a petition with the State Water Resources Control Board for reconsideration. The Department again requested the Board to reserve continuing jurisdiction for the purpose of imposing terms and conditions for the protection of the fishery resources of the Eel River. The Department argued that in making its decision, the Board had failed to take into consideration the fact that PG&E's federal license would expire in 1972.

On November 6, 1969 the State Water Resources Control Board issued an order for partial reconsideration of its Decision 1345 for the limited purpose of determining whether jurisdiction should be reserved in the permit issued pursuant to the Agency and the Mendocino District's application.

On January 8, 1970 the State Water Resources Control Board adopted an order rescinding Decision 1345. In taking this action, the Board stated that it was persuaded by the Department of Fish and Game's contention that the Potter Valley Project relicensing proceedings before the Federal Power Commission were relevant and that the Board should reserve jurisdiction to impose appropriate permit terms for the protection of the fishery.

PG&E filed an application with FERC for the renewal of the Potter Valley Project license on May 5, 1970. On April 14, 1972 the original 50-year license expired and annual renewals began to be issued by FERC to allow the project to continue to operate.

On October 5, 1972 the State Water Resources Control Board adopted Decision 1403 denying the Agency and Mendocino District's Applications 18785 and 18786. In denying the applications, the Board reasoned that if the PG&E license is renewed, the diversion of Eel River water would continue and the water, being covered under prior existing rights, would not be subject to appropriation. The Board concluded (correctly as it turned out) that the determination of whether or not the FERC license would be renewed would take several years and that the filing of any applications that assumed non-renewal of PG&E's license was premature.

A draft environmental impact statement was issued by FERC on the proposed relicensing in March 1978. In April 1978 the counties of Humboldt, Mendocino, Lake and Sonoma entered into a joint powers agreement forming the Eel-Russian River Commission to provide a forum for addressing the issues arising from the relicensing proceeding. On October 24, 1978 FERC held a conference in San Francisco to review the several minimum stream flow proposals under consideration. In December 1978 the final environmental impact statement was issued. From 1978 through 1983 representatives of the intervening parties in the FERC relicensing proceeding met many times to develop a minimum flow schedule to replace the 2 cfs Eel River flow required under the expired license. After a prehearing conference held by FERC in August 1979 the parties agreed to a three-year study plan. The plan was the subject of a hearing held by FERC on October 12, 1979. On August 12, 1982, three months before the end of the study period the Covelo Indian Community filed a petition with FERC to intervene in the proceeding. On September 7, 1982 the presiding administrative law judge ruled that the tribe could intervene if a settlement was not reached on all issues by November 30, 1982. On November 30 the California Department of Fish and Game, Humboldt County, Mendocino County, the Mendocino County Russian River flood Control and Water Conservation Improvement District, Sonoma County, and the Sonoma County Water Agency signed a settlement agreement stipulating a proposed

new minimum flow schedule. The settlement agreement was signed by all parties except California Trout, Inc., the Salmon Troller's Marketing Association and the Pacific Coast Federation of Fisherman's Association. The settlement agreement was filed with FERC which, following review, granted a new 50-year license to PG&E on October 4, 1983.

Article 38 of the new license required PG&E, in cooperation with the California Department of Fish and Game and U.S. Fish and Wildlife Service, to carry out a ten-year fish monitoring study on the Eel River. Upon completion of the 10-year fish monitoring studies, PG&E, in consultation with the resource agencies, was required to file with FERC recommendations for modifications to the required flow schedule, operations, or structures for the purpose of protecting and maintaining fisheries resources in the Eel and East Fork Russian Rivers.

Article 40 of the new license required PG&E to prepare in consultation with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and the California Department of Fish and Game, and file for FERC approval, design drawings, construction schedule and cost estimates to modify the existing fish ladder.

Article 46 of the new license required PG&E to continue to consult and cooperate with appropriate federal, state and other natural resource agencies for the protection and development of the environmental resources and values of the project area. It also reserved FERC jurisdiction to require changes in the project works or operations to protect and enhance those resources.

On January 27, 1984 the Covelo Indian Community appealed FERC's decision rejecting their petition to intervene to the U.S. Court of Appeals, Ninth Circuit. FERC filed a motion with the court requesting that the issue be remanded to FERC for reconsideration and on April 16, 1984 FERC's motion was granted by the court.

The only reference in the new license to the fish screen at Cape Horn Dam, which had been constructed under a 1970 agreement with the California Department of Fish and Game, but by 1983 was totally inoperable, was in the settlement agreement that was incorporated into the license by reference. In the settlement agreement, the California Department of Fish and Game acknowledged its responsibility under state law for modifying the fish screen and agreed to seek state funding to correct the deficiencies in the screen.

On April 2, 1984 PG&E filed, and supplemented on June 10, 1985, design drawings of modifications to the existing fish ladder at Cape Horn Dam. On April 18, 1986 FERC issued an order approving the design and requiring PG&E to initiate construction so as to insure the new facilities became operational by the fall of 1987.

On August 12, 1986 the Covelo Indian Community filed a petition with the U.S. Court of Appeals, Ninth Circuit, complaining that FERC had taken no action on

reconsidering the Community's petition and that situation had left the Community's legal arguments "in a kind of legal limbo." In response FERC, on October 16, 1986, finally issued its order on the remand. The FERC order clarified its decision and denied the Covelo petition to intervene and for a rehearing. This order by FERC rendered the U.S. Court of Appeals petition moot. California Trout, Inc. on November 13, 1986, and the Covelo Indian Community on November 17, 1986, filed with FERC requests for rehearing on FERC's remand decision. These were denied by FERC on February 26, 1987.

The Covelo Indian Community and California Trout, Inc. on March 18, 1987 and March 24, 1987, respectively, for the third time filed petitions with the U.S. Court of Appeals, Ninth Circuit, seeking judicial review of FERC's relicensing decision. These petitions were unsuccessful as well. After three years of litigation, the U.S. Court of Appeals, Ninth Circuit, on February 2, 1990, denied in part and dismissed the petitions for lack of jurisdiction. The court held that a petitioner who was denied intervenor status may not seek judicial review of the merits of FERC's order.

The California Department of Fish and Game did not succeed in securing state funding for the fish screen and pressure for action from environmental groups and the federal resource agencies mounted. On May 18, 1987 PG&E entered into a memorandum of understanding with the California Department of Fish and Game and the environmental groups and federal resource agencies. This agreement provided for the preparation by PG&E of a preliminary design and cost estimate for a new fish screen and a cooperative effort to lobby for state funding.

The California Department of Fish and Game continued to be unsuccessful in securing state funding for a fish screen. In a letter dated January 6, 1989 FERC, exercising its reserved jurisdiction under Article 40 of the license directed PG&E to install a working fish screen and required the filing of quarterly progress reports with the Commission.

PG&E initiated the design of a new fish screen and by March 1990 had completed a conceptual design and cost estimate. In August of that year, however, PG&E announced that it would discontinue work on the fish screen project until the California Department of Fish and Game was able to provide one-half of the required funds. Design work was subsequently resumed and by September 1992 hydraulic model studies and design drawings had been completed. On December 16, 1992 the Board of Directors of PG&E authorized the construction of the proposed new fish screen at PG&E's expense.

In May 1994 PG&E announced that it was suspending work on the new fish screen, by then estimated to cost \$14.4 million, and reevaluating the project economics, and that rather than construct the fish screen, it would consider the sale or decommissioning the Potter Valley Project. In response, in September 1994 the Agency initiated efforts to secure state legislation establishing a Potter Valley Authority to acquire the project. In February 1995 State Senator Thompson introduced legislation establishing a Potter

Valley Authority, but conditioned moving the bill upon attaining a regional consensus. No such consensus was forthcoming. In May 1995 the Agency began informal discussions with PG&E regarding acquisition of the project by the Agency. In June 1995 the water supply contract between the Agency and the cities and water districts served by the Agency's water transmission system (water contractors) was amended to authorize the acquisition of the project by the Agency, subject to the approval of the Agency's Water Advisory Committee, a committee composed of representatives of the water contractors. In August 1995 the Agency's Water Advisory Committee approved the acquisition of the project by the Agency.

The Agency retained several consultants to assist in performing the due diligence such acquisition entails, and in November 1995 the Agency met with James K. Randolph, Vice-President, Power Generation, regarding acquisition of the project by the Agency. In December 1995 two additional meetings were held between the Agency and PG&E management and legal counsel regarding acquisition of the project by the Agency. In January 1996 the Agency presented PG&E with a formal offer to enter into exclusive negotiations to acquire the project.

However, during the preceding month the California Public Utilities Commission (CPUC) had issued an electrical utility industry restructuring order requesting utilities to file a generation divestiture plan by mid-March. In response to that order, in February 1996 PG&E suspended acquisition discussions "for a period of approximately six months", citing the changed conditions resulting from the December 1995 restructuring order of the CPUC.

As noted previously, the new license issued by FERC in 1983 required PG&E, in cooperation with the California Department of Fish and Game and U.S. Fish and Wildlife Service, to carry out a 10-year fishery study. This study was conducted on the Eel River between 1985 and 1995. Upon completion of the 10-year fish monitoring studies, PG&E, in consultation with the resource agencies, was required to file with FERC recommendations for modifications to the required flow schedule, operations, or structures for the purpose of protecting and maintaining fisheries resources in the Eel and East Fork Russian Rivers. In March 1998 PG&E filed with FERC a "joint recommendation" for modifications to the fish flow schedule prescribed by Article 38 of the FERC license that was developed in consultation with the California Department of Fish and Game, the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). In May the Round Valley Indian Tribes (RVIT) filed with FERC an alternative minimum flow proposal.

In its motion to intervene, protest, motion for technical conference, and comments on FERC scoping document filed with FERC June 1998, the Agency identified a number of substantive deficiencies in the joint recommendation and supporting documentation. In its answer to the Round Valley Indian Tribes' motion to intervene and for interim relief filed with FERC at the end of June 1998, the Agency pointed out similar deficiencies in the RVIT recommendations. Early in August 1998 the Agency filed its

own preliminary minimum flow proposal with FERC. In response to an Agency motion, FERC held a technical conference in August to address some of the issues raised by the Agency. At the end of August 1998 the Agency filed its final flow proposal with FERC.

In February 1999 FERC issued a draft environmental impact statement (DEIS) on four alternative flow proposals. These were the Joint Recommendation, the then current Article 38 requirements, and alternative flow proposals filed by the Agency and the Round Valley Indian Tribes (RVIT). The DEIS recommended that the Joint Recommendation be accepted and that Article 38 of the FERC license be amended with new language consistent with the Joint Recommendation. In April 1999 the U.S. Department of the Interior (DOI) and the National Marine Fisheries Service (NMFS) filed an additional minimum flow proposal with FERC that was supported by RVIT.

In May 2000 FERC issued a final environmental impact statement (FEIS). The FEIS evaluated the four alternatives addressed in the DEIS, the new DOI/NMFS proposal, and a modification of the PG&E proposal which was advanced by the Potter Valley Irrigation District (PVID) and supported by PG&E. The PVID/PG&E minimum flow proposal was identified as the recommended alternative. The Agency, DOI, NMFS and RVIT all filed comments on the FEIS pointing out substantive errors in the hydrologic modeling that was performed by FERC and upon which the FEIS analysis was based, and requesting that FERC correct the errors and issue a supplement to the EIS.

In November 2000 NMFS issued a draft biological opinion pursuant to the federal Endangered Species Act (ESA) which concluded that the recommended alternative in the FEIS would pose jeopardy to the salmonids in the Eel River that had been listed pursuant to the ESA as threatened species. The ensuing consultations among the resource agencies resulted in PG&E filing with FERC in June 2001 a proposed modification to the PVID/PG&E minimum flow proposal. FERC action on the requests for the preparation of a supplement to the FEIS and the proposed modification to the PVID/PG&E flow proposal is pending, as is a final decision by FERC on a license amendment to establish new minimum stream flow requirements for the Potter Valley Project.

Russian River Project

Serious consideration of building flood control works on the Russian River began in 1937 following heavy flood damage that was experienced in the north coastal counties of California during December of that year. Appeals for immediate federal government surveys of the Russian and Eel River watersheds were voiced in Sonoma, Mendocino and Humboldt Counties, and growers in Sonoma and Mendocino Counties began organizing to promote flood control. The U.S. Army Corps of Engineers initiated an investigation into the flood control and water conservation needs of the Russian River Basin under authority that had previously been granted to it by Public Law 738, 74th Congress, and Public Law 406, 75th Congress. A public hearing was held by the Corps of Engineers in the Santa Rosa City Hall in September 1938 where descriptions of the damage resulting from the severe flood of the previous December were heard. A preliminary report was submitted by the district engineer of the Corps of Engineers on May 18, 1939.

After reviewing the report, the Board of Engineers for Rivers and Harbors recommended a survey, which was ordered to be prepared by the Chief of Engineers on June 30, 1939. In compliance with this order, the district engineer on January 30, 1941 submitted a survey report. However, the Board of Rivers and Harbors was not convinced of the advisability of the United States government undertaking the improvements recommended in the survey report. The Board announced their negative decision on June 18, 1941.

On July 3, 1944, local interests requested that the study of the Russian River be reopened in order that consideration might be given to changes and development that had occurred following the 1941 report. This request was supported by the district and division engineers, and on September 20, 1944 the Chief of Engineers of the Corps of Engineers returned the report to the district engineer for revision and resubmission. The revised survey report was submitted to the Chief of Engineers on September 9, 1948.

While the Corps of Engineers pursued the revision of its report, the Bureau of Reclamation of the U. S. Department of the Interior undertook its own study of the Russian River basin. The Bureau undertook its study under authority of the Reclamation Project Act of August 4, 1939 and Executive Order 9384, dated October 4, 1943. The Bureau engineers conducted reconnaissance surveys of eight dam sites in addition to the Dry Creek and East Fork Russian River sites proposed by the Corps of Engineers and four other sites that had been considered by the Corps of Engineers. The Bureau study identified two alternative plans. Plan A proposed a Healdsburg reservoir that would have had a 247,300 acre-feet capacity with a dam at Fitch Mountain. Plan B proposed a Healdsburg reservoir that would have had a 192,300 acre-feet capacity with a dam at either Fitch Mountain or Black Point, together with 55,000 acre-feet of storage capacity in the vicinity of the confluence of the Russian

River with the East Fork Russian River. The Bureau's study was published in January 1945.

In the resulting 1948 survey report the district engineer recommended the construction of a multipurpose reservoir with a capacity of 199,000 acre-feet on the East Fork of the Russian River at Coyote Valley, a similar reservoir with a capacity of 216,000 acre-feet on Dry Creek, and channel stabilization works along the Russian River. The district engineer recommended the immediate construction of the first stage of the Coyote Valley project to create a reservoir with a capacity of 122,000 acre-feet and the channel stabilization works. He recommended that when local interests request the construction of the Dry Creek reservoir and/or enlargement of the Coyote Valley Dam, a cost allocation be made by the Corps of Engineers, and, upon acceptance by local interests of their financial responsibilities for those projects, that construction of the Dry Creek reservoir and/or the enlargement of Coyote Valley Reservoir be pursued.

The State Department of Public Works reviewed the revised report of the Corps of Engineers and, on August 9, 1949, issued a report containing the views and recommendations of the State of California. The State generally concurred in the findings and recommendations of the district engineer. The State did however, point out the types of channel stabilization works proposed were untried on the Russian River. The State suggested that a trial segment be constructed and tested before construction of the balance of the proposed works, and that local interests not be required to accept maintenance responsibility until the works had been proven effective under flood conditions.

Coyote Valley Dam

On November 15, 1949 the Chief of Engineers of the Corps of Engineers issued and filed with Congress a report recommending the construction of Coyote Valley Dam. To establish entities to provide the local cooperation required by the Federal Government, in 1949 the State Legislature created the Sonoma County Flood Control and Water Conservation District (later renamed the Sonoma County Water Agency and the Mendocino County Flood Control and Water Conservation District (later renamed the Mendocino County Water Agency).

The Coyote Valley Dam Project was authorized by Section 204 of the Federal Flood Control Act of 1950 and in accordance with the report of Chief of Engineers which is memorialized in House Document Number 585, 81st Congress, 2nd Session. The Flood Control Act reads in part as follows:

The plan for flood-control, water conservation and related purposes, in the Russian River basin, California, is hereby approved substantially in accordance with the recommendations of the Board of Engineers for Rivers and Harbors dated April 22, 1949, and as recommended by the Chief of Engineers in his report dated November 15, 1949,

and there is authorized to be appropriated the sum of \$11,522,000 for the accomplishment of the initial stage of the plan: Provided, that Section 8 of the Flood Control Act of 1944 shall apply to this project; Provided further, that prior to starting construction, local interests shall contribute the sum of \$5,598,000 in cash in full repayment of the conservation benefits; And provided further, that such contribution of \$5,598,000 shall be transferred to the Secretary of the Army for application to the cost of construction of the project.

As described in the Chief of Engineers' report, the proposed project included 70,000 acre-feet of water supply storage space with a prospective annual yield of 40,000 acre-feet assuming a 35 percent deficiency in the irrigation portion of the water supply in a critically dry year. The annual water supply yield estimate was also based upon an assumed minimum stream flow at Guerneville of 200 cubic feet per second. Later in the project planning, the assumed minimum stream flow at Guerneville was reduced to 125 cubic feet per second and the annual water supply yield estimate increased to 60,000 acre-feet in other than a critically dry year.

The Korean War delayed appropriations for the project but planning for paying for the local share of project costs and the use of the project water continued. In 1953, the Agency employed consultants to study means of financing the cost of the Agency's share of the Project costs and the cost of water transmission facilities. In the same year Mendocino County engaged an engineer, John S. Cotton, to study the proposed project and make recommendations on participation by Mendocino County. As a result of these studies, a plan emerged whereby the cost of Coyote Valley Dam allocated to water supply would be shared 88.7 percent by Sonoma County and 11.3 percent by Mendocino County.

In 1954, the Agency retained H. A. Weinland to study the possibility of using project water for irrigation in the Santa Rosa Plain. In his November 1954 report, Mr. Weinland concluded that demand for Russian River water would exist only if it could be delivered at a cost comparable to the cost of pumping groundwater. The Agency retained J. W. Galiman to study the benefits that would accrue to the recreation industry in Sonoma County from the project. As a result of this latter study, on February 15, 1955 the Board of Directors of the Agency created a special recreation zone of benefit (Zone No. 5) along the lower reach of the Russian River to raise revenue to pay for some of the benefit of the maintenance of a minimum summer flow of 125 cubic feet per second in the lower Russian River. Although a tax rate of 25 cents per \$100 of assessed valuation (assessed at 25% of market value) was proposed, no tax was levied after the first fiscal year following formation. A resolution terminating Zone 5 was adopted by the Board of Directors of the Agency on May 24, 1971.

On May 10, 1955, by a 3-1 margin, Sonoma County voters approved general obligation bonds to finance the local share of the cost of the Coyote Valley Dam and a water transmission system to serve Santa Rosa. The principal project benefits cited by the project proponents included flood control, a water supply for the City of Santa Rosa,

and increased water for summer recreation and irrigation. In 1940, Russian River floods had caused an estimated \$3 million in damages and the Corps of Engineers estimated annual without-project damage at \$720,000. Santa Rosa had contracted with the Agency to buy Russian River project water, and was expected to use Russian River water as its principal water supply, turning its existing wells into a stand-by supply. On May 25, 1955 the Board of Directors of the Agency adopted Resolution SA6847 giving assurances regarding funding the Agency share of the capital cost of the project and Agency maintenance of channel stabilization works to be constructed as part of the project.

The Agency proceeded with the sale of general obligation bonds which was held November 17, 1955. Three days before the sale Walter M. Robbins and Jessie P. Robbins on behalf of themselves and all other Sonoma County taxpayers filed a lawsuit in the Sonoma County Superior Court. This delayed the sale due to the effect of the litigation on the marketability of the bonds. The Robbins lawsuit sought to enjoin the issuance and sale of the bonds and declaratory relief. The superior court sustained a general demurrer filed by the Agency without leave to amend. The Robbins appealed and on January 5, 1956 the California District Court of Appeals dismissed the appeal. A subsequent request for hearing by the Robbins to the California Supreme Court was also unsuccessful.

The disastrous floods of December 1955 washed away any remaining doubts about the Project in Mendocino County and, braving continuing rain, on January 24, 1956 Mendocino County voters went to the polls and, by a similar 3-1 margin, approved the establishment of the Mendocino County Russian River Flood Control and Water Conservation Improvement District (Mendocino District) and the issuance of bonds to pay Mendocino County's share of the local project costs. The procedure for establishing the Mendocino District formation was included in the legislation creating the Mendocino County Flood Control and Water Conservation District (later renamed the Mendocino County Water Agency) that was passed in 1949.

Finally, five years after the project was authorized by Congress, the lack of funding caused by the Korean War ended and Public Law 404, approved February 10, 1956, appropriated \$1,165,000 to begin construction of the Coyote Valley Dam Project. In March 1956, the Agency made the \$5,598,000 cash contribution required by the authorizing legislation to the Secretary of the Interior, who transferred the whole amount to the Secretary of the Army. In December 1956, the Mendocino District reimbursed the Agency the sum of \$633,000 as its share of the water conservation feature of the reservoir.

The \$5,598,000 payment made to the United States Government by the Agency satisfied the entire local cost-sharing obligation for the Coyote Valley Dam Project except for the obligation to maintain downstream erosion control measures. The bank stabilization works were constructed as part of the Project at 91 locations along the Russian River from Calpella to Healdsburg. The Agency and the Mendocino District

were, and still are, contractually obligated to maintain these facilities within their respective jurisdictions. However, neither the Agency nor the Mendocino District was required to pay any portion of the annual operation and maintenance costs of the dam.

Guy F. Atkinson Co. was awarded the contract for construction of the dam and outlet works. The first concrete for the outlet works was poured on September 27, 1956. In January 1959 Lake Mendocino became operational for water supply and began filling immediately. Due to continuing heavy rains, water stored in Lake Mendocino exceeded 60,000 acre-feet by February 18.

No formal written contract was ever entered into by the Agency, the Mendocino District and the Corps of Engineers that defines the respective water supply rights of the Agency and District in the Coyote Valley Dam Project. These rights and obligations are, however, memorialized in the legislation, resolutions of assurances by the Agency's and Mendocino District's Board of Directors, and various other writings including the Corps of Engineers' Water Control Manual for the Project, and by the water rights decisions of State Water Resources Control Board.

Fish Mitigation Facility

Prior to completion of construction of Coyote Valley Dam in 1959 it was believed that the higher Russian River stream flows that would result from operation of the project would mitigate the loss of the steelhead spawning and rearing habitat that was cut off by the dam. As a result, no fish hatchery or other mitigating facilities were included in the project. However, upon completion of construction it soon became evident that because of high water temperatures and other factors, the anticipated benefits would not be realized.

During subsequent years the lack of mitigation for the steelhead loss was a matter of concern to conservation groups and others. In 1974, Public Law 93-251 was enacted by Congress. It authorized and directed the Corps of Engineers to compensate for fish losses on the Russian River attributed to the operation of Coyote Valley Dam as part of the Warm Springs Dam project through measures such as the expansion of the Don Clausen Fish Hatchery at Warm Springs Dam. The hatchery that was subsequently constructed included space to accommodate additional incubators and associated equipment for a future Coyote Valley Dam mitigation project.

In 1983 a study was authorized to define the required steelhead mitigation for the Coyote Valley Dam project. The Corps of Engineers determined that the annual production of 4,000 adult steelhead trout was necessary. The Corps also determined that the most appropriate method would be the expansion of the Don Clausen Fish Hatchery and the construction of new trapping, egg-taking and imprinting facilities at Coyote Valley Dam. The total estimated cost of the proposed facilities was \$3.3 million.

The Sacramento District of the Corps of Engineers prepared a design memorandum, environmental assessment and other documentation and requested that funds be included in the fiscal year 1988 Warm Springs Dam project budget to begin the hatchery expansion. In the meantime Public Law 99-662, the Water Resources Act of 1986 was enacted. On July 21, 1987, based upon the new legislation, the Office of the Chief of Engineers of the Corps decided that the mitigation should not be constructed as part of the Warm Springs Dam project but rather should be considered a resumption of the Coyote Valley Dam project. They further decided that the costs of the mitigation project should be allocated among the Coyote Valley Dam project purposes and should be subject to a new cost sharing agreement.

This determination was sent through the chain of command to the Sacramento District. On September 15, 1987 officials of the Agency and Mendocino were summoned to Sacramento and informed of this development. On September 23, 1987 the Sonoma County Counsel issued a legal opinion that the Water Resources Development Act of 1986 did not require a new cost sharing agreement. On October 6, 1987 the Board of Directors of the Agency adopted a resolution supporting the mitigation project and assuring the Corps that the Agency considered the project costs as joint-use facility costs subject to cost sharing under the existing Warm Springs Dam water supply agreement between the Agency and the Government. The resolution and legal opinion were forwarded to the Sacramento District with a letter urging the Corps of Engineers to reverse its position and permit the mitigation project to proceed as part of the Warm Springs Dam project. Among other things, the letter pointed out that the Agency had an established means of raising the revenue required to pay its share of the Warm Springs Dam project costs. The letter explained that the local share of the Coyote Valley Dam project costs were paid as a lump sum from the proceeds of general obligation bonds and neither the Agency nor Mendocino County had any means to raise revenue to support a cost sharing agreement arising from a resumption of the Coyote Valley Dam project.

The Sacramento District concurred and joined in the Agency's request and it was forwarded to the Office of Chief of Engineers. The Washington D.C. office relented and construction funds were included in the fiscal year 1989 budget. The construction of the fish mitigation project was completed and a waste discharge permit was obtained from the California Regional Water Quality Control Board in February 1992.

Warm Springs Dam

As noted in the introduction to the Russian River Project, the 1948 Corps of Engineers survey proposed as the second flood control dam on the Russian River (after Coyote Valley Dam), construction of a dam on Dry Creek at its confluence with Smith Creek. A reservoir with a capacity of 216,000 acre-feet was proposed.

In 1955 a private plan to build a dam on Dry Creek was proposed. A group of

investors, known as Charles East and Associates, retained the International Engineering Company, Inc. of San Francisco to prepare a report on the proposed project. The report, issued in January 1956, proposed a 216,000 acre-foot capacity reservoir at the same site proposed by the Corps of Engineers in their 1948 survey report. The group filed an application for water rights on Dry Creek. The State Water Rights Board held a hearing on the application in 1957, and in 1958 issued a decision granting the group one year to satisfactorily complete its application. However, the group was unable to obtain commitments from the municipalities that were proposed to be served by the project and the application was placed on inactive status in 1959, and withdrawn in 1963.

In a resolution adopted July 1, 1958, the Committee on Public Works of the U. S. House of Representatives requested the Board of Engineers for Rivers and Harbors to review the 1949 Corps of Engineers report to determine whether any modifications to the plan for flood control, water conservation and other purposes were advisable in view of changed conditions, including the disastrous 1955 floods which occurred on the Russian River. The resolution approved the expenditure of \$150,000 for the study. In response to the resolution, the Chief of Engineers on November 3, 1959 approved an interim report on the proposed Dry Creek dam.

In the interim report the Chief of Engineers recommended the construction of a dam below the confluence of Dry Creek with Warm Springs Creek that would create a reservoir with a capacity of 277,000 acre-feet, 132,000 acre-feet of which was proposed to be allocated for water supply, and the construction of certain downstream channel improvements.

The Warm Springs Dam Project, including downstream channel improvements, was authorized by the federal Flood Control Act of 1962. The authorizing act reads, in part, as follows:

The following works of improvement for the benefit of navigation and the control of destructive floodwaters and other purposes are hereby adopted and authorized to be prosecuted under the direction of the Secretary of the Army and the supervision of the Chief of Engineers in accordance with the plans in the respective reports hereinafter designated and subject to the conditions set forth herein

Russian River Basin

The project for the Russian River, Dry Creek, California, is hereby authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document Numbered 547, Eighty-Seventh Congress, at an estimated cost of \$42,400,000.

A contract between the United States Government and the Agency for 132,000 acre-

feet of water storage space in Lake Sonoma was entered into on December 7, 1964. The Corps of Engineers began design of the project in 1966. In November 1966 the Corps of Engineers issued a design report recommending a further enlargement of Warm Springs Dam. In a letter dated March 2, 1967 District Engineer Frank C. Boerger formally notified the Agency that the Corps of Engineers was considering enlarging the proposed Warm Springs Dam to increase the water supply storage space from 132,000 acre-feet to 212,000 acre-feet and asked the Agency whether it would be willing to assume the financial obligations for the increased water supply benefits. In a letter dated March 7, 1967, the Agency expressed its desire that the dam be enlarged as proposed by the Corps of Engineers, and agreed to enter into an amended water supply agreement to guarantee repayment of the additional costs allocated to water supply at such time as the cost data necessary to draft the amendment was determined. This letter was authorized by a unanimous vote of the Board of Directors of the Agency on March 6, 1967. Groundbreaking ceremonies were held in August of that same year. Remarkably, however, the amended agreement defining the Agency's financial obligations would not be entered into until 15 years later, the year of completion of construction of the dam. Equally remarkable, funds for the expanded project were appropriated by Congress without a specific congressional authorization for the expansion.

On January 1, 1970 the National Environmental Policy Act (NEPA) became effective. On March 30, 1971 the first of several legal challenges to the Warm Springs Dam Project was initiated when California Rural Legal Assistance (CRLA) filed a lengthy complaint with the U. S. Environmental Protection Agency (EPA) on behalf of the Alianza Del Pueblo, Inc., Mexican-American Political Association and the North Bay Human Development Corporation. This complaint alleged that defendants Corps of Engineers and Agency failed to make a study assessing "the profound influences of population growth, high density urbanization, industrial expansion and resource exploitation" that would result from the construction of Warm Springs Dam. In a letter dated April 21, 1971 the EPA determined that they lacked jurisdiction to act on the CRLA complaint. CRLA appealed EPA's decision to the U.S. Council on Environmental Quality (CEQ) and in May CEQ directed the Corps of Engineers to respond to the CRLA complaint. In July 1971 Thaddeus Beal, Undersecretary of the Army, ordered the Corps of Engineers to conduct a study of the social, technical, economic and environmental impact of construction of Warm Springs Dam, in other words, to prepare an environmental impact statement pursuant to the newly enacted NEPA.

On November 28, 1972 the second legal challenge was launched when a group of wine grape growers in Alexander Valley filed a lawsuit in the Sonoma County Superior Court. This lawsuit asked the court to permanently enjoin the Agency from levying property taxes and paying any money to the Corps of Engineers until an election had been held approving the 1964 contract between the Corps of Engineers and the Agency which provided for payment of the Agency's share of the project costs. On January 4, 1973 the Agency filed a demurrer. The demurrer was sustained by the

superior court on April 25, 1973. Plaintiffs appealed, however, and in July 1974 the superior court judgement was sustained by the California Court of Appeal.

Expenditures by the Corps of Engineers for project design, land acquisition and road relocations continued including, in 1972, the award of a 900,000 cubic yard test embankment contract, and in 1973, the award of a contract for the Rockpile Road bridge structure. In June 1973 the Corps of Engineers issued the draft environmental impact statement. On December 4, 1973 the Corps of Engineers filed with CEQ the final environmental impact statement (FEIS).

CEQ responded by a letter dated February 14, 1974 that outlined the results of the CEQ review. The analysis of growth-inducing impacts, alternative sources of water, seismic danger, and the benefit-cost analysis were all cited by CEQ as inadequate. CEQ requested the Corps of Engineers to further analyze and consider these issues before making any irreversible decision regarding the project.

The following day, February 15, 1974, the Corps of Engineers advertised for bids for the initial contract for the construction of the dam embankment and outlet works. The engineer's estimate of the cost of this work exceeded \$10 million. On March 22, 1974 a coalition of opponents of the project filed a lawsuit in United States District Court seeking injunctive and declaratory relief to stop the Corps of Engineers from "entering into any contracts, opening bids for contracts, undertaking land purchases, site preparation development, construction or other activities relating to the Project." The plaintiffs included the Warm Springs Dam Task Force, League of Women Voters of Santa Rosa, League of Women Voters of Southern Marin, League of Women Voters of Central Marin, California Trout, Inc., Society for California Archaeology, Marin Conservation League and numerous individuals.

In response to a request from the District Court, on May 14, 1974 District Engineer Colonel J. L. Lammie submitted a letter to the court outlining the Corps of Engineers' planned environmental study and construction schedule for the next year and their plans for protecting archeological sites. On May 23, 1974 the presiding judge, Spencer Williams, after considering the affidavits and arguments of the parties and after hearing expert testimony for over two weeks, ruled from the bench that a preliminary injunction should be denied. The court, however, ordered the Corps of Engineers not to disturb or destroy any archaeological sites. The following day, on May 24, 1974, the U.S. Court of Appeals for the Ninth Circuit denied a motion by plaintiffs for an injunction pending appeal. Plaintiffs then sought an injunction pending appeal from the U.S. Supreme Court and on June 17, 1974 Justice William O. Douglas issued the temporary injunction sought by plaintiffs.

On July 3, 1974 the Warm Springs Dam Task Force filed an initiative petition with the County Clerk proposing an ordinance that would require the Agency to obtain the approval of a majority of the county voters before obligating the Agency for the costs of the project. Rather than calling an election, the Board of Directors of the Agency

responded by adopting the ordinance. In accordance with the ordinance, the Board placed a measure on the November 1974 general election ballot. The question put before the voters was should the Warm Springs Dam Project be approved and ratified and should the Board of Directors of the Agency be authorized and directed to “fulfill its contract with the United States of America and to participate in, expend funds, contract, give assurances of funding, and take all appropriate steps for the completion of the Warm Springs Dam – Lake Sonoma Project”.

Rallying in support of the threatened project, residents of Healdsburg, Santa Rosa and other areas of the County organized a non-profit association known as Citizens for Community Improvement to advocate voter approval of County Measure B, as the ballot measure was identified. The result of the ensuing intense competing campaigns was a very close vote, with the project supporters winning by a bare majority in the November 5, 1974 election.

As a result of Justice Douglas’ temporary injunction pending appeal, project construction came to a complete halt. The Corps of Engineers began the preparation of a new environmental impact statement, and additional steps were taken to preserve cultural and historical features. Measures were also added to protect the endangered peregrine falcon that was found to nest along the proposed reservoir. The proposed wildlife management area along the east side of Lake Sonoma was enlarged, and the dam structure was redesigned to increase its seismic stability. On August 18, 1975 the U.S. Court of Appeals ruled on plaintiff’s appeal and remanded the case to the district court. Although not ordered to do so by the court, the Corps of Engineers undertook preparation of a supplement to the FEIS.

In 1976 and 1977, during which these efforts were underway, Sonoma County experienced the most severe drought in its history. During the second year of the drought water shortages were common for both urban and agricultural users. The litigation efforts of the dam opponents persisted despite the drought. In January 1977, in an effort to bring legal action to a conclusion, Citizens for Community Improvement filed a legal brief in U.S. District Court accompanied by amicus briefs filed by twenty other organizations and individuals. This effort was successful and on April 28, 1977 the district court entered a judgement for the defendant Corps of Engineers and Agency. While the Warm Springs Dam Task Force again sought stays pending appeal from both the U.S. Court of Appeal, and then the U.S. Supreme Court, they were denied, as eventually was the appeal itself, in a June 23, 1980 decision of the U.S. Court of Appeals.

In March 1978 the Corps of Engineers advertised for bids for construction of the dam embankment and related facilities. That contract was followed by the award of additional construction contracts, including a contract for the fish hatchery.

In April 1979 a newly formed organization calling itself Taxpayers Organized Against

the Dam started circulating a petition to call for another countywide election on the project. The question the Taxpayers proposed to put before the voters was should the Agency be directed to withdraw from the contract with the federal government that provides for Agency repayment of the water supply costs of the project. Despite an opposition campaign conducted by Citizens for Community Improvement, by early August sufficient signatures had been gathered to qualify this measure for the ballot. The Board of Supervisors called a special election on the measure for November 1979. Having just endured a two-year drought, the measure to end participation in the project was defeated by a more than two to one majority.

Following the defeat of the second initiative on Warm Springs Dam, the project opponents filed an action entitled *Haymaker v. Sonoma County Water Agency* in San Francisco Superior Court. In this lawsuit plaintiffs sought to prevent the Agency from using property taxes to pay its share of the cost of Warm Springs Dam. The plaintiffs subsequently dismissed the lawsuit before trial. A related case filed in federal court, *United States v. County of Sonoma, et al*, was also dismissed.

Construction of the project continued, and Warm Springs Dam was completed in 1982. Also in that year, on October 1, 1982, the 1964 contract between the United States Government and the Agency was amended. Under the amended contract the Agency obligated itself to repay the United States Government the full cost of the joint-use facilities of the enlarged project allocated to water supply, estimated to be more than \$100 million. The amended contract modified the repayment schedule to permit the coordinated operation of Lake Sonoma and Lake Mendocino without prematurely triggering the obligation to commencement of repayment by the Agency of the costs of the Warm Springs Dam Project allocated to water supply. As in the 1964 agreement, the Agency also agreed to pay its pro-rata share of the annual operation and maintenance costs of the Warm Springs Dam Project. The costs of operating and maintaining the fish hatchery and recreation facilities at Warm Springs Dam/Lake Sonoma were to be borne by the U. S. Government.

Under separate agreements, the Agency also was obligated to maintain specifically identified downstream channel improvements. These consist of riprap bank protection, three rock-type drop structures, jetties, pile walls, and willow planting. The drop structures were placed in 1981 to prevent active channel bottom degradation in the lower reaches of Dry Creek; thereby preventing further bank erosion and maintaining stream conditions upstream for migrating salmon and steelhead. Each drop structure is equipped with two Denil-type fish ladders.

Not surprising, considering the twenty years that transpired between congressional authorization of construction of Warm Springs Dam and its completion, controversy over the project did not end with completion of construction and the renegotiation of the water supply agreement. Two of these subsequent disputes are notable. These are the Hagood lawsuit and the proposed Dry Creek riparian mitigation project.

United States of America ex rel. James M. Hagood
v. Sonoma County Water Agency

A lawsuit was filed in the United States District Court in 1988 challenging the 1982 contract between the Sonoma County Water Agency and the United States for water storage space in Warm Springs Dam. Plaintiff James M. Hagood was a former civilian staff attorney with the San Francisco District of the U.S. Army Corps of Engineers, and in that capacity was involved with the Warm Springs Dam Project.

The plaintiff sought relief under the qui tam provisions of the federal False Claims Act, which authorizes private persons to pursue claims based on fraud on behalf of the federal government. The plaintiff alleged that the amended contract between the Agency and the United States constituted a false claim for two reasons. First, plaintiff alleged that the payment schedule contained in the contract allegedly violated federal law by failing to require that payments begin upon the Agency's first use of Lake Sonoma water. Second, plaintiff alleged that the amount of the cost allocated to the Agency was too low and was based upon false information. Specifically, he objected to the fact that when the project was enlarged in 1967 no reallocation of the cost was performed by the Corps of Engineers. The relief sought by the plaintiff was \$60 million trebled, or \$180 million.

According to the allegations in his complaint, Mr. Hagood was assistant general counsel to the San Francisco District and was assigned to represent the district counsel to handle the renegotiation of the Warm Springs Dam water supply contract with the Agency. Mr. Hagood came to the conclusion that the proposed cost allocation for the amended contract, which would govern the Agency's repayment obligations, did not comply with the terms of the Water Supply Act of 1958. The cost allocation proposed by the Corps would substantially reduce the obligations of the Agency.

Mr. Hagood, according to his complaint, brought his objections to Col. Paul Basilwick, Jr., the District Engineer. Col. Basilwick made what he termed a "command decision" to proceed with the cost allocation as proposed and to accept responsibility for the clauses in the contract to which Mr. Hagood had objected. Mr. Hagood orally refused to draft the contract in this form. He then received an order from the district counsel to comply with Col. Basilwick's order or "suffer the consequences of a refusal to follow a direct order from an individual within your direct chain of command."¹

On March 25, 1982 Mr. Hagood put his legal objections to the contract in writing in a letter addressed to Col. Basilwick with copies to various other officers of the Corps. The district counsel responded with a memorandum for the files, disputing Mr.

¹ The author was the representative of the Agency who negotiated the amended contract between the Corps of Engineers and the Agency. While the author did not personally witness this drama, he did receive frequent oral reports from Corps of Engineers personnel as it unfolded, and Mr. Hagood's allegations are not inconsistent with the contemporaneous reports received by the author.

Hagood's legal points and specifically arguing that the Water Supply Act of 1958 did not apply to the Warm Springs Dam, which had been authorized by Congress in 1962. The memorandum of district counsel concluded that Mr. Hagood's personal opinion was not the opinion of legal counsel for the district.

According to the allegations of the complaint, Col. Basilwick was "in the spring" seeking a job with a company (Sverdrup & Parcel and Associates Inc.) later awarded design work by the Agency on the Warm Springs Dam and he "used his position as District Engineer to cause an obstruction to Mr. Hagood raising the most fundamental questions on the purported repayment arrangement."²

Meanwhile, the contract that Mr. Hagood had refused to prepare had been prepared. According to the allegations of the complaint, the Agency "used pressure and influence" to expedite its signing without an accurate and current cost allocation.³ The signatory for the Army was William Gianelli, Assistant Secretary of the Army for Civil Works. According to the complaint, Mr. Gianelli had been Director of the Department of Water Resources of the State of California, had been involved in that capacity with the Warm Springs Dam, and therefore had "a conflict of interest" in acting on the contract. He knew that "an accurate and current cost allocation" had not been prepared, and this knowledge "is related to his expediting" of the contract. As noted above, the contract was signed by Mr. Gianelli on October 1, 1982.

According to the complaint's allegations, the district counsel advised Mr. Hagood in April 1982 "that he was no longer considered an attorney in the San Francisco district" and Hagood was told by unnamed other Corps lawyers that "he had better get out of California." In July 1982 Mr. Hagood "found a job in Alaska with the Army Corps." Mr. Hagood's new job was as assistant district counsel in Anchorage. In 1985 he transferred to the Sacramento District of the Corps. In 1987 he retired from the Corps of Engineers.

In 1995 the United States District Court granted an Agency motion for summary

² The author negotiated the agreement to prepare plans and specifications for the Warm Springs hydroelectric project with the engineering firm of Sverdrup & Parcel and Associates, Inc. The firm was selected and the contract signed in the spring of 1984, two years after the events alleged by Mr. Hagood took place. At the time the Sverdrup & Parcel firm was selected to perform this work the Agency was not aware of any relationship, employer-employee, or otherwise, between this engineering firm and Col. Basilwick.

³ This "pressure and influence" consisted of a meeting between the author, Supervisor Nick Esposti and Congressman Don Clausen in Washington, D.C. at which Congressman Clausen's assistance was requested in securing approval from the Assistant Secretary of the Army (Civil Works) of the amended contract that would subsequently be recommended by the San Francisco District of the Corps of Engineers. Congressman Clausen assigned this task to Emory William Reisinger II, Special Counsel to the Minority, House Committee on Public Works and Transportation. Mr. Reisinger was successful in explaining merits of the amended contract to the Deputy Assistant Secretary and the Assistant Secretary of the Army.

judgement. In April 1996 the Ninth Circuit Court of Appeals affirmed the District Court's decision. In its decision the Court observed, with respect to the plaintiff assertion that the Agency had used improper political pressure when it sought help from then Congressman Don Clausen in getting the repayment contract approved:

“To vest executive branch officials in a democratic government with discretion in the exercise of their powers is to invite the representatives in the legislative branch of those to be affected by its exercise to present vigorously their constituent' views to such officials. To expect otherwise is foolish; to require it to be otherwise would be tyranny.”

The plaintiff petitioned the United States Supreme Court for a writ of certiorari, which was denied in October 1996. Plaintiff then petitioned the Supreme Court for a rehearing that was also denied, thus ending the final chapter in the long series of lawsuits over the Warm Springs Dam Project.

Dry Creek Riparian Mitigation Project

In the spring of 1976 the Corps of Engineers circulated a draft supplemental environmental impact statement on the Warm Springs Dam Project for comments. The San Francisco District also at that time asked the U.S. Fish and Wildlife Service (USFWS) to update their 1962 report on fish and wildlife conservation measures in connection with the Warm Springs Dam Project. The supplemental environmental impact statement was finalized that fall. Some two years later USFWS responded to the District's request with a report that was prepared in cooperation with the California Department of Fish and Game. One of the recommendations in the report was that the Corps acquire a protective easement on about 400 acres of riparian vegetation along Dry Creek from the dam downstream to the mouth to mitigate for upstream habitat losses. The estimated cost of the easements was at that time more than one million dollars. A second recommendation was that the Corps acquire 304 acres of Dry Creek streambed habitat with the acquisition of four public access sites.

At the urging of the USFWS for action, in 1981 and 1982 the San Francisco District held public workshops on the USFWS recommendations. The majority of the individuals and organizations attending the workshops, and virtually all of the landowners, opposed changes to the character of the stream and any public access. The San Francisco District retained an environmental consultant, Elgar Hill, to study the issue. The resulting Riparian Habitat Protection Draft Special Report was circulated in July 1983. This report documented the extent of riparian resources in Dry Creek and assessed federal responsibility for protecting riparian habitat. The report identified several alternatives but recommended no action. In 1984, Lt. Col. Lee, District Engineer of the San Francisco District recommended to the South Pacific Division that the Elgar Hill report be considered to have fulfilled the Corps of Engineers' obligations regarding the 1978 USFWS recommendations.

In June 1987 USFWS again expressed its concern over what it characterized as the Corps “failure to implement past mitigation measures for project-caused losses of riparian habitat in Dry Creek.” By this time, the USFWS recommendation had grown to include acquiring and protecting 358 acres of existing riparian habitat and purchasing and revegetating 922 acres of vineyards along Dry Creek at a cost estimated at \$15 million. In the intervening period, responsibility for the dam had been transferred to the Sacramento District of the Corps of Engineers. Also, during this period the Water Resources Development Act of 1986, Section 906 had been adopted by Congress that authorized mitigation projects such as those recommended by USFWS. Cost sharing of such mitigation with non-federal sponsors was required in the same ratio as for other costs. In the case of the Warm Springs Dam Project this would be 29% non-federal.

In response to the continuing USFWS concerns, in February 1991 the Sacramento District initiated the preparation of another Dry Creek mitigation report. In preparing the new report, the Corps of Engineers consulted with USFWS and the California Department of Fish and Game.

In response to a request for comments, the Agency in March 1991 advised the Corps that it had no objection to a mitigation project being carried out. If it was carried out the Agency stated that it would assume the local cost share obligation provided the project was carried out under the original Warm Springs Dam Project authorization rather than the 1986 Act. Four alternative designs and a Laguna de Santa Rosa alternative were analyzed. Informal reviews of draft reports occurred in July and August 1991. The report was completed and forwarded to the South Pacific Division. In a letter dated October 16, 1992 Sacramento District Engineer Laurence R. Sadoff announced that the South Pacific Division of the Corps of Engineers had reviewed three alternative locations for mitigation projects: Dry Creek, Laguna de Santa Rosa and Middle Russian River. The South Pacific Division, however, determined that no further mitigation was justified and announced that no further consideration of the proposed mitigation was planned.

Water Rights

In California's system of water rights law, the appropriative water right is the dominant right, and this is certainly true in the Russian River basin. While riparian water rights may have a priority higher than appropriative water rights, riparian rights accrue only to parcels of land contiguous to a stream, and only pertain to natural flow. During the summer when water demands are high, which is particularly true in the case of agricultural use, the natural flow of the Russian River and its tributaries is very low and little natural flow is available to riparian owners.

The basic principle of the appropriation doctrine embodied in appropriative water rights law is "first in time, first in right." The person who first appropriates water and puts it to beneficial use has a right superior to later appropriators. In water short periods, junior appropriators can have a water right and yet be barred from exercising their right in order that the rights of earlier, senior, appropriators may be exercised.

When Scott Dam became available in 1922 to provide substantial summer flow to the Potter Valley Project diversion, summer flow in the Russian River available for appropriation increased dramatically. By 1949 approximately 8,100 acre-feet of this flow was being diverted for use along the Russian River in Mendocino County, and 4,900 acre-feet in Sonoma County.

In 1949 the Chief of Engineers of the Corps of Engineers issued and filed with Congress a report that recommended the construction of Coyote Valley Dam and a dam on Dry Creek. Applications 12917, 12918, 12919 and 12920 to appropriate East Fork Russian River and Dry Creek water were filed with the State Water Rights Board (predecessor of the State Water Resources Control Board) on January 28, 1949. These applications were filed to secure the water rights necessary for both the recommended initial projects and an enlarged Coyote Valley Dam proposed to be constructed later. The applications were filed by the State Department of Finance pursuant to a provision of state law that was originally enacted in 1927. This provision authorized the department to file applications for water that in the department's judgment might be required in the development of a general plan for the development, utilization or conservation of the water resources of the state.

Application 12919 sought a permit to appropriate 200,000 acre-feet per annum by storage and 550 cubic feet per second (cfs) by direct diversion from the East Fork Russian River for municipal use in cities and towns in Sonoma, Marin and Mendocino Counties. Application 12920 sought a permit for identical amounts of East Fork Russian River water for domestic, flood control and irrigation of 44,000 acres of land in Sonoma and Mendocino Counties. Applications 12917 and 12918 were filed to accommodate the dam that was at that time proposed to be constructed on Dry Creek at its confluence with Smith Creek by the Corps of Engineers.

On November 14, 1955 the State Department of Finance assigned to the Agency a portion of Applications 12919 and 12920 (re-designated as Applications 12919A and 12920A) to the extent of 335 cfs of water by direct diversion and 122,500 acre-feet per annum of water by storage. These are the amounts that would be required for the initial Coyote Valley Dam Project. This assignment was subject to the condition that the Agency reassign an interest proportionate to such participation to a special district in Mendocino County that might be organized to participate in the Coyote Valley Dam Project. The Mendocino County Russian River Flood Control and Water Conservation Improvement District (Mendocino District) was subsequently formed, and the required partial reassignment became effective on December 20, 1956. The interest assigned by the Agency to the Mendocino District was unquantified, and was described in the reassignment simply as “that portion of the aforesaid assignment ... to which said payment entitled said Mendocino County District under the terms and conditions of said assignment ...”⁴

Application 15736 to appropriate water was filed by the Agency with the State Water Rights Board on February 18, 1954. Application 15736 sought a permit to appropriate 20 cfs from the Russian River year-around for municipal, industrial and domestic use. Several proposed points of diversion were identified in the application including the Agency’s proposed site for its water transmission system intakes immediately upstream from the Wohler Bridge. The place of use was proposed to be the urban areas within Sonoma County.

Also filed by the Agency on February 18, 1954 was a second application to appropriate water. Application 15737 sought a permit to appropriate 60 cfs from the Russian River from April 1 through September 30 of each year for irrigation and incidental domestic use. The place of use was proposed to be 203,500 irrigable acres within Sonoma County.

One month later, on March 17, 1954, a third application to appropriate water was filed. Application 15779 sought a permit to appropriate 125 cfs by direct diversion and 900 acre-feet per annum by storage for recreational purposes. No point of direct diversion was identified in the application. The storage was to be at the sites of all of the recreational dams on the Russian River in Sonoma County.

In a letter dated March 23, 1959, the Agency notified the State Water Rights Board that construction of the Coyote Valley Dam had been completed and had been in operation since November 1, 1958. The Agency further advised the Board that the Agency controlled water supply releases from Lake Mendocino and proposed to the Board criteria for making water supply and streamflow maintenance releases pending the issuance of permits under the Agency’s pending applications.

⁴ The term “said payment” refers to the \$633,000 payment made to the Agency by the Mendocino District in December 1956 for its share of the costs of the Coyote Valley Dam Project.

The State Water Rights Board initiated a public hearing on Applications 12919A, 12920A, 15736, 15737, and 15779 on June 9, 1959. On August 21, 1959, the Agency and the California Department of Fish and Game entered into a stipulation and agreement regarding the maintenance of flows in the Russian River. This stipulation provided for the maintenance of a minimum flow of 25 cfs immediately below Coyote Valley Dam. A minimum flow of 150 cfs, or inflow to Lake Mendocino, whichever is less, was required to be maintained at the confluence of the East Fork Russian River with the Russian River (West Fork). A minimum flow of 125 cfs was required to be maintained from the confluence of Dry Creek to the Pacific Ocean. Reductions of these minimum flows were permitted in the event of a "true emergency", however any such reduction was subject to review by the State Water Rights Board and judicial appeal. Under the stipulation, the Agency was required to make additional releases to satisfy lawful diversions under riparian rights and prior appropriative rights, but was expressly not obligated to take any action to restrain trespassers taking water in excess of their rights at the expense of the minimum flows.

The hearings continued intermittently through September 28, 1959. On May 16, 1960 the Board adopted Decision D 965, however, D 965 was vacated by the Board on June 10, 1960 upon petition by the Agency. Further hearings were held on November 22 and 23, 1960. While not opposing approval of the applications, some protestants opposed the issuance of permits for the full amounts of water sought. Some protestants asked the Board to impose conditions in any permit issued to protect existing and potential uses of water in areas adjacent to the Russian River and its tributaries. Some protestants opposed approval of Applications 15736 and 15737 on the ground that they were unnecessary.

During this period, on April 12, 1960 the Agency filed Application 19351 for 320,000 acre-feet per annum by storage at the latest proposed site of an enlarged Warm Springs Dam on Dry Creek and 290 cfs by direct diversion from the Russian River and Dry Creek for domestic, industrial, municipal and recreational use.

On August 17, 1961 the State Water Rights Board issued its Decision D 1030 on Applications 12919A, 12920A, 15736, 15737, and 15779. The Board approved the requested permit in Applications 12919A and 12920A for 122,500 acre-feet per annum by storage to be collected in Lake Mendocino. The Board approved the direct diversion of 92 cfs of East Fork Russian River water at four points of diversion – Wohler, Mirabel Park, Healdsburg and Monte Rio. The Board also approved the direct diversion of East Fork Russian River water at unidentified points along the East Fork Russian River and Russian River within Mendocino and Sonoma Counties of 53 cfs and 67 cfs respectively. However, the additional direct diversions within the two counties were made contingent upon a filing being made with the Board identifying the points of diversion and quantities of water to be diverted at each point.

The Agency's permits were made subject to pre-1949 uses within the service area of

the Mendocino District and within the Russian River Valley in Sonoma County that had developed in reliance upon the Potter Valley Project diversions of Eel River water to the East Fork Russian River. In effect, D 1030 granted pre-1949 users priority over the Agency's diversions regardless of their date of application for appropriative rights, provided such users at some time applied for and received appropriate water right permits.

The right of the Agency to export the water from the Russian River basin (deliver water to Sonoma Valley, Petaluma and Marin County) became effective subject to the consumptive use of 8,000 acre-feet per annum within the service area of the Mendocino District and the diversion of 10,000 acre-feet for use within the Russian River Valley in Sonoma County. In effect, D 1030 granted these anticipated users (largely agricultural) priority over urban users situated outside the Russian River watershed that would be served by the Agency's water transmission system, provided, however, that in the case of the Sonoma County users, only if contracts for water between the Agency and such users were entered into within ten years (by August 1, 1971). The Corps of Engineers survey report prepared prior to the construction of Coyote Valley Dam had concluded the ultimate irrigation requirement in the Russian River Valley within Sonoma County would be 16,000 acre-feet, however, the additional 6,000 acre-feet was expected to become available at such time as the Coyote Valley Dam was enlarged.

In D 1030 the Board also approved the 20 cfs and 60 cfs direct diversions requested in Applications 15736 and 15737, provided, however, that the total direct diversions under permits issued pursuant to all four applications were limited to 212 cfs. Also, these permits were made subject to appropriation by others for use within the Russian River watershed, whether under rights acquired prior to or subsequent to the date of filing of the applications. The principal significance of these permits is that they allowed the direct diversion not only of East Fork Russian River water, but also any water entering the Russian River below the confluence with the East Fork Russian River (but only after the needs of all other appropriators had been satisfied).

The permits issued by the Board under Applications 12919A, 12920A, 15736 and 15737 were all made subject to the stipulation entered into by the Agency and the California Department of Fish and Game on August 21, 1959 that specified required minimum stream flows that the Agency must maintain in the Russian River and East Fork Russian River.

Finally, in D 1030 the Board approved the requested permit in Application 15779 for a total of 213 acre-feet per annum by storage between April 1 and September 30 at the recreational dams that were erected annually at Vacation Beach, Guerneville, Healdsburg, Fitch Mountain, Asti and Cloverdale.

On March 5, 1965 the State Department of Finance assigned to the Agency

Applications 12917 and 12918 for 330 cfs of water by direct diversion and 216,000 acre-feet per annum of water by storage. These are the amounts that would have been required for the dam that the Corps of Engineers originally proposed to be constructed on Dry Creek at its confluence with Smith Creek.

On February 24, 1970 the Agency and the California Department of Fish and Game entered into an agreement that provided for the maintenance of minimum flows in Dry Creek. The agreement provided for the maintenance of a flow of 25 cfs from April 1 through November and a flow ranging from 50 cfs to 75 cfs, depending upon hydrologic conditions, from December 1 through March 31.

On February 25, 1970 the State Water Resources Control Board held a hearing on Applications 12918 and 19351 with a limited period of time thereafter allowed for the filing of briefs. Both the California Farm Bureau Federation and the Sonoma County Farm Bureau urged agricultural water users whose water supply was dependent upon Dry Creek to file protests and subsequently over forty protests were filed by individuals located along Dry Creek below Warm Springs Dam. All of the protestants stated that their protests could be dismissed if the Agency would agree to release water from Warm Springs Dam to satisfy their needs as they have historically been supplied. At the hearing, the Agency agreed to make releases from Lake Sonoma sufficient to satisfy riparian and prior appropriative rights and maintain minimum stream flows required for fish and wildlife.

Before a decision by the Board was finalized the Marin Municipal Water District electorate voted down participation in the water transmission system planned to distribute the water that was the subject of the applications. The Board deferred action on the application to permit the Agency to reassess its water needs and plans for water use. Plans satisfactory to the Board were not resolved, and on March 15, 1973 the Board issued Decision 1416 on those matters it deemed ripe for decision and withheld action on other matters pending further hearing.

In Decision 1416 the Board rejected and cancelled Application 12918 that had been assigned to the Agency by the State Department of Finance for the originally proposed smaller dam on Dry Creek at Smith Creek. The Board approved the permit requested in Application 19351 for 245,000 acre-feet per annum by storage at Warm Springs Dam to be collected between October 1 and May 1. However, the Board ordered that no water be used except for the maintenance of in-stream flows pending further hearing and order of the Board.

Finally, the permit issued by the Board under Applications 19351 became effective subject to the stipulation entered into by the Agency and the California Department of Fish and Game on February 24, 1970 that specified required minimum stream flows that the Agency must maintain in Dry Creek.

On March 15, 1973 the State Water Resources Control Board issued WR 73-15 ordering the Agency and the Mendocino County District to present a plan for accounting for the use of water under permits issued pursuant to D 1030. On September 18, 1973 the State Water Resources Control Board held a hearing to review the status of compliance with that order.

As noted previously, in D 1030 the State Water Resources Control Board had approved the direct diversion of East Fork Russian River water at unidentified points along the East Fork Russian River and Russian River within Mendocino and Sonoma Counties of 53 cfs and 67 cfs respectively. However, the additional direct diversions within the two counties were made contingent upon a filing being made with the Board identifying the points of diversion and quantities of water to be diverted at each point.

Also as noted previously, the Board had made the right of the Agency to export the water from the Russian River Valley subject to the consumptive use of 8,000 acre-feet per annum within the service area of the Mendocino District and also subject to the diversion of 10,000 acre-feet for use within the Russian River Valley in Sonoma County if contracts for water between the Agency and such users were entered into by August 1, 1971.

At and following the hearing evidence was received by the Board that not only had the Agency not identified any points of diversion and quantities of water diverted under the permitted 67 cfs direct diversion, and had not entered into contracts for the use of any of the permitted 10,000 acre-feet of water, the Agency also had no intention of doing so in the future. The Board found that the Mendocino District on the other hand was prepared to identify the points of diversion and annually report to the Board the quantities of water diverted at the points of diversion within the Mendocino District.

In WR-30, adopted October 17, 1974, the State Water Resources Control Board ordered the revocation of Permit 12948 and the splitting of Permit 12947 into separate permits for the Agency and the Mendocino District, designated respectively Permit 12947A and 12947B. Permits 12947 and 12948 had been issued to the Agency and the Mendocino District jointly under Applications 12919A and 12920A pursuant to D 1030. Permits 12947 and 12948 covered the same project and water, the only material difference being Permit 12947 was for municipal, industrial, domestic and recreational use and Permit 12948 was for irrigation and domestic use. The use under Permits 12947A and 12947B were expanded to include irrigation, making Permit 12948 superfluous.

Permit 12947A deleted the provision allowing the direct diversion of East Fork Russian River water at unidentified points along the East Fork Russian River and Russian River within Sonoma Counties of 67 cfs. It retained the provision allowing the direct diversion of 92 cfs but eliminated the Monte Rio and Healdsburg points of diversion, thus allowing direct diversion only at Wohler and Mirabel Park. Permit 12947A placed

new limits on the combined direct diversion and rediversion of stored water. These were 1) a maximum rate of 92 cfs, and 2) 37,544 acre-feet per water year.

A final term was added to the new Agency permit ordering the Agency to release water from storage as necessary to meet the demands of junior appropriators, not to exceed 10,000 acre-feet per annum, in the Russian River Valley in Sonoma County. The effect of this term was the expropriation by the Board of 10,000 acre-feet of the Agency's Coyote Valley Project water for subsequent allocation by the Board to largely agricultural users in the Russian River Valley in Sonoma County. This term made exports by the Agency of water to municipalities outside the Russian River Valley subject to the future water demands of junior appropriators. This, of course, also would have been the result had the Agency entered into water supply contracts during the prescribed ten-year period following D 1030 with individual users within the Russian River Valley in Sonoma. However, WR-30 also made deliveries of water to municipalities within the Russian River Valley, such as Santa Rosa, subject to the future water demands of junior appropriators. Finally, WR 74-30 made the direct diversion Permits 12949 and 12959 that had been issued pursuant to D 1030 under Applications 15736 and 15737 subject to the combined direct diversion and rediversion of stored water limits of 92 cfs and 37,544 acre-feet per water year. In a meeting held on November 20, 1974 with Ronald Robie, Vice-Chairman of the State Water Resources Control Board, the Agency's water rights legal counsel, Fred Bold, pointed out to Mr. Robie that since the water rights granted by D 1030 were the result of an assignment to the Agency of a state filing, they could not be reassigned by the Board. Mr. Robie was concerned that the Agency General Manager had declared the Agency's intention to use the 10,000 acre-feet to serve its municipal customers, and felt that D 1030 had reserved the water for users along the Russian River in Sonoma County and that it should not be exported out of the Russian River basin. Mr. Bold's legal argument fell upon deaf ears, and the Agency did not pursue legal recourse against the Board's action.

The Agency had, however, petitioned the Board for reconsideration of WR 74-30, and on November 21, 1974 the Board adopted Order WR 74-34 approving reconsideration for the limited purpose of determining whether the 37,544 acre-feet annual limit on the combined direct diversion and rediversion of stored water should be increased. On March 17, 1975 the Agency filed petitions with the Board seeking changes in its permits. In these petitions the Agency sought authorization to release and divert additional quantities of water from storage in Lake Mendocino under Permit 12947A, and directly divert Russian River water under the unapproved portion of Application 19351 in quantities sufficient to accommodate its then proposed Russian River-Cotati Intertie Project to expand the Agency's water transmission system. The Agency requested no increase in the 92 cfs limit on the direct diversion of East Fork Russian River water, however, it requested that the combined limits on rediversion of stored water released from Lake Mendocino and the direct diversion of Russian River water be increased to 180 cfs and 75,000 acre-feet per annum. In effect, the Agency sought water right authority to meet all its defined future water needs without any reliance

on water that was expected to become available from Lake Sonoma.

After the passage of three and one-half years and repeated requests that the Agency, as lead agency under the California Environmental Quality Act, file with the State Water Resources Control Board environmental documentation in support of its petitions, on July 19, 1979 the Board adopted Order WR 79-20 setting a deadline of one year for completion of a final environmental impact report (EIR). The Agency Board of Directors certified the EIR on July 8, 1980 and filed a notice of completion with the State Resources Agency on July 14, 1980. On July 30, 1980 the State Water Resources Control Board adopted Resolution 80-52 finding the Agency's EIR inadequate and referring the matter to the State Attorney General to initiate court action against the Agency to remedy the deficiencies in the EIR.

A lawsuit was filed in the Sonoma Superior Court by the State on August 11, 1980 alleging that the EIR inadequately addressed four subjects. The areas of concern were 1) the conjunctive use of water stored in Lake Mendocino and Lake Sonoma, 2) water conservation, 3) management of water supply deficiencies in dry years, and 4) the impacts of potential reduced flows from the Eel River. A preemptory writ of mandate was issued by the Superior Court on August 25, 1981. The writ ordered the Agency to supplement its EIR to include 1) a detailed statement of alternatives to the proposed action, 2) a comprehensive plan for the coordinated management of all the water resources available to the Agency, and 3) a description of the entire water project proposed by the Agency.

During the summer of 1981 water demand in the Agency's service area for the first time exceeded the 37,544 acre-feet per annum limit and the Agency filed Application 26991 for a temporary permit to exceed the limit by 2,250 acre-feet. The application was approved on September 11, 1981.

In compliance with the court order, the Agency Board of Directors on July 3, 1984 certified a supplemental EIR. Under the renegotiated Warm Springs Dam contract with the United States Government that had been signed in the fall of 1982, the repayment schedule for Warm Springs Dam had been modified to permit the coordinated operation of Lake Sonoma and Lake Mendocino without prematurely triggering the obligation to commencement of repayment by the Agency of the costs of the Warm Springs Dam Project allocated to water supply. With this obstacle removed, in the supplemental EIR the Agency agreed to the conjunctive operation of Lake Mendocino and Lake Sonoma. Finding the supplemental EIR adequate, the Superior Court issued an order on August 30, 1984 discharging the preemptory writ and dismissing the lawsuit.

During the summer of both 1984 and 1985 water demand in the Agency's service area again exceeded the 37,544 acre-feet per annum limit and the Agency filed Applications 28228 and 28552 for temporary permits to exceed the limits by 2,975 acre-feet and 8,180

acre-feet respectively. These applications were also approved. The 1984 application was approved on August 24, 1984 and the 1985 application was approved on August 13, 1985.

Commencing on October 29, 1984, and continuing intermittently for 16 days and three evenings until February 28, 1985, the State Water Resources Control Board held hearings on the Agency's petitions. During the hearings, the Agency withdrew its petition to increase the combined direct diversion and rediversion of stored water from Lake Mendocino from 37,544 acre-feet per annum to 75,000 acre-feet per annum. Twenty-two protests were filed and eleven protestants appeared at the hearings.

The central issue in the hearings on the Agency's petitions revolved around the impacts of the reduction in Russian River flow between its confluence with the East Fork Russian River and Dry Creek that would occur as a result of the Agency's proposed coordinated operation of Lake Mendocino and Lake Sonoma. Since the construction of Coyote Valley Dam, releases necessary to supply all the downstream water demands plus lower river stream flows had been made from Lake Mendocino. However, the Agency's coordinated operation plan proposed to make releases to supply the Agency's transmission system demands from Lake Sonoma.

On March 8, 1985 the Agency and the California Department of Fish and Game entered into an agreement stipulating the minimum flows necessary for in-stream beneficial uses on both Dry Creek and the Russian River. The stipulation retained the minimum flow of 25 cfs in the East Fork Russian River from Coyote Valley Dam to the confluence with the Russian River. From that junction to Dry Creek the minimum Russian River flow was specified as 185 cfs from April through August and 150 cfs from September through March during normal years with reductions allowed under specified unusually dry hydrologic conditions. From Dry Creek to the ocean the minimum flow was specified as 125 cfs during normal years with reductions to 85 cfs and 35 cfs respectively during dry and critically dry conditions. In Dry Creek the minimum flow was specified as 75 cfs from January through April, 80 cfs from May through October and 105 cfs in November and December during normal years. During dry and critically dry conditions these were reduced to 25 cfs from April through October and 75 cfs from November through March.

On April 17, 1986 the State Water Resources Control Board issued Decision 1610 approving the unapproved direct diversion portion of Application 19351 to the extent of 180 cfs and 75,000 acre-feet per annum. The total rate and quantity of direct diversion and rediversion of stored water at the Agency's Wohler and Mirabel pumping facilities under all Agency permits became effective subject to the same limit. The limit on the combined direct diversion and rediversion of stored water from Lake Mendocino under permit 12947A of 92 cfs and 37,544 acre-feet per annum was retained. Decision 1610 also incorporated the minimum stream flows contained in the stipulation between the Agency and the California Department of Fish and Game.

While the order issued by the State Water Resources Control Board did not expressly deny the remaining unapproved 110 cfs of direct diversion the Agency had applied for under Application 19351, in its finding the Board determined that it should be denied. In the hearing, the Alexander Valley Association contended that the 10,000 acre-feet per annum reservation for in-basin use of Coyote Valley Project water for the Russian River Valley in Sonoma County should be increased to 16,000 acre-feet. However, since the Agency had not requested the change and the Board in D 1030 had not reserved jurisdiction to make such a change, the Board lacked jurisdiction to increase the reservation and denied the Association's request.

On June 10, 1991 the Agency filed petitions with the State Water Resources Control Board to add three wells owned by the Windsor Water District (a subsidiary district of the Town of Windsor since its incorporation in 1992) as additional points of diversion to the Agency's appropriative water rights permit numbers 12947A, 12949, 12950 and 16596. These petitions were filed to implement an agreement that the Agency entered into with the District on January 8, 1991. The agreement became operative on January 4, 1994 when the Board issued an order granting the Agency's petitions.

On January 7, 1992 the Agency filed petitions with the State Water Resources Control Board to add two wells owned by the Russian River County Water District as additional points of diversion to the Agency's appropriative water rights permits. These petitions were filed to implement an agreement that the Agency entered into with the District on March 14, 1991. The agreement became operative on May 10, 1994 when the Board issued an order granting the Agency's petitions.

The Agency entered into similar agreements with the City of Healdsburg on November 17, 1992 and the Camp Meeker Recreation and Parks District on July 9, 1996. The Agency filed petitions with the State Water Resources Control Board to add additional points of diversion for the City's and the District's wells to the Agency's appropriative water rights permits on May 20, 1998. These agreements will become operative when and if the State Water Resources Control Board issues orders granting the Agency's additional petitions.

The Agency filed petitions with the State Water Resources Control Board on March 17, 1999 to add a new point of diversion, Collector No. 6, as an authorized point of diversion at the Agency's existing Wohler diversion area under permits 12947A, 12949, 12950 and 16596.

On October 7, 1999 the Agency filed an application with the State Water Resources Control Board for a new appropriative water rights permit for the direct diversion of 72 cfs of Russian River water at the Agency's existing intakes at Wohler and Mirabel. The purpose of this application was to implement the Agency's Water Supply and Transmission System Project. In its application, the Agency requested a combined limit for diversion and rediversion of 101,000 acre-feet per annum at a rate of 252 cfs under

Permits 12947A, 12949, 12950, 16596 and the new permit.

On July 14, 2000 the State Water Resources Control Board published a notice of the Agency's petitions that were filed on May 20, 1998 and March 17, 1999. Protests were filed with the State Water Resources Control Board by the Mendocino District, National Marine Fisheries Service and Friends of the Eel River et al.

Water Transmission System

The genesis of water transmission system of the Agency is the Coyote Valley Dam Project. Concurrent with the U.S. Army Corps of Engineers studies leading to authorization and construction of the dam, the Agency retained consultants and carried out studies on how to put to use the water supply the dam project would produce. The first such study was commissioned the year the Agency was formed, 1949. This study was performed by Whipple Engineering Company of Palo Alto, California. On October 6, 1950 Whipple issued a report proposing a transmission system to deliver water from the proposed Coyote Valley Dam Project.

On March 3, 1953 Stone and Youngberg, Municipal Financing Consultants, were retained by the Agency to prepare a report on methods of financing both the Agency's share of the capital costs of the proposed dam and a transmission system for delivering Russian River water. The following year, on February 1, 1954, Stone and Youngberg issued their report recommending the issuance of general obligation bonds. The bonds were to be repaid with water sales revenues rather than property taxes, but would get the benefit of the lower interest rate arising from the pledge of property tax revenues.

On January 4, 1955 the Board of Directors of the Agency directed its chief engineer, Paul L. Nichols, to prepare a report estimating the amount of money that would have to be raised by the sale of the revenue bonds to pay for the cost of constructing a transmission system. Mr. Nichol's report, issued March 15, 1955, relied to a substantial degree on the earlier Whipple report. It recommended the construction of an initial project consisting of a single 25 million gallon per day (mgd) collector, pumps and chlorinator at Wohler, a 15 mile long 42-inch and 36-inch in diameter pipeline to Santa Rosa, and a 6 million gallon terminal reservoir. In addition to the chosen location at Wohler, the report also considered Healdsburg as a diversion point, but it was rejected.

Of several pipeline routes considered, a route described as the Wohler-Fulton-Santa Rosa route was recommended. While the project was planned to initially serve only Santa Rosa, it was recommended that the initial system be oversized to accommodate the future needs of Petaluma, Cotati, and Penngrove to the south, Sebastopol to the west, and Sonoma, Glen Ellen, Kenwood and Rincon Valley to the east.

The report estimated the amount of bonds that would be necessary to be sold to finance the initial transmission system project at \$2.2 million. The report estimated the bond financing requirements for the planned additional transmission system facilities at \$2.0 million for the Petaluma aqueduct, \$400,000 for the Sebastopol aqueduct, \$1.9 million for the Sonoma aqueduct, and \$2.0 million to cover increased construction costs, interest during construction and undefined additional facilities. The total estimated amount of bonds that would be required was \$8.5 million.

On May 6, 1955 the City of Santa Rosa entered into an agreement with the Agency for 14,000 acre-feet per annum of Russian River water. At a special election held May 10,

1955, the sale of \$8.5 million in general obligation bonds was approved by the voters of Sonoma County to finance the water transmission system.

Santa Rosa Aqueduct

On June 19, 1956 the 1955 water supply agreement between the City of Santa Rosa and the Agency was supplemented by an additional agreement defining in detail the business terms under which the city would receive and pay for water from the planned new transmission system. On September 15, 1956 the Agency sold \$2.35 million of the \$8.5 million in authorized water transmission system general obligation bonds, designated Series A, to finance construction of the initial system.

On March 18, 1957 the Chief Engineer of the Agency filed a report proposing changes in the initial water transmission system. An additional \$690,000 in general obligation bonds, designated Series B, were sold on October 15, 1957 to finance these changes. On September 17, 1957 a supplemental agreement between the City of Santa Rosa and the Agency was entered into that provided for a \$200,000 cash payment by the city to help finance the initial system, city acceptance of the issuance of an additional \$690,000 in general obligation bonds, and authorization for up to an additional \$250,000 in general obligation bonds, if necessary. \$200,000 of the \$250,000 in general obligation bonds, designated Series C, was sold on June 9, 1958 to complete financing of the initial system. Construction was completed and the Santa Rosa Aqueduct was placed in service on June 17, 1959.

Petaluma Aqueduct

On May 9, 1960, the City of Petaluma and the North Marin Water District entered into an agreement with the Agency for the annual delivery of 4,500 acre-feet and 10,000 acre-feet of water, respectively. As finally defined in a supplemental report issued by the Chief Engineer of the Agency in October 1960, the Petaluma Aqueduct project consisted of three phases. Phase A consisted of a 16-½ mile long 24-inch and 33-inch in diameter pipeline from Santa Rosa to Petaluma and a booster pumping plant. Phase B consisted of a six million gallon reservoir to be constructed near Lake Ralphine in Santa Rosa.

The remaining unissued \$50,000 of the Series C \$250,000 in general obligation bonds and \$2,670,000 in general obligation bonds, designated Series D, were sold on February 7, 1961 to finance phase A and B of the Petaluma Aqueduct. On December 18, 1961 the Agency accepted beneficial possession of the Petaluma Aqueduct from the construction contractor and deliveries of water to Petaluma began. On the same date the Agency entered into a water service agreement with the Rohnert Park District, a community services district that preceded the City of Rohnert Park. On December 26, 1961 the Agency entered into a water service agreement with the Cotati Public Utilities District.

During 1960 and 1961 the North Marin Water District constructed a 10 mile long 27-inch pipeline to transport water from the end of the Petaluma Aqueduct to Novato. North Marin also began receiving deliveries of water from the Petaluma Aqueduct in December 1961.

Phase C of the Petaluma Aqueduct project consisted of the construction of a pumping plant on the Petaluma Aqueduct and the addition of a 350 horsepower pump and motor and a related pipeline interconnection at Wohler that was intended to increase the capacity of the Petaluma Aqueduct from 32 mgd to 40 mgd. In letters dated December 7, 1971 and December 6, 1971 Petaluma and North Marin, respectively, requested that such construction be undertaken. In response, on February 14, 1972 the Chief Engineer of the Agency issued a report defining the necessity for issuing the final \$220,000 of the originally voter-authorized \$8.5 million of general obligation bonds to finance the requested pumping facilities. These bonds were proposed to be sold to supplement the approximate \$527,500 the Agency had available for such expenditures. The bonds were sold on May 15, 1972. Two separate contracts were awarded for this work, which was accepted as substantially completed on September 11, 1972 and November 13, 1972.

Phase D was to have consisted of a new collector and pumps on the Russian River and a new aqueduct connecting the new collector to the Petaluma Aqueduct. However, the water supply agreement between Petaluma and North Marin and the Agency was superseded by the agreement providing for the construction of the Russian River-Cotati Intertie Project, and phase D was incorporated into the proposed new project.

Forestville Aqueduct

In March 1961 the Chief Engineer of the Agency issued a report recommending the construction of a 3-½ mile long 8-inch in diameter pipeline from the Santa Rosa Aqueduct to Forestville, a pumping plant, and a 300,000 gallon reservoir to deliver water to Forestville. On April 24, 1961 the Forestville County Water District entered into an agreement with the Agency for the annual delivery of 325 acre-feet of water. \$200,000 in general obligation bonds, designated Series E, were sold by the Agency on June 5, 1961 to finance the Forestville Aqueduct. On December 4, 1961 the Agency accepted beneficial possession of the Forestville Aqueduct from the construction contractor and deliveries of water to Forestville began.

Sonoma Aqueduct

On August 7, 1961 the City of Sonoma and the Valley of the Moon Water District entered into an agreement with the Agency for the annual delivery of 1,700 acre-feet and 1,800 acre-feet of water, respectively. A March 1962 supplemental report issued by the Chief Engineer of the Agency recommended the sale of \$2,120,000 in general

obligation bonds to finance a 16½ mile 20-inch and 16-inch in diameter pipeline from Santa Rosa to Sonoma, a pumping plant and three 2-million gallon reservoirs. General obligation bonds in the amount of \$2,120,000, designated Series F, were sold on April 10, 1962 to finance the Sonoma Aqueduct. Construction of these facilities was completed in March 1963 and deliveries of water to Sonoma Valley began.

Russian River-Cotati Intertie

Discussions between Marin and Sonoma Counties were initiated in 1963 to develop an agreement that would make Russian River water available to southern Marin County as an alternative to the proposal that the State Water Project deliver water via the proposed extension of the North Bay Aqueduct. The North Bay Aqueduct was originally proposed to serve not only Napa and Solano Counties, but also both Marin and Sonoma Counties. During the 1960's, the Agency's water transmission system had nearly reached its capacity and a Sonoma-Marin Aqueduct project was proposed to serve both Sonoma and Marin County needs in anticipation of the expected availability of additional Russian River water from the proposed Warm Springs Dam Project. In August 1971 the Agency issued an environmental impact report on the Sonoma-Marin Aqueduct. However, in November 1971 participation in this project was rejected by Marin voters by a 9-1 margin.

The project was redesigned to follow the same alignment but with smaller pipes and was renamed the Russian River-Cotati Intertie Project. The issuance of revenue bonds to finance this project in the amount of \$115,000,000 were authorized by Ordinance No. 1 adopted by the Water Agency Board of Directors on December 28, 1970.

Ordinance No. 1, called the "Master Ordinance" was a procedural ordinance that set forth the terms and conditions under which bonds would be issued in the future. Each series of parity bonds issued pursuant to the Master Ordinance was to be preceded by the adoption of a supplemental ordinance specifying the principal amount of the bonds to be issued and other details specific to such issuance.

The Russian River-Cotati Intertie Project was controversial not only in Marin County, but also in Sonoma County. Opponents succeeded in circulating an initiative petition placing a measure on the June 1972 primary ballot to repeal Ordinance No. 1. Sonoma County voters rejected the initiative measure, but only by a slim 51.6% majority.

Recognizing the slim margin of support that existed among the electorate of Sonoma County for the Russian River-Cotati Intertie Project at that time, the Agency sought legislative assistance. The state legislature responded positively and passed an act authorizing the Agency to issue revenue bonds for any revenue-producing enterprise the Agency was authorized to undertake without a vote of the electorate, provided the issuance of such bonds was authorized by an ordinance adopted by four-fifths vote of all the members of the Board of Directors of the Agency. This act became effective on January 1, 1973 as Statutes of 1972, Chapter 139.

While the route of the proposed Cotati Intertie was the same as the first phase of the rejected Sonoma-Marín Aqueduct, the capacity of the aqueduct had been reduced to less than one-half of its originally proposed capacity. This reduction was due both to the elimination of capacity for Marin Municipal Water District and reductions in capacity planned for North Marin and Sonoma County customers. Also, following the preparation of the environmental impact report for the Sonoma-Marín Aqueduct, the California Environmental Quality Act had been substantively amended and administrative guidelines issued. For these reasons the Agency undertook the preparation of a new environmental impact report.

Notice of completion of the new draft environmental impact report was filed in November 1973. A public hearing on the draft was held in January 1974. Subsequent to the public hearing the City of Petaluma requested an increase in its delivery entitlement. In March 1974 the Agency issued revisions to the draft addressing the requested increase. The revisions were noticed and an additional public hearing was held on them in May 1974. The final environmental impact report was issued in July 1974.

An Agreement for Water Supply and Construction of the Russian River-Cotati Intertie Project (Agreement for Water Supply) was entered into on October 24, 1974. The parties to the agreement were the Agency and the cities of Cotati, Petaluma, Rohnert Park, Santa Rosa and Sonoma, and the Forestville County Water District, North Marin Water District and Valley of the Moon Water District. The agreement superseded the four aqueduct agreements and authorized the construction of a new aqueduct from the Russian River to Cotati, additional reservoirs, additional collectors and pumps on the Russian River to add 60 mgd of production capacity, and additional standby production capacity of 20 mgd. With the then estimated 32 mgd capacity of the existing Wohler intakes, the total reliable production capacity of the transmission was planned to be increased to satisfy an average monthly demand of 92 mgd.

The Agreement for Water Supply established average monthly rate-of-delivery entitlements for each contractor. However, the agreement did not include annual delivery limits as had the four aqueduct agreements. The agreement required the Agency to immediately construct specified initial features of the Russian River-Cotati Intertie Project. These included two collectors and pumps at Mirabel with a design capacity of 40 mgd, chlorinators, telemetry, diversion dam and intake works, infiltration ponds, the Russian River-Cotati Intertie, and an 18 million gallon reservoir near Lake Ralphine. The agreement established a method of allocating the debt service cost of the proposed new revenue bonds and established a water advisory committee consisting of representatives of each of the eight water contractors. The additional authorized facilities would be constructed as needed over the ensuing three decades.

On December 16, 1974 the first supplemental ordinance to Ordinance No. 1, Ordinance No. 4, was adopted by the Agency. Ordinance No. 4 provided for the issuance of \$8,000,000 principal amount of 1971 revenue bonds, designated Series A. On the same date the second supplemental ordinance, Ordinance No. 5, was also adopted. Ordinance No. 5 provided for the issuance of \$25,000,000 principal amount of 1971 revenue bonds, designated Series B.

On February 10, 1975 a supplement was added to the Agreement for Water Supply in response to Order WR-30 that had been adopted October 17, 1974 by the State Water Resources Control Board. This order had limited the combined direct diversion and rediversion of stored water under the Agency's appropriative water right Permit 12947A to a maximum rate of 92 cfs and 37,544 acre-feet per water year. The annual limit was much less than the design capacity of the Cotati Intertie Project. The agreement was supplemented to avoid any question as to the validity of the Agreement for Water Supply and to provide assurances to prospective purchasers of the revenue bonds proposed to be issued to finance construction of the project. The supplement confirmed and ratified the agreement and pledged the Agency's best efforts to obtain adequate water rights for the project. On March 11, 1975 the Agency sold the 1971 revenue bonds, Series A in the principal amount of \$8,000,000 to provide funds for the construction of the Cotati Intertie Project.

On June 17, 1975 Amendment No. 1 to the Water Supply Agreement was signed by the last of the parties and became effective. Notwithstanding the fact that in 1971 Marin voters had declined to participate in the proposed Sonoma-Marin Aqueduct, on July 3, 1975 the Agency entered into an agreement that provided for the delivery water to Marin Municipal Water District using available capacity in the Agency's transmission system during the off-peak months of the year in an annual amount of 4,300 acre-feet. Amendment 1 authorized that sale of water to Marin Municipal.

On November 4, 1975 the Agency sold a portion of the authorized 1971 revenue bonds, Series B in the principal amount of \$11,425,000 to provide additional funds for the construction of the Cotati Intertie project.

On March 24, 1976 Amendment No. 2 to the Water Supply Agreement was signed by the last of the parties and became effective. Amendment No. 2 reduced North Marin Water District's payment for the capital cost of constructing the Cotati Intertie Project since the construction costs that had been incurred were less than had been anticipated.

In the face of the unprecedented 1976-1977 drought, on March 16, 1977 Amendment No. 3 to the Water Supply Agreement was signed by the last of the parties and became effective. Amendment No. 3 authorized the Agency to construct as part of the water transmission system emergency ground water wells along the existing aqueducts having a capacity of 7 mgd.

On May 19, 1980 Amendment No. 4 to the Water Supply Agreement was signed by the last of the parties and became effective. Amendment No. 4 authorized the use of funds that accumulate in the revenue bond funds of the Agency which exceed the debt service and reserve requirements of the bond covenants to be expended to pay the capital cost of authorized but unconstructed water transmission system facilities.

On April 13, 1982 Amendment No. 5 to the Water Supply Agreement was signed by the last of the parties and became effective. Amendment No. 5 added the Warm Springs Hydroelectric Project to the list of facilities authorized to be constructed and pledged the revenues from the hydroelectric project to the water transmission system. The amendment also authorized the issuance of subordinated revenue bonds in order to permit construction of Collector No. 5. High interest rates that prevailed at that time prevented the issuance of bonds under the 1971 revenue bond authority. Amendment No. 5 also established a Russian River conservation charge to be paid by North Marin Water District in lieu of the property taxes paid by Sonoma County residents for Warm Springs Dam.

On April 20, 1982 Ordinance No. 7, an ordinance providing for the issuance of \$41,250,000 principal amount of subordinated revenue bonds was adopted by the Agency. On June 8, 1982 \$7,500,000 principal amount of subordinated revenue bonds were sold.

On August 28, 1984 Amendment No. 6 to the Water Supply Agreement was signed by the last of the parties and became effective. Amendment No. 6 changed the definitions of offpeak and surface water and made related changes to conform to a proposed amended agreement with Marin Municipal Water District under which Marin Municipal agreed to pay a share of the cost of Warm Springs Dam and to pay the Russian River conservation charge then being paid by North Marin Water District.

On December 17, 1990 Amendment No. 7 to the Water Supply Agreement was signed by the last of the parties and became effective. Amendment No. 7 authorized the expenditure of accumulated surplus money derived from the operation and maintenance charge to be expended to pay the capital cost of authorized but unconstructed water transmission system facilities excluding, however, storage facilities.

On May 19, 1992 Amendment No. 8 to the Water Transmission System was signed by the last of the parties and became effective. Amendment No. 8 authorized the sale of an additional 10,000 acre feet of water to MMWD and the expenditure of transmission system funds to undertake studies, prepare technical reports, financial plans, and environmental documents for water transmission system expansion facilities.

On June 28, 1995 Amendment No. 9 to the Water Supply Agreement was signed by the last of the parties and became effective. Amendment No. 9 provided that all or part of the Potter Valley Project could be acquired as a component of the water transmission

system upon a determination by the Board of Directors of the Agency that such acquisition is necessary to insure the Agency's continued ability to make the water deliveries authorized by the Agreement for Water Supply and upon the approval of the Water Advisory Committee. The amendment also authorized the Agency, rather than acquiring the Potter Valley Project, to make annual payments to the owner of the Project to insure the continued operation of the Project provided such payments were annually approved by the Water Advisory Committee.

Amendment No. 9 required the proceeds of the Russian River Conservation Charge paid to the Agency by North Marin Water District and Marin Municipal Water District in lieu of the property taxes paid by the property owners in Sonoma County to be deposited in a Russian River Projects Fund. The amendment limited the uses of these funds to pay for the Agency's Russian River and Dry Creek channel-stabilization works obligations arising from the Coyote Valley and Warm Springs Dam Projects, securing and defending appropriative water rights, paying the United States Government for the Coyote Valley and Warm Springs Dam projects, acquiring all or part of the Potter Valley Project or making contributions to the owner of the Project to insure the Project's continued operation, and fishery mitigation and enhancement projects in the Russian and Eel Rivers.

Amendment No. 9 changed the method for determining an affirmative vote of the Water Advisory Committee. Under the amendment, an affirmative vote required the vote of more than one-half of votes of the water contractors weighted in proportion to their annual delivery entitlements and the vote of more than one-half of the water contractors. The amendment made additional non-substantive technical changes to conform the agreement to the three above described substantive provisions.

On November 14, 1997 the Tenth Amended Agreement for Water Supply and construction of the Cotati-Intertie Project was signed by the last of the parties and became effective. At that time the Agreement for Water Supply and Construction of the Russian River-Cotati Intertie Project contained many obsolete provisions. These included those relating to the initial construction of the Russian River-Cotati Intertie Project, the construction of the Agency's existing emergency wells and the existing Petaluma Aqueduct pumping plant. They included those establishing interim delivery limits prior to the completion of construction of the initial features of the Russian River-Cotati Intertie Project. They also included financing provisions relating to initial capital deficits and capital costs of the Petaluma Aqueduct pumping plant. These, and other obsolete provisions, were deleted by the Tenth Amended Agreement.

The Tenth Amended Agreement redefined operation and maintenance costs to include the cost of water conservation measures undertaken by the Agency and by the water contractors under written contracts with the Agency. It required the water contractors, and with respect to the other Agency customers, also the Agency, to implement urban water conservation best management practices and established sanctions for non-compliance.

The Tenth Amended Agreement reduced the annual amount of water authorized to be delivered to Marin Municipal Water District from 15,000 acre-feet to the 14,300 acre-feet which the Agency was actually obligated to deliver under then existing contracts with Marin Municipal. It established peaking limits for the water contractors and the Agency's other customers. It also established limits on the annual rate of increase in water deliveries to the water contractors. The Tenth Amended Agreement established sanctions for non-compliance with the peaking and rate of increase limits.

The Tenth Amended Agreement authorized the issuance of revenue bonds to finance major replacements of aqueduct facilities. It authorized water charges in an amount determined by the Water Advisory Committee to finance, on a pay-as-you-go basis, the capital costs of facilities that are authorized by the Water Supply Agreement, but unconstructed, that are needed to deliver the existing entitlements, and to pay the capital cost of replacement facilities. It established a Russian River Projects Charge payable by North Marin Water District in lieu of property taxes levied on property in Sonoma County and other Agency general fund monies that are transferred to the Agency's Russian River Projects Fund.

The Tenth Amended Agreement added the General Manager of the Marin Municipal as a non-voting member of the Water Advisory Committee. It authorized the removal and replacement of the chairperson of the committee at any meeting called by five committee members upon five working days written notice of the meeting. It provided for the funding of the activities of the Water Advisory Committee in an initial amount of \$30,000 per annum from the operation and maintenance fund.

Water Supply and Transmission System Project

In May 1992 the Board of Directors of the Agency directed the General Manager to prepare an environmental impact report for an additional expansion of the water transmission system, designated the Water Supply and Transmission System Project. This expansion was intended to meet the growing water needs of the Agency's service area as defined in the adopted general plans of the cities and counties having planning jurisdiction under state law. In January 1993 the Agency issued a notice of preparation of an environmental impact report. A draft environmental impact report was issued in September 1996. Three public hearings on the draft were held in November and December 1996. A total of approximately one thousand written and oral comments were received from 118 federal, state and local agencies, various organizations and individuals. The final environmental impact report, including responses to the comments received on the draft, was issued in October 1998, and certified by the Board of Directors on November 17, 1998. The project was approved by the Board of Directors on December 15, 1998.

On January 14, 1999 Friends of the Eel River, Friends of the Russian River, Pacific Coast Federation of Fishermen's Association, California Sportfishing Alliance, Wiyot Tribe of

the Table Bluff Reservation and three individuals, filed a lawsuit in the Sonoma County Superior Court seeking a writ of mandate and declaratory and injunctive relief relative to the final environmental impact report for the Water Supply and Transmission System Project. The lawsuit set forth four causes of action. The first cause of action challenged the adequacy of the Agency's environmental impact report.

The second cause of action challenged the Water Supply and Transmission System Project on the grounds that its approval violated state planning law. The third cause of action challenged the Water Supply and Transmission System Project on the grounds that the Agency lacked adequate water rights to water diverted into the Russian River by Pacific Gas and Electric Company's Potter Valley Project on the Eel River. The fourth cause of action challenged the Water Supply and Transmission System Project on the grounds that it would impair plaintiff's public trust doctrine rights to use public trust resources.

The first and second causes of action were heard by the Sonoma County Superior Court on the week of August 14, 2000. The court ruled for the Agency and denied the plaintiff's petitions and complaints. A stipulation dismissing the third and fourth causes of action was executed in February 2002.

On January 26, 2001 the Eleventh Amended Agreement for Water Supply was signed by the last of the parties and became effective. The Eleventh Amended Agreement superseded the Tenth Amended Agreement for Water Supply and Construction of Russian River-Cotati Intertie Project and authorized the implementation of the Water Supply and Transmission System Project. The Eleventh Amended Agreement obligates the Agency to (1) construct or acquire additions to the existing transmission system sufficient to meet increased delivery entitlements established by the agreement for the water contractors and to make the deliveries authorized to be made to Marin Municipal by the agreement; (2) construct additional Russian River water production facilities up to a total capacity of 168.9 mgd so that the total water production capacity available at all times is not less than the average daily delivery to the regular customers and Marin Municipal (excluding surplus water and water in excess of entitlements) during the month of highest historical use plus 20 mgd; (3) construct emergency wells with capacities to be determined by the Water Advisory Committee; (4) construct additional facilities (up to a total capacity of 174.3 million gallons) to the extent necessary to maintain a quantity of water in storage equal to 1.5 times the average daily delivery to the regular customers except North Marin during the month of highest historical use; and (5) replace existing facilities and construct additional facilities, related buildings and appurtenances as necessary to insure the reliable and efficient operation of the transmission system and to insure that the quality of the water delivered complies with all applicable state and federal water quality requirements. The Eleventh Amended Agreement reimposed annual water delivery limits for each water contractor, except in the case of the Forestville Water District, whose delivery entitlement remained unchanged. Annual limits had been included in the original aqueduct agreements but dropped when the Agreement for Water Supply was signed in 1974.

The additional facilities authorized by the Eleventh Amended Agreement include an aqueduct generally paralleling the Russian River-Cotati Intertie; an aqueduct generally paralleling the south part of the Petaluma Aqueduct from the Russian River-Cotati Intertie to Kastania Reservoir; an aqueduct generally paralleling the Sonoma Aqueduct; an aqueduct connecting the Kawana Springs and Ralphine reservoirs; transmission line pumping plants necessary to regulate flows to storage facilities; 55.5 million gallons of additional reservoir storage; 56.9 mgd of additional Russian River water production capacity; water-treatment facilities; and additional groundwater wells.

The Eleventh Amended Agreement remains in effect until June 30, 2036, or, if any revenue bonds are outstanding on June 30, 2036, until such date as all revenue bonds shall have been paid in full. The Eleventh Amended Agreement provides that the Agency shall enter into renewal agreements for periods not to exceed forty years each with any or all of the water contractors requesting the same for water supplies within the delivery capabilities of the Agency's transmission system, at a cost no greater than the Agency's operation and maintenance costs and unreimbursed capital costs allocated on a proportionate use basis.

The Eleventh Amended Agreement requires the water contractors, and with respect to other Agency customers, the Agency, to implement or use their best efforts to secure the implementation of urban water conservation best management practices as the same may be established by the California Urban Water Conservation Council, or implement or use their best efforts to secure the implementation of alternative water conservation measures that secure at least the same level of water savings. The water contractors and Agency must also implement or use their best efforts to secure the implementation of any water conservation requirements that may be added as terms or conditions of the Agency's appropriative water rights permits or licenses, or with which the Agency must comply under compulsion of regulation or law.

Marin County Water Contracts

Neither the initial studies leading up to the congressional authorization of the Coyote Valley Dam Project, nor the November 15, 1949 report of the Chief of Engineers of the Corps of Engineers upon which the congressional authorization for the project was based, contemplated municipal water being provided to Marin County from the Russian River. Nor did the October 6, 1950 study performed by Whipple Engineering Company proposing a transmission system to deliver water from the proposed Coyote Valley Dam Project foresee deliveries of water to Marin County. The March 15, 1955 report by Agency chief engineer, Paul L. Nichols estimating the amount of money that would have to be raised by the sale of the revenue bonds to pay for the cost of constructing a transmission system likewise did not contemplate deliveries of water to Marin County. While the Nichols report recommended the construction of an initial project to serve only Santa Rosa, it also recommended that the initial system be oversized to accommodate the future needs of Petaluma, Cotati, Penngrove to the south, Sebastopol to the west, and Sonoma, Glen Ellen, Kenwood and Rincon Valley to the east. It did not recommend construction of any capacity to provide water service to any Marin County communities.

In March 1959 the Agency issued a report on the “Engineering and Economic Feasibility for Russian River Project, Petaluma Aqueduct.” This report concluded that the construction of an aqueduct to supply water to Petaluma was feasible. While the Petaluma aqueduct was planned to supply municipal water principally to Petaluma, the feasibility of the sale of water to Marin County was briefly discussed in the report.

To put these activities in their historical context, in November of 1959 the voters of California approved a general obligation bond issue to finance the California Water Project. One element of the California Water Project was a proposed North Bay Aqueduct intended by the California Department of Water Resources to serve Solano, Napa, Sonoma and Marin County water needs. A terminal reservoir for the North Bay Aqueduct was proposed to be constructed at Black Point, adjacent to the City of Novato.

North Marin Water District

Nevertheless, on May 9, 1960, the City of Petaluma and the North Marin Water District entered into an agreement with the Agency for the annual delivery of 10,000 acre-feet and 4,500 acre-feet of water, respectively from a Petaluma Aqueduct to be constructed by the Agency. A report supplemental to the March 1959 Petaluma Aqueduct report was issued in October 1960. The supplemental report cited several changed conditions rendering the March 1959 report obsolete. These included the passage of a bond issue and the acquisition by the City of Petaluma of the California Water Service Company that previously provided water service in Petaluma; the passage of a bond issue by the North Marin Water District to finance construction of a pipeline between Novato and

Petaluma; and the May 9, 1960 contract between the Agency and Petaluma and North Marin.

With the May 9, 1960 agreement, North Marin Water District, the service area of which, incidentally, also includes a small part of Sonoma County, effectively became a full participant in the Russian River Project and the Agency's water transmission system. North Marin entered into the Agreement for Water Supply and Construction of the Russian River-Cotati Intertie Project, dated on October 24, 1974, and signed all eleven of the succeeding amendments to that agreement.

On November 15, 1990 an Agreement for Use of Surplus Capacity was entered into between the North Marin Water District and the City of Petaluma. This agreement allowed the City of Petaluma to use the North Marin Aqueduct to transport water from the McNear Avenue meter to a City of Petaluma 16-inch turnout located about 1600 feet south of the meter.

On March 11, 1993 North Marin Water District entered into an Intertie Agreement with the Marin Municipal Water District that provided for the coordinated use of the two entities' water systems, surplus water and surplus system capacity. The Intertie Agreement also provided that North Marin would offer to transfer all its rights and interest in the portion of the North Marin Aqueduct between the McNear Avenue meter and the Agency's Kastania Reservoir to the Agency and that Marin Municipal would offer to transfer all its rights and interest in Marin Municipal's Kastania pumping plant to the Agency.

As noted earlier, on November 14, 1997 the Tenth Amended Agreement for Water Supply and Construction of the Cotati-Intertie Project was signed by the last of the parties and became effective. In addition to the provisions discussed earlier, the Tenth Amended Agreement also authorized the acquisition by the Agency of the McNear to Kastania portion of the North Marin Aqueduct and Marin Municipal's Kastania pumping plant.

On April 13, 1999 the Agency entered into an Agreement with the North Marin Water District and the Marin Municipal Water District for the acquisition of a portion of the North Marin Aqueduct and the Kastania Pumping Plant. Under this agreement the Agency acquired approximately 8,000 feet of the North Marin Aqueduct and the Kastania pumping plant. It also acquired the 16-inch turnout serving Petaluma and the associated valves and meters, a 12-inch unmetered turnout serving North Marin, and two small service taps serving North Marin customers.

Marin Municipal Water District

In the fall of 1963 negotiations were initiated between the Agency and the Marin Municipal and North Marin Water Districts regarding the establishment of a Russian River “water pool” (water supply sharing arrangement) to supply a proposed Sonoma-Marín aqueduct system to deliver Russian River water to Marin County as an alternative to the proposed North Bay Aqueduct of the California Water Project. On January 28, 1964 the Agency entered into an agreement with the Marin County water districts. The agreement expressed the intention of the parties to refrain from supporting the development of the proposed North Bay Aqueduct and to make a good faith effort to finalize a binding contract within five years that would provide for the development of the proposed Sonoma-Marín Aqueduct system and a Russian River water pool. The agreement term expired in 1969 without a final contract having been achieved.

As noted previously, the proposed Sonoma-Marín Aqueduct that had been planned to serve southern Marin County was subsequently overwhelmingly rejected by Marin County voters in 1971. Nevertheless, on July 3, 1975 the Agency entered into an agreement with the Marin Municipal Water District, entitled the “Offpeak Water Supply Agreement”, that provided for the delivery of water to Marin Municipal Water District not to exceed the annual amount of 4,300 acre-feet using excess capacity in the Agency's transmission system available during the off-peak months of the year. The rate of delivery was limited to a maximum rate of 700 acre-feet per month. Marin Municipal was required to pay for at least 2,500 acre-feet of water per annum, whether or not it actually took delivery of that amount. The point of delivery was the Agency's McNear meter at the end of the Petaluma Aqueduct where it connected to the North Marin Aqueduct. The water was then conveyed to Marin Municipal's distribution system via the North Marin Aqueduct pursuant to a wheeling agreement between Marin Municipal and North Marin Water District that was entered into on September 11, 1974.

On August 28, 1984 the Offpeak Water Supply Agreement was amended. Under the 1975 agreement, Marin Municipal's right to delivery of water had been contingent upon the availability of water in the Russian River unaugmented by releases from storage in Lake Mendocino or Lake Sonoma. With the First Amended Offpeak Water Supply Agreement, the Agency agreed to make releases from storage when necessary to make available in the Russian River sufficient water to deliver the 4,300 acre-feet of water provided for in the agreement. In return, Marin Municipal agreed to pay a lump sum toward the cost of Warm Springs Dam and annual payments in lieu of the property taxes paid by Sonoma County property taxpayers for Warm Springs Dam. The amended agreement also increased the maximum off-peak period rate of delivery to 760 acre-feet per month.

On May 3, 1988 the Offpeak Water Supply Agreement was again amended. Under the Second Amended Offpeak Water Supply Agreement, Marin Municipal was allowed to

take delivery of 1,800 acre-feet of their 4,300 acre-feet per annum entitlement during the months of May through September. Only water delivered during the off-peak period was counted as meeting the 2,500 acre-feet per annum take or pay requirement.

As a result of the Second Amended Offpeak Water Supply Agreement, the Agency was virtually assured of receiving the revenue accruing from annual water sales of close to 4,300 acre-feet to Marin Municipal, and Marin secured a badly needed summer source of water.

On January 25, 1996 the Agency entered into a Supplemental Water Supply Agreement with Marin Municipal Water District. The Supplemental Water Supply Agreement had two principal purposes. The first purpose was to revise the Second Amended Offpeak Water Supply Agreement and the Agreement for Sale of Water to accommodate the Agency's efforts to attempt to ensure a continuation of the Pacific Gas and Electric Company's historic diversions of Eel River Water to the Russian River. The second purpose was to increase the reliability of the Russian River water that is available to Marin Municipal pursuant to the two agreements.

The Supplemental Water Supply Agreement attempted to retain the historical context of the two then existing agreements and preserve their content to the maximum extent possible. This was accomplished by a series of amendments to the then existing agreements to achieve the two primary purposes.

The Third Amended Offpeak Water Supply Agreement increased the total quantity of water subject to a "take or pay" requirement from 2,500 to 4,300 acre-feet per year. It extended the Agency's obligation to release water from storage to include the full year rather than just during the off-peak period. It conformed the agreement to language in Amendment No. 9 to the Agreement for Water Supply and Construction of the Russian River-Cotati Intertie Project that required the Russian River Conservation Charge paid by Marin Municipal be credited to the Agency's Russian River Projects Fund. It added a new Russian River Projects Charge to be paid by Marin Municipal in lieu of Sonoma County property tax money other than the Warm Springs Dam tax levy proceeds that is applied by the Agency for purposes related to maintaining the Russian River water supply.

The Amended Agreement for the Sale of Water provided that Marin Municipal would pay a lump sum into the Agency's Warm Springs Dam sinking fund no later than July 31, 1996 in consideration of an obligation on the part of the Agency to release up to 5,000 acre-feet of water from storage when necessary to make deliveries of water to Marin Municipal under the Amended Agreement for the Sale of Water. This option was exercised by Marin Municipal. An option to firm up the additional 5,000 acre-feet to that Marin Municipal was entitled under the Agreement for Sale of Water was established. The option must be exercised no later than July 1, 2005. The option payments payable by Marin Municipal, calculated on the then current balance of the Warm Springs Dam sinking fund, exceeded \$2.5 million dollars for each of the 5000 acre-feet blocks of water. Under the option pricing formula, the price for the 5000

acre-feet block second block increased each year until the option was either exercised, or expired.

The Amended Agreement for the Sale of Water provided for Marin Municipal to pay its share of any capital costs incurred by the Agency in conjunction with the Potter Valley Project incurred by the Agency. A new Russian River Projects Charge was added to be paid by Marin Municipal in lieu of Sonoma County property tax money other than the Warm Springs Dam tax levy proceeds which is applied by the Agency for purposes related to maintaining the Russian River water supply. A "take or pay" obligation was imposed on Marin Municipal with respect to the Russian River Conservation Charge and the Russian River Projects Charge. The "take or pay" requirement was applied to the quantity of water that had become firm by virtue of Marin Municipal's payment and exercise of option.

Mendocino County Water Contract

As noted above, in the fall of 1963 negotiations were initiated between the Agency and the Marin Municipal and North Marin Water Districts regarding the establishment of a Russian River “water pool” (water supply sharing arrangement) to supply a proposed Sonoma-Marín aqueduct system. This aqueduct was proposed to deliver Russian River water to Marin County as an alternative to the proposed North Bay Aqueduct of the State Water Project. During this period Sonoma County Counsel Richard M. Ramsey met with Merle P. Orchard, legal counsel for the Mendocino County Russian River Flood Control and Water Conservation Improvement District (Mendocino District). In a letter dated September 25, 1963, Mr. Orchard stated that the Board of Directors of the Mendocino District was very interested in the proposition of a Russian River water pool in which the three counties would participate in a common conservation project repayment fund. As noted above, on January 28, 1964 the Agency entered into an agreement with North Marin and Marin Municipal Water Districts. This agreement expressed the intention of the parties to refrain from supporting the development of the proposed North Bay Aqueduct and to make a good faith effort to finalize a binding contract within five years that would provide for the development of the proposed Sonoma-Marín Aqueduct system and a Russian River water pool. In response to Mr. Orchard’s representations, the Agreement with North Marin and Marin Municipal also provided that the Mendocino District would be invited to participate in the water pool. However, the agreement term expired in 1969 without a contract having been executed.

In a letter dated January 18, 1972, the Board of Directors of the Mendocino District proposed a joint meeting with the Board of Directors of the Agency and North Marin Water District to resume discussions of the proposed Russian River water pool. The letter stated that the Redwood Valley County Water District, which serves Redwood Valley in Mendocino County, needed an assured water supply for a Bureau of Reclamation Small Projects Act project that Redwood Valley was undertaking. The Improvement District stated a firm commitment of water supply and the machinery by which it would be paid for needed to be finalized within a few months so that the Mendocino District could give Redwood Valley the assurances that were necessary. A joint meeting of the three boards was held on March 10, 1972. A joint powers agreement between the Agency, the Mendocino District and North Marin was discussed and the respective staffs were requested to develop the agreement.

Work on the agreement occurred throughout the summer by the Agency and the Mendocino District. Merle P. Orchard, by letter dated August 24, 1972 to Assistant County Counsel Thomas B. Saywer, indicated the Mendocino District was satisfied with the agreement. The Agency proceeded to prepare two exhibits for the agreement. These were mailed to the Mendocino District on October 6, 1972. In the meantime the Mendocino District entered into a contract with Redwood Valley, dated October 4, 1972, agreeing to furnish Redwood Valley with water from the

Improvement District's Coyote Valley Dam Project water until it was all required by the Mendocino District. As a result of staff changes and other problems, North Marin put aside the proposed agreement. In a letter dated March 30, 1973 the Mendocino District requested North Marin to immediately consider the agreement. Personnel changes also occurred at the Mendocino District, with Ed Carpenter, who had been the principal contact leaving and Gary Ackerstrom being appointed as District Engineer. As a result of these personnel changes and the then uncertain status of the Warm Springs Dam Project, further efforts to finalize the agreement were deferred.

In a letter dated January 21, 1974 Merle P. Orchard requested the assistance of Tom B. Sawyer in reviving discussions to secure water to meet Redwood Valley's future needs "at the Warm Springs cost." Nothing came of this request because of the uncertain status of the Warm Springs Dam Project.

On July 31, 1975 a meeting that had been called by the California Department of Water Resources was held at North Marin Water District. At this meeting it was proposed that discussions to establish a Russian River water pool be revived. A meeting of various Mendocino County agencies followed on August 4, 1975 and a letter was sent to Mendocino County Administrator Al Beltrami by Redwood Valley on August 7, 1975 requesting Mendocino County to initiate a meeting between Mendocino, Sonoma and Marin Counties to establish a Russian River water pool. From this time until the November 6, 1979 referendum on the Warm Springs Dam Project, no significant action occurred relative to addressing Mendocino County's water needs because of the continuing uncertainty about the status of the Warm Springs Dam Project.

On October 7, 1980, a meeting was held in the Agency's offices at the request of Mendocino County. The purpose of the meeting was to renew the dialogue between the various involved parties relative to the water needs of Mendocino County. It was the general consensus of those present that a lack of information impaired the ability of the parties to enter into substantive negotiations for a long-term water supply for Mendocino County. It was decided that Gordon W. Miller, a consultant to Mendocino County, Robert F. Beach, General Manager of the Agency, and John O. Nelson, General Manager of North Marin Water District, would constitute an ad hoc committee to examine the alternatives available and recommend a plan for allocating the benefits and costs associated with the Russian River Project.

On March 16, 1981, a document entitled "First Interim Report on a Benefit Allocation for the Russian River Project" was issued by the ad hoc committee. The report summarized the existing institutional and legal constraints affecting the Russian River and identified three alternative methods for allocating the benefits and costs of the Russian River Project. These were an ad valorem method, a unit water charge method, and a defined benefit method. The ad valorem method is the method that was contemplated in the proposed 1972 joint powers agreement to establish a Russian River water pool and project fund. Under this agreement all Russian River Project expenses were to be paid from the fund. Project expenses were defined as including

debt service paid by the Agency and the Mendocino District on bonds issued to finance the construction of the Coyote Valley Project, and the capital, operation, and maintenance expenses associated with the Warm Springs Dam Project. Each party would have paid into the fund in proportion to their assessed valuation. Each party would have been entitled to the beneficial use of Russian River Project water in the same proportion as their payments into the fund.

The unit water charge method described in the report would also have resulted in the establishment of a Russian River water pool and project fund using a joint powers agreement. Under this method, however, each party to the agreement would pay into the fund a uniform unit charge for each acre-foot of Russian River Project water to which the party has a right. The uniform unit charge would be adjusted annually to provide adequate revenues to pay all project expenses.

Under the defined benefit method each component of the Russian River Project would be considered separately. This method recognized that the entire safe yield of the Coyote Valley Project was at that time already allocated and any additional entitlements to serve Mendocino County or Alexander Valley agriculture in Sonoma County would have to come from the Agency's existing entitlement in the Coyote Valley Project. It also recognized that any additional entitlements of water for Marin County should come from Lake Sonoma rather than Lake Mendocino. The appropriate measure of benefit of a transfer of the Agency entitlement to Lake Mendocino water to a third party was proposed to be the unit cost to the Agency of Lake Sonoma water that would have to be used by the Agency in lieu of the transferred Lake Mendocino water.

The Benefit Allocation Plan concluded that the defined benefit method had a number of advantages over the other methods. It was equitable and comparatively simple. It could be implemented within the existing institutional and appropriative water right framework and, equally as important, it could be implemented in stages. The report set forth an implementation strategy that included amending existing agreements between the Agency and North Marin and Marin Municipal. It called for a determination of the future demand of Redwood Valley, the Ukiah and Hopland Valleys and the Alexander Valley on the Coyote Valley Dam Project. It anticipated a transfer of the Agency's entitlement to Lake Mendocino water to satisfy those demands under separate agreements with Mendocino and Alexander Valley interests.

The Benefit Allocation Plan was distributed to all affected agencies during March and April 1981. It was presented to the Board of Directors of the Agency on May 5, 1981, and, although not formally adopted, nevertheless thereafter guided the Agency's efforts to equitably allocate the benefits and costs of the Russian River Project.

As noted above, on April 13, 1982, Amendment No. 5 to the master agreement between the Agency and the eight public agencies that rely on the Russian River for water was made. This amendment eliminated language relating to North Marin's

entitlement to Coyote Valley Project water and the payment then being made by North Marin of a charge in lieu of the ad valorem tax paid by Sonoma County property for the Coyote Valley Dam Project bonds. The amendment provided instead for the payment of a "Russian River conservation charge" in lieu of the ad valorem taxes levied by the Agency on property in Sonoma County, to pay the capital, operation and maintenance costs associated with the Warm Springs Dam Project. The First Amended Offpeak Water Supply Agreement dated August 28, 1984 with Marin Municipal Water District instituted a similar charge.

Early in 1982, Redwood Valley requested that the General Manager of the Agency meet with its Board of Directors to explore the possibility of a contract for firm water supply from Lake Mendocino. In action taken February 2, 1982, the Board of Directors of the Agency authorized discussions with Redwood Valley and on February 18, 1982, the meeting was held in Redwood Valley. On July 13, 1982, Redwood Valley advised the Agency it wished to purchase water and requested that contract negotiations be initiated. On August 20, 1982 a rough draft of a proposed agreement was completed by the Agency and sent to Conrad L. Cox, Redwood Valley legal counsel, to serve as a starting point for negotiations. The Redwood Valley Board of Directors reviewed the rough draft on October 7, 1982, and raised several questions. These were responded to in a letter dated October 15, 1982. However, after this initial exchange of letters, no further negotiations took place.

Later, in October 1982, the Board of Trustees of the Mendocino District requested that the General Manager of the Agency meet with them to discuss their possible interest in acquiring additional water from the Coyote Valley Project. In response, in a letter dated November 1, 1982, addressed to Thomas F. Johnson, Improvement District legal counsel, the Agency requested that the Mendocino District furnish the Agency with any studies or other data that support the conclusion, assuming Redwood Valley became self sufficient, that the pre-1949 appropriative water rights vested in Mendocino County interests together with the Mendocino District's entitlement to Coyote Valley Project water were insufficient to meet Mendocino County's future needs. No response was received. Nevertheless, a meeting was held on February 28, 1983, but no further communication followed.

In a letter dated January 17, 1983, the Agency informed Redwood Valley that the Agency would have to petition the State Water Resources Control Board for a change in place of use under the Agency's Coyote Valley Dam Project appropriative water rights permit in the event Redwood Valley desired to pursue an agreement. Because of the lack of communication, Redwood Valley was asked to state its intentions with respect to an agreement. In a letter dated January 25, 1983, Redwood Valley informed the Agency that "it is the present intention of the Redwood Valley County Water District to enter into a contract with the Sonoma County Water Agency whereby the Redwood Valley County Water District will purchase water from the Sonoma County Water Agency." In response to this statement of intent, on February 23, 1983, the Agency filed a petition to include Redwood Valley as a place of use in Agency's Coyote

Valley Project Appropriative Water Rights Permit 12947A issued under Application 12919A. In a letter dated October 19, 1984, Redwood Valley reaffirmed its intention to enter into a contract, adding that it would purchase "up to 7,500 acre feet of water."

At the Agency's water rights hearing before the State Water Resources Control Board on December 10, 1984, Keith Tieman, Manager of Redwood Valley, testified that the Board of Directors of the District on October 30, 1984, had issued a "Statement of Policy Regarding Water Purchases from Sonoma County Water Agency." He testified that this policy expressed the District's intent that any water sales by the Agency to the District must reduce the Agency's appropriative water right to Coyote Valley Project water by the amount of such sales. The Agency was not advised by Redwood Valley of this unacceptable condition prior to the hearing.

On December 12, 1985 Robert F. Beach, General Manager of the Agency and Al Beltrami, Mendocino County Administrator, met and discussed the Mendocino County water situation. This meeting was followed by a letter from Mr. Beach, dated December 23, 1985, that outlined the history of discussions between the two counties. The letter advised Mr. Beltrami that since the February 1982 meeting of the Board of Directors of Redwood Valley there had been no meeting to negotiate an agreement and little communication. He was advised the 1982 rough draft that was to serve as a starting point for negotiations was by then outdated and had been superseded by the Marin Municipal agreement, which the Agency would look to as a model if negotiations with Redwood Valley were pursued. Also, the letter pointed out the Agency's petition for a change in place of use was vigorously contested and might not be approved. The letter also raised a serious public policy question that needed to be addressed with respect to a Redwood Valley contract. Redwood Valley had requested an entitlement of 7,500 acre feet per annum, however, its then current use was only about 1,200 acre feet per annum.

The letter suggested that Mendocino County address four questions that needed to be answered before negotiations were resumed. These were: 1) What are the future water requirements of Redwood, Ukiah and Hopland Valleys? 2) How much of that need could be satisfied by the pre-1949 appropriative water rights vested in Mendocino County interests and the Mendocino District's entitlement to Coyote Valley Project water? 3) What institution should contract with the Agency for the required additional Coyote Valley Project water? 4) How will that institution raise the revenue necessary to meet its financial obligations under the contract? The letter concluded with the observation that answering these questions would constitute a giant step toward satisfying Mendocino's future water needs.

In a letter dated January 16, 1986 Mendocino County Administrator Beltrami responded that the December 23, 1985 letter had been reviewed by the Mendocino County Ad Hoc Water Committee and that Mendocino County would be developing a formal response in the next months. Fourteen months later, in a letter dated March 12, 1987, Mr. Beltrami followed up the January 16, 1986 letter with a status report. He

described three activities that had taken place. These were: 1) Mendocino County had contracted with Linda Bailey to activate the Mendocino County Water Agency.⁵ 2) A study of water agencies delivering water in the Ukiah valley had been completed by the Mendocino County Local Agency Formation Commission. 3) Mendocino County had contracted for a study of existing uses, projected demand and future deficiencies in supply. Mr. Beltrami concluded that the result of these activities was a greater awareness of the need for increased water supply and a heightened level of information and discussion. He concluded that Mendocino was fast approaching the time when it would be fruitful to discuss with the Agency realistic and practical approaches to an increased water supply for Mendocino County.

In a letter dated June 18, 1987 Mendocino County Administrator Beltrami advised the Agency that Mendocino County had proposed legislation to bring the Mendocino District under the control of Mendocino County. The letter further stated that their preliminary review indicated a future need for an additional 13,000 acre-feet of water.

On November 2, 1987 the Board of Directors of the Agency considered a staff report entitled "Background and Policy Issues Relating to the Transfer of Coyote Valley Dam Project Water to Meet the Future Water Requirements of the Ukiah, Hopland and Alexander Valley dated October 1987." In action taken at that meeting, the Board authorized negotiations with Mendocino County to increase Coyote Valley Dam project water available to meet their needs.

In a letter dated January 7, 1988, the Agency General Manager Robert F. Beach advised Linda H. Bailey, General Counsel/Manager of the Mendocino County Water Agency, that the Board of Directors of the Agency had reviewed the background and policy issues associated with providing Mendocino County with additional water. The letter stated that the Board had authorized the Agency's General Manager to negotiate an agreement for additional water. The letter discussed several policy issues that would have to be addressed including the quantity of additional water, how the cost should be determined, and who the contracting Mendocino County agency should be. The letter stated that although the most logical agency would be the Mendocino District, the Agency would also be willing to contract with the Mendocino County Water Agency or a new agency having the necessary powers. The letter offered to initiate negotiations immediately.

On June 17, 1988 the Agency received a letter from Thomas F. Johnson stating that he had been authorized to respond to the Agency's letter of January 7 to the Mendocino County Water Agency. Mr. Johnson was legal counsel for the Mendocino District. He stated that both the Mendocino District and the Redwood Valley County Water District were interested in pursuing negotiations. He requested that the Agency send

⁵ As noted earlier, the Mendocino County Water Agency is an agency that was established by state statute in 1949 that has powers similar to those of the Sonoma County Water Agency. It is governed by the Board of Supervisors of Mendocino County.

him the form of contract the Agency contemplated.

In a letter dated July 1, 1988 the Agency's General Manager responded to Mr. Johnson's letter of June 17. He advised Mr. Johnson that the only contract language that had been determined pertained to pricing and that the Board of Directors had determined that the water charge should be the same as that included in the First Amended Offpeak Water Supply Agreement with Marin Municipal Water District. The letter included that language and stated that additional contract language would have to be developed in the course of negotiations as the various concerns were identified and resolved. In closing the letter stated that it would be helpful if Mendocino County would decide who the contracting entity would be and how much water was sought.

In a letter dated September 23, 1988 Linda H. Bailey, General Counsel/Manager of the Mendocino County Water Agency advised the Agency that the Mendocino County Water Agency would be the contracting party, that while there remained some outstanding questions about the exact amount of water to be purchased, her current directions were to seek 13,000 acre-feet, and that she would like to begin drafting a contract immediately. In a letter dated September 28, 1988 the Agency responded and negotiations were begun.

The initial draft of the agreement identified Mendocino County, the Mendocino County Water Agency and the Mendocino District all as parties. However, in the "first draft" dated May 22, 1989, which was prepared by legal counsel for the Mendocino District, Mr. Johnson, Mendocino County and the Mendocino County Water Agency were eliminated as parties. The "second draft" was prepared by the Agency and it was dated July 21, 1989. Mr. Johnson responded to the second draft in a letter dated November 20, 1989 and in a letter dated December 7, 1989 the Agency requested information and clarifications of a number of issues addressed in Mr. Johnson's comments. At the same time these discussions were ongoing, on November 2, 1989, the Mendocino District filed an application with the State Water Resources Control Board to appropriate water stored in Lake Mendocino.

In a letter dated February 20, 1990 addressed to the Board of Directors of the Agency, Lee O. Howard, Chairman of the Board of Directors of the Mendocino District proposed that the Mendocino District, Redwood Valley County Water District and the Agency (representing Alexander Valley) enter into a joint powers agreement establishing a joint powers authority (JPA) and that the JPA appropriate "all the water left in Lake Mendocino" after providing for stream flow and existing water rights. To the extent this leftover water was insufficient, the Mendocino District proposed that the JPA enter into the contract with the Agency for a portion of the Agency's 37,544 acre-feet of water rights to Coyote Valley Dam Project. However, all the water stored in Lake Mendocino had been appropriated in 1949 and there was no "water left in Lake Mendocino." In addition, the proposal would have the Agency purchasing water for Alexander Valley from itself, with the proceeds being shared by the Mendocino

District and Redwood Valley.

In his response dated April 6, 1990 Nick Esposti, Chairman of the Board of Directors of the Agency, noted the long history of discussions of a water pooling concept. He pointed out that since 1981 the Agency had been committed to a conceptual approach to resolving regional water supply problems that was totally incompatible with the JPA pooling concept that the Mendocino District had proposed.

In a letter dated April 10, 1990 the State Water Resources Control Board declined to accept the Mendocino District application. In a letter dated May 7, 1990 the Mendocino District responded to the State Board's letter arguing the California area of origin laws and other circumstances entitled the Mendocino District to appropriate water stored in Lake Mendocino without paying the Agency for it.

In spite of the Mendocino District's application to appropriate water in Lake Mendocino, negotiations continued through 1990 and through the summer of 1991 with many drafts and redrafts being exchanged. On September 16, 1991 the Mendocino District held a public hearing on the proposed agreement. Speakers at the public hearing who spoke were overwhelmingly in favor of the agreement, however, they were also primarily residents of the Redwood Valley County Water District, which was dealing with an immediate water supply problem. Further negotiations occurred through the balance of 1991 and into 1992.

The Agency and the Mendocino District finally entered into a water supply agreement on May 19, 1992. Under this agreement the Mendocino District would be entitled to divert 13,000 AFY of East Fork Russian River water under the Agency's water rights permits when water in excess of the Agency's needs was available. Water could be taken from either the East Fork Russian River or Lake Mendocino. Under the terms of the agreement, each spring the Agency would have to determine how much, if any, water was available after taking into account all other Agency obligations and the water necessary to maintain a prudent reserve in Lake Mendocino.

The Mendocino District would have to pay an acre-foot charge in lieu of the property taxes levied by the Agency on property in Sonoma County to pay the capital, operation and maintenance costs associated with Warm Springs Dam. The Mendocino District would have to enter into written contracts for any water taken by its customers under either its own or the Agency's water rights permits. These contracts would have to require the installation of a meter or other measuring device and the monthly recording of water use. The Mendocino District would have to submit periodic reports to the Agency listing separately for each of its customers the amount of water diverted under the contractor's own water rights, the district's water rights, and the Agency's water rights. These reports would have to be made quarterly, except when monthly reports are requested by the Agency because of a water shortage.

Under the terms of the agreement, the Agency was required to petition the State

Water Resources Control Board requesting additional points of diversion and places of use under the Agency's water rights permits. The Mendocino District was required to prepare environmental documents to satisfy the California Environmental Quality Act requirements. The agreement would not become operative until the State Board has approved these changes in the Agency's water rights permits and the agreement would terminate if these actions were not accomplished within five years.

By letter dated December 29, 1992 the Agency sent to the Mendocino District the first draft of petitions the Agency proposed to file with the State Water Resources Control Board pursuant to the agreement to change Agency appropriate water rights Permits 12947A, 12949 and 12950 to identify the Mendocino District and Redwood Valley as a place of use and point of diversion. On February 25, 1993 representatives of the Agency and Mendocino District met with the staff of the State Board to discuss the proposed petitions and the steps necessary to comply with the California Environmental Quality Act. In action taken February 26, 1996 the Board of Trustees of the Mendocino District approved an initial study and set a public hearing that was held March 19, 1996. On May 6, 1996 the Mendocino District adopted a negative declaration.

In a letter dated July 12, 1996 the Mendocino District advised the Agency that it had filed notices of determination for the project on May 6, 1996 and that the statute of limitations for lawsuits challenging the negative declaration had expired. The Mendocino District requested the Agency to immediately file the water rights petitions with the State Board. In several follow-up letters the Mendocino District inquired as to the status of the petitions. In a letter dated May 5, 1997 to the Mendocino District, the Agency explained that the delay was due to the time it was taking to resolve with the State Board staff the details of how the various overall annual and instantaneous diversion limits on the permits would be addressed in the change petitions. The letter also pointed out that an extension of the five-year termination date in the agreement between the Agency and the Mendocino District would be necessary.

In a letter dated December 19, 1997 the Agency reminded the Mendocino District that the agreement had technically lapsed and that the District should formally request an extension. The letter further noted that the Agency could not file the petitions with the State Board without an agreement between the Agency and the Mendocino District being in effect.

In a letter dated March 23, 1998 from the Mendocino District's new legal counsel, Clayton L. Brennan, the Mendocino District requested that the agreement be extended for two years. The letter also requested a clarification of several provisions of the agreement. By letter dated May 8, 1998 the Agency transmitted to the Mendocino District a draft of the proposed extension agreement. The Mendocino District returned the signed two-year extension agreement on August 31, 1998 and the Agency Board of Directors approved it on October 13, 1998.

On April 30, 1999 the Agency filed petitions to change Agency appropriative water rights Permits 12947A, 12949 and 12950 with the State Water Resources Control Board. By letter to the Mendocino District dated May 3, 1999 the Agency proposed a further two-year extension of the agreement to allow the State Board time to act on the petitions. In a letter dated June 2, 1999 the Mendocino District responded that it was disposed to agree to the proposed extension but requested that the 40-year term of the agreement also be modified to run from the date the State Board issues an order on the petitions for change. The Agency made the requested change and sent a revised extension agreement to the Mendocino District on July 23, 1999. In a letter dated January 24, 2000 to the Mendocino District, the Agency inquired as to the status of the proposed extension agreement.

At a Mendocino District Board of Trustees meeting held January 29, 2000 a former member of the State Water Resources Control Board, Mr. Mark Del Piero, an attorney, addressed the Board and presented two and one-half hour critique of the agreement. In action taken, the Board directed its executive secretary not to execute and deliver the proposed extension agreement to the Agency pending a subsequent review. In a letter dated March 27, 2000 to the Agency, the Mendocino District noted that the agreement expired on May 19, 1999 and that the Mendocino District was not interested in pursuing negotiations on an extension agreement. In a letter of the same date the Mendocino District notified the State Water Resources Control Board that it had terminated the agreement and did not intend to renew the agreement, ending a thirty-six year effort to address the water supply needs of Mendocino County.

Hydroelectric Projects

The construction and operation of hydroelectric projects is subject to regulation by the Federal Energy Regulatory Commission (FERC) under the Federal Power Act. FERC issued a license to the City of Ukiah for the construction of a hydroelectric project at Coyote Valley Dam and a license to the Agency for the construction of a hydroelectric project at Warm Springs Dam. FERC also issued licenses to three private parties for hydroelectric projects on the East Fork Russian River.

Coyote Valley Dam

FERC issued a 50-year license for the construction and operation of a hydroelectric plant at Coyote Valley Dam to the City of Ukiah on April 1, 1982 (FERC Project No. 2481). Construction of the hydroelectric plant was completed and commercial operation began in May 1986.

The hydroelectric plant has a total generation capacity of 3.5 megawatts from two turbine and generator units rated at 1 megawatt and 2.5 megawatts. It is located in a powerhouse at the base of Coyote Valley Dam. The power generated by the hydroelectric plant is utilized by the City of Ukiah, which owns the electrical distribution system that serves Ukiah.

Two major problems had to be overcome in the development of the project. First, the outlet works of Coyote Valley Dam had not originally been designed to be pressurized. The outlet works needed to be retrofitted to withstand the full static head of Lake Mendocino and the installation of a bifurcation with appropriate valving to permit bypassing of the turbine. Second, concerns about the dissolved oxygen content of the water passing through the turbine resulted in a requirement that Ukiah construct oxygenation facilities at the outlet. These and other factors, together with the complexities of the two turbine and generator design resulted in a hydroelectric plant project cost of approximately \$22 million.

Warm Springs Dam

Although hydroelectric power generation was not one of the congressionally authorized purposes of the Warm Springs Dam Project, studies performed by the Corps of Engineers during construction of the dam indicated that construction of a hydroelectric plant would be economically feasible. The Corps of Engineers, intending later to seek authorization for a federal hydroelectric project, issued a change order during construction to include minimum provisions for the installation of a future turbine and generator. The modifications included a turbine block-out in the base of the control structure of sufficient size to accommodate a single unit of approximately three megawatts. A metal draft tube conduit and connection to the main flow passage was also included.

The Agency considered filing an application with FERC for a preliminary permit during 1979, however it decided to defer doing so pending a decision by the Corps of Engineers on whether or not the Corps would seek congressional authorization for a federal project. After deferring to the Agency for several months, on May 27, 1980 the City of Ukiah filed an application with FERC for a preliminary permit to construct a three-megawatt hydroelectric plant at Warm Springs Dam. On August 25, 1980 the Agency filed a competing application with FERC for the project. On November 18, 1980 the Agency filed an application with the State Water Resources Control Board to appropriate water for the proposed hydroelectric plant.

In a proceeding involving competing applications for a preliminary permit under the Federal Power Act, the applicant whose proposal is best adapted to develop, conserve and utilize in the public interest the water resource must be favored by FERC. If the proposed projects are equally well adapted, the applicant whose application was first accepted for filing must be favored by FERC. The Agency argued that because it controlled water releases from Lake Sonoma under its water supply contract with the Corps of Engineers, it could and would commit some of its water supply storage space to power production if it were the successful applicant. If on the other hand, Ukiah were the successful applicant, the Agency would have no incentive to do so, and the hydropower project would therefore operate run-of-the-stream and generate less power. On February 10, 1982 FERC issued a preliminary permit to the Agency and denied Ukiah's application. The term of the Agency's preliminary permit was 18 months.

On March 12, 1982 Ukiah filed with FERC an application for rehearing on its decision to award the preliminary permit to the Agency. In its application for rehearing, Ukiah argued that FERC's factual determination that the Agency "uniquely qualifies" as a "superior applicant" was based upon Agency assertions not supported by the record. Among other arguments, Ukiah asserted that the repayment provisions in the then existing water supply agreement between the Agency and the Corps of Engineers for the use of water storage space in Warm Springs Dam would trigger an obligation to begin repayment if water was released to generate electrical energy as proposed by the Agency. This, Ukiah argued, would make such operation by the Agency economically infeasible. In response to Ukiah's application, on April 12, 1982 FERC issued an order granting rehearing solely for purposes of reconsideration.

In a letter dated May 14, 1982 to the Agency, FERC requested to be kept informed regarding the status of the renegotiation of the Warm Springs Dam water supply agreement that was then underway between the Agency and the Corps of Engineers. In response to a FERC staff inquiry, on June 24, 1982 the Agency filed with FERC a description of the distinctions between the proposed amended Warm Springs Dam water supply contract and the then existing contract. In a letter dated July 1, 1982, to Lt. Gen. J. K. Bratton, Chief Engineer of the Corps of Engineers, Ukiah objected to provisions included in a proposed amended contract between the Agency and the

Corps of Engineers that incidentally would permit the Agency to make hydroelectric power releases without triggering repayment of the costs of Warm Springs Dam allocated to water supply. In letter dated July 9, 1982 to FERC Ukiah responded to the Agency's description of the distinctions between the proposed and then existing contracts in a letter to FERC with the argument that approval by the Corps of Engineers of the proposed amended contract would be inconsistent with the Water Supply Act of 1958 pursuant to which the Warm Springs Dam Project was authorized by Congress. On July 23, 1982 the Agency submitted to FERC its response to the assertions Ukiah had made. On September 3, 1982 the Agency filed with FERC a response to a request from FERC staff for a further explanation of why, even under the original 1964 Warm Springs Dam water supply agreement with the Corps of Engineers, the Agency's power generating capacity would be greater than that of Ukiah.

On October 1, 1982 the Assistant Secretary of the Army for Civil Works signed the amended Warm Springs Dam water supply agreement and in a letter dated October 25, 1982 FERC staff acknowledged receipt from the Corps of Engineers of the contract and related documents. On November 24, 1982 FERC issued an order denying rehearing. In denying Ukiah's application for rehearing, FERC found that the amended Warm Springs Dam water supply agreement severs the relationship between payback of the Agency's share of project costs and actual use of the stored water. FERC further found that the amended contract provided the Agency with the operational flexibility to enhance power production in amounts significantly greater than Ukiah.

On December 27, 1982 Ukiah filed with FERC a lengthy application for rehearing and reconsideration of the FERC's order denying rehearing. On January 26, 1983 FERC rejected Ukiah's application for rehearing. Ukiah immediately responded with a petition to the United States Court of Appeals for review of the orders of FERC granting a preliminary permit to the Agency and denying Ukiah's application for a preliminary permit for the Warm Springs Dam hydroelectric project. On March 2, 1983 the Agency filed a motion to intervene as the real party at interest. On March 6, 1984 the Court of Appeals affirmed FERC's decision.

On June 29, 1983 the Agency filed a motion with FERC for a three-month extension of the term of the preliminary permit. On July 14, 1983 Ukiah filed its opposition to the Agency's motion for an extension. On July 26, 1983 the Agency filed its application for a license with FERC. Two days later, on July 28, 1983, FERC issued an order granting a three-month extension to the Agency's preliminary permit. In a letter dated September 13, 1983 FERC notified the Agency that its application for a license had been accepted for filing as of the receipt date of July 27, 1983. On October 3, 1983 FERC published in the Federal Register a notice of the filing of the Agency's application for license. In their response to the notice, the Corps of Engineers stated that the cost of the block-out and appurtenances, that was constructed by change order at the time the dam was constructed at an estimated cost of \$500,000, is an "up front"

cost. In its response dated June 4, 1984 the Agency took exception to the implication of the Corps of Engineers comment that it had the authority to assess the Agency without a determination by FERC.

On May 8, 1984 the Agency entered into an agreement with the engineering firm of Sverdrup & Parcel and Associates Inc. to prepare plans and specifications for the Warm Springs hydroelectric project.

On August 7, 1984 the Agency entered into an agreement with PG&E for the performance by PG&E of a study to investigate the facilities or modifications that would be necessary to be made by PG&E to interconnect the Warm Springs Dam hydroelectric project with PG&E's transmission system. On November 5, 1984 the Agency entered into a Standard Offer No. 4 power purchase agreement with Pacific Gas and Electric Company (PG&E) providing for the purchase by PG&E of the Warm Springs Dam power plant generated energy and firm capacity. The term of the agreement was twenty years commencing on the date the firm capacity became available.

FERC issued a 50-year license to the Agency for the construction and operation of a hydroelectric plant at Warm Springs Dam on December 18, 1984 (FERC Project No. 3351). The Corps of Engineers issued a license to the Agency for the use of Corps land and facilities incidental to the construction and operation of the hydroelectric project effective April 1, 1985.

In its Decision No. 85-01-038, adopted January 16, 1985, the California Public Utility Commission, recognizing transmission system constraints on PG&E's utility system, established an interconnection priority system by which a qualifying small power production or cogeneration facility developer could establish and retain a priority for interconnection of a project with PG&E's utility system for the purpose of selling power to PG&E. Pursuant to that decision, on March 25, 1985 the Agency entered into an agreement with PG&E to establish a priority for interconnection of the Agency's Warm Springs Dam hydroelectric project to PG&E's transmission system, which at the time had transmission capacity limitations. In its Decision No. 85-09-58, adopted September 18, 1985 the California Public Utilities Commission closed its investigation into utility transmission constraints and finalized requirements for an "interim solution" which allowed interconnections by qualifying facilities in anticipation of future upgrades to the utilities' transmission systems. On June 20, 1986 the Agency entered into a second agreement with PG&E providing for the Agency's participation in the "interim solution."

Construction of the hydroelectric plant was substantially completed in December 1988 at a total cost of approximately \$5 million. The hydroelectric plant has a total generation capacity of 2.6 megawatts through a single turbine and generator unit. It is

located inside the base of the control structure that is upstream from the east abutment of Warm Springs Dam.

On December 22, 1989 the Agency entered into an agreement with the Corps of Engineers providing for the operation and maintenance of the Warm Springs Dam hydroelectric project by the Agency. On January 4, 1989 the Agency entered into an Agreement with PG&E clarifying and standardizing the operating procedures for the Warm Springs Dam hydroelectric project. An amendment to the power purchase agreement between the Agency and PG&E was entered into on January 31, 1989 fixing the firm capacity of the hydroelectric plant the Agency agreed to deliver to PG&E at 1.246 megawatts.

In a letter dated May 11, 1989, the Sacramento District of the Corps of Engineers informed the Agency that it owed the United States \$607,000 as reimbursement for the costs incurred by the Corps of Engineers in constructing the power plant block-out. Agency staff met with the Corps on June 8, 1989 and advised the Corps that a preliminary review of the history and applicable law failed to reveal any basis for the Corps' request for reimbursement. In a letter dated June 22, 1989 the Agency requested additional information. Discussions continued through the summer of 1989. Finally, in a letter dated January 23, 1990 from the Agency, the Sacramento District of the Corps of Engineers was advised that the Board of Directors of the Agency, in action taken on the same date, had determined that no legal basis existed for the claim of the government and that the Agency did not intend to pay the requested \$607,000. The Corps of Engineers did not pursue its claim and the Agency never paid it.

East Fork Russian River

As noted earlier, PG&E constructed a series of check-dam structures downstream from the Potter Valley Project powerhouse tailrace to stabilize the streambed and control bank erosion. Private investors developed three hydroelectric projects on the East Fork Russian River to take advantage of the head differential created by these check-dam structures. These include two small projects, the McFadden Farm Project (FERC Project No. 4658) and the J. Air Powerhouse Canal Project (FERC Project No. 9647). These projects were exempted from licensing under the Federal Power Act because of their limited generation capacity. The third project is the 0.4 megawatt BES Hydro Company's Power Canal Project (FERC No. 8936) that required a Federal Energy Regulatory Commission license. The power generated by all three of these projects is sold to Pacific Gas and Electric Company.

McFadden Farm Project

The McFadden Farm Project was developed by Eugene J. McFadden. The Federal Energy Regulatory Commission issued an order exempting the project from licensing pursuant to the Federal Power Act on December 9, 1981. Construction was completed and commercial operation began in May 1983.

J. Air Powerhouse Canal Project

The J. Air Powerhouse Canal Project was developed by W.H. Hammeken, P.L. Hammeken, H.V. Hammeken and D.L. Hammeken. The Hammekens applied to the Federal Energy Regulatory Commission for an order granting exemption from licensing on November 15, 1985. FERC responded with a notice requesting correction of deficiencies in the application in a letter dated January 17, 1986. The Hammekens filed corrections to the deficiencies in their application with FERC on January 25, 1986. FERC accepted the application for filing on March 4, 1986. FERC issued an order exempting the project from licensing on August 26, 1986. A dispute over the project ensued that involved the BSE Hydro Company project discussed below, California Sprotfishing Protection Alliance, California Public Utilities Commission, California Save Our Streams Council and others. It required most of 1997 and 1998 to resolve the dispute. Construction was completed and commercial operation began in August 1990. In a submittal filed with FERC on May 3, 1999, Jack N. Air informed the Commission of his acquisition of the project and a change of project name from the Hammeken Powerhouse Canal Project to the J. Air Powerhouse Canal Project.

BES Hydro Company's Power Canal Project

This hydroelectric project was developed by BSE Hydro Company. It is the largest of the three private projects on the East Fork Russian River. The project consists of a 6-foot high diversion dam, and intake structure, a 150-foot long flume, a 36-inch diameter penstock and a powerhouse containing two 200 kilowatt turbine and generator units. The project is located at the Powerhouse Road bridge across the East Fork Russian River (powerhouse canal). The Federal Energy Regulatory Commission issued a minor license for the project on January 23, 1986. Construction was completed and commercial operation began in October 1987.

Flood Control

Annual runoff from the Russian River watershed is highly variable and historically flooding has occurred frequently. The annual discharge of the Russian River at Hacienda Bridge is approximately 1,600,000 acre-feet with the extremes varying from 4.0 percent of normal (1977) to 265 percent of normal (1983). The daily flow of the Russian River and its tributaries is even more variable. The maximum daily mean discharge of record of the Russian River at Hacienda of 97,700 cubic feet per second (cfs) occurred February 18, 1986. The minimum discharge of record at Hacienda of 0.75 cfs occurred May 6, 1977.

There are four gauging stations on the Russian River in Mendocino County. The maximum daily mean discharge of record of the West Fork Russian River of 18,900 cfs occurred December 21, 1955. The maximum daily mean discharge of record of the East Fork Russian River near Capella of 18,700 cfs occurred December 22, 1964. The maximum daily mean discharge of record of the East Fork Russian River just downstream from Coyote Valley Dam of 13,300 cfs occurred December 21, 1955. Since the construction of the dam the maximum daily mean discharge at this point has been 7,350 cfs which occurred January 24, 1970. The maximum daily mean discharge of record of the Russian River near Hopland of 45,000 cfs occurred December 22, 1955.

Besides the gauge at Hacienda, there are two other gauging stations of interest on the Russian River in Sonoma County. The maximum daily mean discharge of record of the Russian River near Cloverdale of 55,200 cfs occurred December 22, 1964. The maximum daily mean discharge of record of the Russian River near Healdsburg of 71,300 cfs occurred December 23, 1964.

There are three gauging stations on Dry Creek. The maximum daily mean discharge of record just downstream from Warm Springs Dam of 22,500 cfs occurred February 28, 1940. Since the construction of Warm Springs Dam the maximum daily mean discharge has been 5,590 cfs which occurred February 11, 1998. The maximum daily mean discharge of record near Yoakim Bridge of 32,400 cfs occurred January 31, 1963. Since the construction of Warm Springs Dam the maximum daily mean discharge has been 7,600 cfs. This occurred on January 8, 1995. The gauge near the mouth of Dry Creek has a poor control section for high flows and is only used to record summer flows.

A water stage recorder is maintained on the Laguna de Santa Rosa at the Guerneville Road Bridge. The Laguna is a natural water channel and overflow basin connecting Santa Rosa Creek, Mark West Creek and other smaller creeks with the Russian River. During floods, the Laguna acts as a natural regulator of floods on the lower Russian River and the directions of flow may be either to or from the Russian River. The

maximum water level elevation of record is 74.6 feet. It occurred February 18, 1986.

Upper Russian River

The principal flood control facility of the upper Russian River is Coyote Valley Dam, located on the East Fork Russian River 0.8 mile upstream of the East Fork Russian River confluence with the Russian River, and about 3 miles northeast of the City of Ukiah. As noted above, it was constructed and is operated by the Corps of Engineers. Coyote Valley Dam forms Lake Mendocino, which began storing water in 1958. The reservoir has a capacity of 118,900 acre-feet at the spillway crest elevation of 764.8 feet above mean sea level. The drainage area upstream from the dam is about 105 square miles, or 7.1% of the total Russian River basin.

The earliest flood control activities undertaken along the Russian River were by private property owners. The first record of flood control activity by a public agency was in 1954 when an assessment list was presented to the Sonoma County Board of Supervisors for the purpose of levying assessments on property in the Cloverdale Flood Control District. In October 1957 the Chief Engineer of the Agency presented a plan to repair and replace some private levees on behalf of the Cloverdale District and requested that the Sonoma County Board of Supervisors appoint three assessment commissioners. From 1957 through 1960 several flood control projects were accomplished through the Cloverdale District using the assessment proceedings authorized by California reclamation law. The Agency generally contributed 25 percent of the cost of these works and the County, on occasion, advanced County general funds to allow the work to proceed before the assessment proceeds became available. There is no record that the Cloverdale Flood Control District ever acquired any property rights for these works, and they apparently remained private property. The Cloverdale District was dissolved in April 1965.

In August 1958, the Chief Engineer of the Agency submitted a report to the Board of Directors of the Agency proposing the formation of a flood control zone in the upper Russian River, which would have been Zone 4A. Authority for a maximum tax levy of 25 cents per \$100 of assessed valuation was proposed, which at that time would have produced revenue of about \$44,000 per year. On December 15, 1958 the Board of Directors adopted a resolution of intention to form Zone 4A. However, in the face of substantial opposition from landowners and the Sonoma County Taxpayers Association, proceedings to form Zone 4A were terminated by a resolution of the Board of Directors adopted on February 24, 1959.

The first record of public ownership of flood control facilities in the upper Russian River are easements acquired by the Agency for the construction of channel stabilization works associated with the Coyote Valley Dam Project. When Coyote Valley Dam was constructed the Corps of Engineers recognized that flood control releases from Lake Mendocino would result in long term bank full flow which would aggravate bank erosion. The Corps stipulated that any erosion which occurred during

the first ten years after construction of Coyote Valley Dam would be the responsibility of the Corps. To permit the construction of erosion control works to address the expected erosion, the Agency acquired easements from most of the property owners from just south of the old Preston Bridge north of Cloverdale to a point about four miles downstream from the Alexander Valley Bridge. These acquisitions began early in 1962.

The first channel stabilization works constructed by the Corps of Engineers were transferred to the Agency for maintenance in November 1962. It was estimated at that time that from the date of the Agency's creation in 1949 to 1962 the Agency and local interests along the Russian River had expended approximately \$1,118,000 in bank protection and repairs. These channel stabilization works consisted principally of rock rip-rapped levees, earth levees, pile and wire revetments, and various other types of bank protective works. Some of these works were tied into the works constructed by the Corps of Engineers and some were not, however, the easements included land upon which much of the flood control works constructed by private owners and the Cloverdale Flood Control District prior to 1962 were situated.

Similar channelization works were constructed by the Corps of Engineers in Mendocino County. These installations were located at intermittent sites along a 15-mile reach of the Russian River extending from about 5 miles north of Hopland to Calpella. As in Sonoma County, the channel stabilization works were constructed over a period of several years extending from 1956 through 1963. These are maintained by the Mendocino County Russian River Flood Control and Water Conservation Improvement District.

During the succeeding ten years, through November 1972, the Corps of Engineers performed extensive bank protection and repairs within Agency easements. Under the Federal Flood Control Act of 1950, which authorized the Coyote Valley Dam Project, and resolutions of assurances adopted thereunder by the Agency, the maintenance of these works since 1972 has been the responsibility of the Agency.

During this ten-year period, on numerous occasions the Agency sponsored the restoration of the flood control works that had been constructed by non-federal interests in the upper Russian River. This restoration work was performed pursuant to Public Law 84-99 that is administered by the Corps of Engineers. The Agency agreed to provide 20 percent of the construction cost for these projects, either in money or in-kind services. The Agency also agreed to provide without cost necessary easements, which generally had already been acquired; to hold and save the federal government free from damages; and to maintain the works after completion of restoration.

After 1972, the Agency maintained all the flood control works in the upper Russian River that met the Agency's engineering standards for which the Agency had easements, including the works constructed by both the Corps of Engineers and by Cloverdale Flood Control District and other non-federal interests. At a number of sites

the Agency secured Public Law 84-99 assistance, most notably after the extensive flood damage which occurred in 1974 and 1982 .

Lower Russian River

In August 1958, the Chief Engineer of the Agency submitted a report to the Board of Directors of the Agency proposing the formation of a flood control zone in the lower Russian River. Authority for a maximum tax levy of 25 cents per \$100 of assessed valuation was proposed, which at that time would have produced revenue of about \$63,000 per year. On December 15, 1958 the Board of Directors adopted a resolution of intention to form Zone 5A. On March 16, 1959 the Board of Directors adopted a resolution establishing Zone 5A. Zone 5A encompassed the Russian River from the mouth to the Old Redwood Highway Bridge at Healdsburg. Zone 5A was formed principally to finance construction of local drainage projects within the Vacation Beach area, Forest Hills Subdivision and Riverlands Subdivision areas. No major flood control works were ever financed by the zone along the lower Russian River, although maintenance work along the lower Russian River, principally removal of fallen trees, has been financed by Zone 5A from time to time.

Laguna de Santa Rosa and Mark West Creek

In August 1958, the Chief Engineer of the Agency submitted a report to the Board of Directors of the Agency proposing the formation of a flood control zone in the Laguna de Santa Rosa and Mark West Creek Watersheds. Authority for a maximum tax levy of 25 cents per \$100 of assessed valuation was proposed, which at that time would have produced revenue of about \$225,000 per year. On December 15, 1958 the Board of Directors adopted a resolution of intention to form Zone 1A. On January 27, 1959 the Board of Directors adopted a resolution establishing Zone 1A. Zone 1A encompassed the Mark West Creek and Laguna de Santa Rosa watersheds, which includes the cities of Santa Rosa, Sebastopol and Windsor.

The Laguna de Santa Rosa and Mark West Creek are tributaries of the lower Russian River and the principal flood control facilities that have been constructed in the lower Russian River basin are located within Zone 1A. These flood control facilities were constructed as the Central Sonoma Watershed Project by the Agency in cooperation with the U.S. Department of Agriculture, Soil Conservation Service. The work plan for this project was approved in 1958 and the project was constructed over the ensuing 25 years. The project included the construction of floodwater retarding structures and the straightening, shaping and stabilization of waterways. The purpose of the project is to protect the Santa Rosa urban area from flooding.

The Central Sonoma Watershed Project includes five reservoirs. These are Santa Rosa Creek Reservoir, (also known as Spring Lake), Matanzas Creek Reservoir, Piner Creek Reservoir, Brush Creek Middle Fork Reservoir and Spring Creek Reservoir. Santa Rosa Creek Reservoir is located off-stream. The diversion structure on Santa Rosa Creek

allows relatively large flows to pass downstream unimpeded. The other four reservoirs are on-stream and are equipped with minimum flow bypass facilities. Unlike the large dams on the Russian River and Dry Creek, these reservoirs are not equipped with flood gates, rather the reservoirs operate passively.

The waterways which were straightened, shaped and stabilized as part of the Central Sonoma Watershed Project include parts of Santa Rosa Creek, Wendel Creek, Petersen Creek, Forestview Creek, Matanzas Creek, Piner Creek, Paulin Creek, Russell Creek, Brush Creek, Rinconada Creek, Ducker Creek, Austin Creek and Spring Creek. Santa Rosa Creek and Matanzas Creek stabilization measures include substantial use of concrete and rip-rap. Most of the other channels were stabilized with sod and the limited use of rip-rap.

Following the formation of Zone 1A, the tax rate was set annually by the Board of Directors. As noted above, the Agency was authorized to levy a tax rate of up to 25 cents per \$100 dollars of assessed valuation and until 1976 the tax rate was usually set at or near the maximum. However in the year preceding passage of Proposition 13, which added Article XIIIa to the California Constitution limiting property tax rates, the rate set in Zone 1A was about one-half the usual rate. This rate became the basis for the post-proposition 13 property tax revenue allocation. As a result, Zone 1A suffered a much larger percentage reduction in revenue under Proposition 13 than most other governmental agencies.

As the pre-Proposition 13 financial reserves within Zone 1A were used up, the Board of Directors requested that a flood control financing study be undertaken. In February 1982 the study was presented to the Board. The study identified four new potential sources of funds for financing flood control services but concluded that only the levying of benefit assessments would permit the continuation of flood control services at anything approaching historical levels.⁶ Following the disastrous flooding of February 1986 the Board initiated the steps necessary to levy benefit assessments, and in November 1986 the electorate within Zone 1A authorized the levying of benefit assessments for a period of ten years. In November 1996 the electorate within Zone 1A extended the authorization for the levying of benefit assessments.

Dry Creek

The earliest known flood control works constructed on Dry Creek were financed by the Dry Creek Flood Control District. This district was formed in 1931. The Dry Creek Flood Control District boundaries encompassed the floor of Dry Creek Valley lying easterly from the centerline of Dry Creek and extending from Mill Street in

⁶ The levying of benefit assessments to finance the operation, maintenance, cost of installation, and improvement of drainage and flood control facilities was authorized by the Benefit Assessment Act of 1982, Chapter 6.1 (commencing with Section 54703), Division 2, Title 5 of the California Government Code.

Healdsburg to a point 1-1/2 miles south of Lambert School. A similar district, known as the West Side Flood Control District, included the west side of Dry Creek Valley.

From time to time these flood control districts would assess the property owners within the district boundaries to finance the construction and repair of levees along Dry Creek. Such levees included the 1,500 foot Scatena levee at Pena Creek, and also the 600 foot Bloch levee located about 2 miles northwest of Healdsburg, the latter having been constructed by the federal Works Progress Administration. In the early years the Federal Agricultural Stabilization and Conservation Service provided assistance in financing erosion control works along Dry Creek. After its formation in 1953, the Sotoyome Soil Conservation District and the U.S. Department of Agriculture Soil Conservation Service provided similar assistance. Later, the Corps of Engineers provided financial assistance through its Public Law 99 program.

In August 1958, the Chief Engineer of the Agency submitted a report to the Board of Directors of the Agency proposing the formation of a flood control zone in Dry Creek Valley, which would have been Zone 6A. Authority for a maximum tax levy of 25 cents per \$100 of assessed valuation was proposed, which at that time would have produced revenue of \$25,000 per year. On December 15, 1958 the Board of Directors adopted a resolution of intention to form Zone 6A. However, in the face of substantial opposition from landowners, proceedings to form Zone 6A were terminated by a resolution of the Board of Directors adopted on February 24, 1959.

The principal flood control facility on Dry Creek is Warm Springs Dam, located at the confluence of Warm Springs Creek and Dry Creek about 14 miles upstream from Healdsburg. Warm Springs Dam forms Lake Sonoma, which began storing water in 1983. Lake Sonoma has a capacity of 381,000 acre-feet at the spillway crest elevation of 495 feet above mean sea level. The drainage area upstream from the dam is about 130 square miles, or 11.4% of the total Russian River basin.

Erosion control projects on Dry Creek were constructed by the Corps of Engineers in conjunction with the Warm Springs Dam Project. The Dry Creek installations were made at 15 different locations. They were constructed under three different contracts completed in August 1981, July 1984 and October 1989.

Three grouted rip-rap sills were constructed across Dry Creek approximately 10 miles downstream from Warm Springs Dam. Rock rip-rap protection was placed on the banks along Dry Creek at seven sites. Five of the sites were within the first two miles below the dam, and the other two sites were at the sills. The total length of the rip-rapped sections was 4,680 feet.

Steel piles with timber planking were constructed at two sites. These were located 1.3 miles below the dam and 5.3 miles below the dam. The total length of these works was 1,600 feet. Also approximately 130 feet of derrick stone toe protection and a low

rock weir structure were constructed four miles below the dam. Finally, grade control structures, concrete weirs, stilling basins and channel protection were constructed at the mouth of Vincennes Creek, 2.5 miles below the dam, and Pena Creek, 3 miles below the dam.

As in the case of the works constructed by the Corps of Engineers on the Russian River, the Agency is responsible for the maintenance and operation of the works on Dry Creek. Fish ladders were installed at the three sills to facilitate fish passage. The fish ladders are Denil type and are provided with a 3-foot resting pool at the downstream end. Each is protected against floating debris by steel pipe trash-racks that must be cleaned regularly.