WATERMASTER'S REPORT

RIO CHAMA MAINSTREAM

2009

Stermon M. Wells
Rio Chama Watermaster

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
Santa Fe

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December 22, 2009

Mr. John R. D'Antonio, Jr., P.E.
New Mexico State Engineer
Concha O. Pino Building
Santa Fe, NM

Dear Mr. D'Antonio,

I am pleased to submit the following report of our activities on the Rio Chama during the 2009 irrigation season, which included water measurement, recording and accounting, as well as the study of various water right matters, and meetings with water users in the area.

Acequia diversion gauges on the Rio Chama were read and maintained as necessary, velocity measurements made, and rates of flow were calculated, resulting in the diversion data summarized in this report.

Thank you for your continued support, and please contact me with any questions that may occur to you after reading this report. I hope it meets with your approval.

Sincerely,

Stermon M. Buck Wells
Rio Chama Watermaster

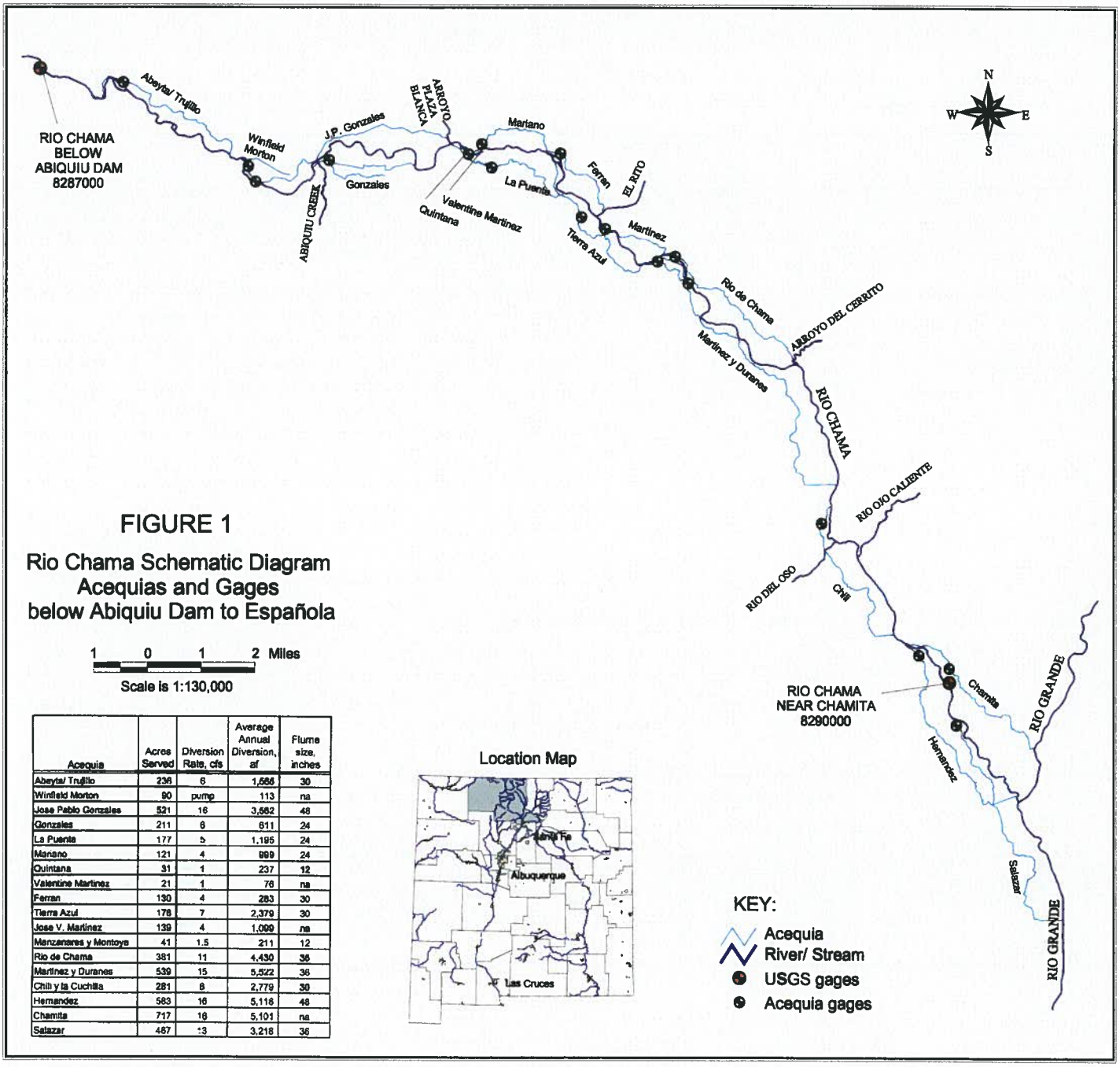

FIGURE 1

Rio Chama Schematic Diagram Acequias and Gages below Abiquiu Dam to Española

1 0 1 2 Miles

Scale is 1:130,000

Acequia	Acres Served	Diversion Rate, cfs	Average Annual Diversion, af	Flume size, inches
Abeyta/ Trujillo	236	6	1,566	30
Winfield Morton	90	pump	113	na
Jose Pablo Gonzales	521	16	3,562	48
Gonzales	211	8	611	24
La Puente	177	5	1,195	24
Mariano	121	4	999	24
Quintana	31	1	237	12
Valentine Martinez	21	1	76	na
Ferran	130	4	283	30
Tierra Azul	176	7	2,379	30
Jose V. Martinez	139	4	1,099	na
Manzanares y Montoya	41	1.5	211	12
Rio de Chama	381	11	4,430	36
Martinez y Duranes	539	15	5,522	36
Chili y la Cuchilla	281	8	2,779	30
Hernandez	583	16	5,116	48
Chamita	717	16	5,101	na
Salazar	467	13	3,218	36

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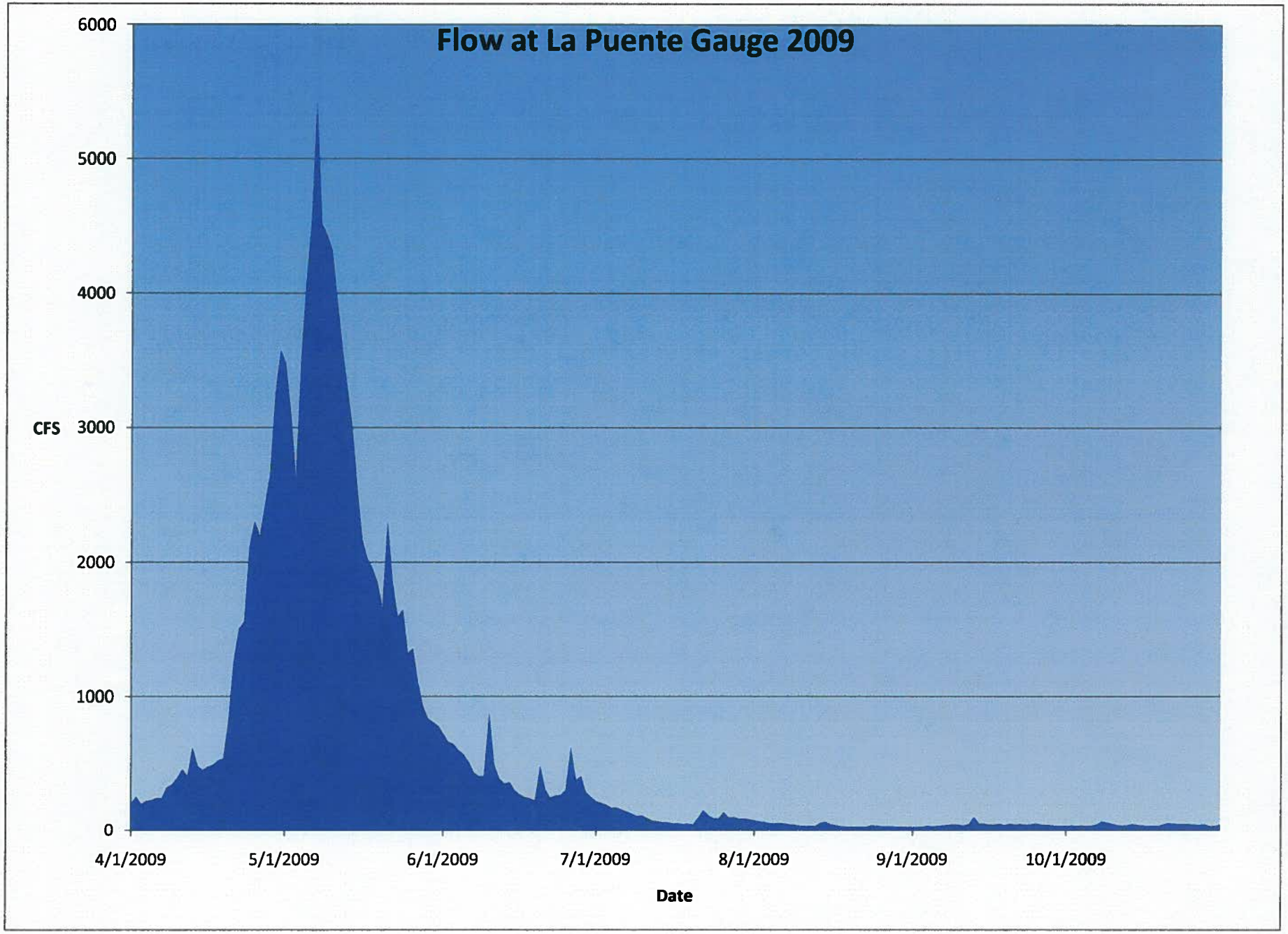

Flow at La Puente Gauge 2009
6000
5000
4000
3000
2000
1000
0
CFS
4/1/2009
5/1/2009
6/1/2009
7/1/2009
8/1/2009
9/1/2009
10/1/2009
Date

INTRODUCTION

The San Juan-Chama (SJC) Project was authorized by Congress in 1962 by Public Law 87-483. The SJC Project diverts flow from the Rio Blanco, the Little Navajo River and the Navajo River, tributaries of the upper San Juan River in Colorado, and delivers the water via a series of tunnels bored through the mountains, to Willow Creek, a tributary of the Rio Chama. Willow Creek discharges into Heron Reservoir, which is authorized to store San Juan-Chama Project waters only. All native flows on Willow Creek must be passed through the reservoir into the Rio Chama.

SJC water released from Heron Reservoir is carried by the Rio Chama for delivery to the Rio Grande. Along the reach of the Rio Chama from El Vado to its confluence with the Rio Grande there are twenty legal acequia diversions having the natural flow of the mainstream of the Rio Chama as their source.

To prevent unauthorized use of imported water by the Rio Chama diversions, water rights under the twenty acequias in the lower Rio Chama Valley are adjudicated in the Partial Final Judgment and Decree entered in the United States District Court, State of New Mexico, ex rel., S.E. Reynolds v. Roman Aragon, et al., Cause No. 7941, for the Rio Chama Mainstream Section. The appointment of a Rio Chama Watermaster for the administration and enforcement of the Decree was made on July 26, 1971. By letter dated May 23, 1972, the State Engineer instructed the Rio Chama Watermaster to take such measures as may be necessary to prevent diversion by appropriators from the Rio Chama of waters released from El Vado Reservoir pursuant to contract.

AUTHORITY

The Rio Chama Watermaster serves under the direction of the State Engineer and under the general supervision of the United States District Court in accordance with the Partial Final Judgment and Decree No. 7941, adjudication of the Rio Chama Mainstream Section. The Rio Chama Watermaster was appointed Watermaster of the El Rito Section on June 25, 1973. A copy of these decrees and other authority can be found in the 1971, 1972, and 1973 Rio Chama Watermaster Reports.

Mr. George Shaw, the previous Rio Chama Watermaster, developed and filed additional Watermaster Rules and Regulations governing the administration of the Rio Chama adjudication in the U.S. District Court for New Mexico. These Watermaster Rules and Regulations were issued pursuant to paragraph 9 of the original Partial Final Judgment and Decree of the Court. The additional eight articles were approved by the State Engineer and the Court, dated May 30, 1972.

Mr. Shaw retired at the end of the 1996 irrigation season, and Mr. Stermon Wells assumed the duties of the position in May, 1997. At this time, the 1972 Watermaster Rules and Regulations

remain in effect. Copies may be obtained from Legal Services Division, Office of the State Engineer.

GENERAL PHYSIOGRAPHIC, CLIMATIC, AND PRECIPITATION INFORMATION

The Rio Chama mainstream section flows 32 miles from the base of Abiquiu Dam to its confluence with the Rio Grande. Along the way it is joined by flows from Abiquiu Creek, El Rito Creek, Rio del Oso, and the Rio Ojo Caliente. This stretch of the Rio Chama arises as a controlled discharge from Abiquiu Dam, a 325 foot high dam completed in 1963 by the U.S. Army Corps of Engineers for flood and sediment control. The reservoir formed by the dam receives runoff from a 2,146 square mile mountainous watershed along with additional diverted water from the SJC Project. This stretch of the Rio Chama cuts through the southeastern extension of the Colorado Plateau between the Chama basin to the northwest and the Rio Grande basin to the southeast. This section of the plateau consists of high mesas intricately dissected by the Rio Chama and its tributaries. Major geologic formations outcropping in this area are the Ojo Caliente sandstone, Abiquiu tuff and Lobato basalt.

The area surrounding this reach of the Rio Chama is characterized as sub-humid, with an average annual precipitation amounting to about 9.5 inches. Approximately 60 percent of the average yearly precipitation along the watercourse falls during the period from July through October in the form of brief but occasionally heavy thunderstorms, sometimes containing large hailstones.

Temperatures at Abiquiu Dam are moderately cool with a mean temperature of about 70 F degrees in the summer and 30 F degrees in the winter. Daytime winter temperatures range from the mid 30's to the mid 40's with an average of only seven days per year with high temperatures below the freezing mark. Mean average snowfall is 14.4 inches. Daytime summer temperatures range from the lower 70s to the mid 80s with an average of 21 days per year when temperatures exceed 90 F. Temperatures at the village of Ojo Caliente, only 165 feet higher in elevation than Abiquiu Dam, are also moderately cool and slightly lower than at the dam. The average annual precipitation at Ojo Caliente is 10.0 inches and mean snowfall is 22.5 inches.

The Rio Chama drops an average of 13.1 feet per mile from the base of Abiquiu Dam to the confluence with the Rio Grande. The Rio Ojo Caliente drops an average of 28.3 feet per mile from the village of Ojo Caliente to the confluence with the Rio Chama. The mile of Abiquiu Creek prior to its confluence with the Rio Chama drops 180 feet in elevation. The mile of El Rito Creek before its confluence with the Rio Chama drops 50 feet in elevation. The Rio del Oso is intermittent, but usually carries some flow during the early Spring of the year. The inflow of these tributary streams is not yet gauged.

PRECIPITATION – 2009 Irrigation Season

The following monthly and season total precipitation data was recorded at Abiquiu Dam showing the precipitation received there during the year 2009 irrigation season:

APRIL ----------0.78"

MAY ----------1.29"

JUNE ---------- 2.67"

JULY ----------2.89"

AUGUST ----------1.14"

SEPTEMBER ---------- 1.04"

OCTOBER ---------- 1.23"

2009 IRRIGATION SEASON TOTAL ---------- 11.04"

Precipitation during the seven months of the 2009 irrigation season was good, and considered very good in comparision with the amount that was received last season. Precipitation of 9.5" to 10.0" is considered to be an average annual precipitation value for Abiquiu Dam.

The total amount recorded during the 2009 irrigation season was 11.04" showing that a better than average amount of precipitation was received. Water supply was good, due to a high Spring runoff season, and water supply during the 2009 irrigation season was considered to be pretty good overall. Good rainfall amount during June was especially helpful.

Ms. Christina Serrano of the U.S. Army Corps of Engineers is stationed at Abiquiu Dam, and provides precipitation data recorded at the reservoir. Our thanks to Christina for maintaining these records.

2009 SEASON NARRATIVE

During the 2009 irrigation season, water supply was monitored by staff in our agency. Water supply was considered adequate during most of the season, and no problems resulted from lack of water supply until the last month of the season. No drought advisory materials were mailed to our water users this year.

In terms of the administration of water rights on the Rio Chama, good communication was maintained between the water users, ditch officials, and agency personnel. Meetings were held with acequia commissioners, and also between commissioners, and agency personnel before during and after the 2009 irrigation season.

Due to previous agreements reached in regard to release of water stored in Abiquiu Reservoir, priority administration did not become necessary during the driest part of the summer. Various water regulation issues were addressed by our Office with good results.

Water Supply

Water supply during the year 2009 irrigation season was considered adequate, in terms of availability of native water. A great deal of water was diverted for irrigation throughout the season with some relief in the form of precipitation. When depletion calculations due to last season's irrigation in the lower Chama valley are finalized, any calculated net depletion to San Juan-Chama Project water will have to be repaid from the Rio Chama Acequia Association's SJC water, which is stored pursuant to contract in Abiquiu Reservoir.

The irrigation season on the Rio Chama starts on the 1st of April and ends on the 31st of October. The Spring release from Abiquiu Reservoir can be high during the snowmelt runoff and some releases from the reservoir were made at the maximum safe channel capacity (currently defined by the Corps of Engineers as 1,800 cfs) in the spring of 2009. The irrigation district below Abiquiu Reservoir was monitored for problems that might occur due to the high release. No problems were reported or observed. Care was taken during the balance of the season to pass inflow as not to cause detriment to agricultural irrigation rights in the district below Abiquiu, as well as to water users further downriver.

Tributary inflow from El Rio del Ojo Caliente, El Rito Colorado, El Rio del Oso and other small tributaries is normally a big help to the Rio Chama acequias, since this all adds to the supply that is available for diversion by the direct flow irrigators in the lower Rio Chama valley. This year, tributary inflow, though it is not yet gauged, was observed to be strong in the early Spring, although some areas remained somewhat dry throughout most of the season.

Throughout the year 2009 irrigation season, agency personnel monitored the water supply situation closely, performing the required supply calculations as needed. Mr. Eric Keyes of the OSE Hydrology Bureau had charge of this task for the 2009 irrigation season.

The hydrograph of the water supply for the 2009 season, as recorded at La Puente, is included for reference in this report. This is done every year, and seems to be a good basis of comparison for available supply in the Rio Chama each year, or from one year to another.

Meetings

We have met with various acequia and MDWCA groups in the Rio Chama area during the 2009 irrigation season to address their concerns and water right issues. Some of the meetings have been requested by members of our agency to discuss filing deficiencies, lack of meter readings, or other issues. These have been cooperative meetings with generally positive results.

Other meetings were also held with staff members from OSE and ISC in attendance, to address planning for future infrastructure improvements to our water measurement program, both on the Rio Chama below Abiquiu Reservoir, and throughout the upper Rio Chama basin. These meetings addressed a variety of concerns, and have also discussed possible plans for funding the gauging station improvement work that will be necessary. As a result of the meetings that explored these topics, we are including with this year's report a summary of the condition of headworks and measurement stations on each ditch, showing the type of instrumentation that is currently located on each station. Discussion of improving station condition and implementation of real time data collection will continue in the future.

In the absence of actual gauge data at some of these ungauged locations, it is necessary to estimate seasonal total diversions from the Rio Chama based on the Watermaster's field notes.

Rio Chama Flow Data

Daily streamflow hydrographs for the Rio Chama are routinely obtained by direct download from the USGS website. By submitting an electronic data request, other hydrologic information can be obtained from the same source.

During the year 2009 irrigation season, Mr. Eric Keyes of the Office of the State Engineer, Hydrology Bureau, and other staff members of the Interstate Stream Commission have used river flow data from USGS to calculate estimated depletions to the river. This information has also been provided to the Rio Chama Watermaster.

The Rio Chama Watermaster conducted water measurement and did the usual data collection work this season, and also prepared hydrographs that show the diversion of water to the acequias in the irrigation district below Abiquiu Reservoir. Some of the results are included in this report.

Year 2009 irrigation season data used here is provisional data, subject to future revision or interpretation if additional or better information becomes available.

Equipment

Ten electronic data collection instruments were installed in our stations at the beginning of the year 2001 irrigation season, and 8 of these units were still in use during the 2009 irrigation season. These units, designated H-510 water level loggers, are capable of recording water flow data in a variety of modes, and the recorded data is summarized in this year's report. The H-510 units are also readily amenable to upgrade to real time data collection, but do need to be connected to a communication network in order to make operation in that mode possible. Some data has in past seasons been lost due to low battery conditions on the stations, and we plan to correct that situation in the future. It is advisable to fit these stations with solar battery charging panels if that will be possible in the future, as most data loss occurs at low battery condition and is somewhat unavoidable at our current level of development.

This year we had good data capture on the stations that were equipped with dataloggers. One of the ten instruments in our possession malfunctioned and must be returned to the shop for repair. Electrical short circuit due to lightning strike is suspected as the cause of malfunction. The other instruments functioned well, but do occasionally produce erratic data capture for unknown reasons. Diversion information from other diversions in the Rio Chama valley is averaged and projected for an estimated diversion figure, which is based on observed rates of flow during site visits by the Watermaster.

Our plan for the future is to actively continue to upgrade our water measurement program by installing additional electronic water level monitoring equipment on the Rio Chama acequia diversions in Section 1, and also in appropriate locations in the upper Rio Chama basin. The Rio Chama Watermaster and other staff members will be working together to specify, purchase, and install such equipment and all necessary appurtenances, as funding for the project becomes available.

Enforcement

In accordance with the Office of the State Engineer's stated policy of Active Water Resource Management (AWRM), and the Rio Chama Court Decrees, the Watermaster has taken a hands on approach to water conservation during the 2009 irrigation season on the Rio Chama. Measurements have been made, data collected, and headgates adjusted when necessary. Whenever possible, acequia commissioners have been contacted via telephone prior to headgate adjustment, and if contact is not obtained, they have been notified by certified mail of these actions.

A few violations of the State Engineer's Rules and Regulations were reported and addressed in the course of the 2009 irrigation season. Enforcement issues receiving attention from our staff include overdiversion to the maximum allowable rates of flow, and unlawful appropriation of natural spring waters. Enforcement on some of these issues will be probably be more effective in the future as the adjudication of the Rio Chama basin proceeds, and also as our diversion data becomes more accurate. Waste of water was prevented to the best of our abilities.

At every opportunity, we are informing Commissioners and Mayordomos on the Rio Chama to take an active part in water conservation, and also to report any suspicious activities at the

measurement stations. We also continue to present the idea that the acequia water users have responsibility by New Mexico statute law for the maintenance and upkeep of these stations and equipment. Water users are encouraged to take more personal responsibility for their water usage, reporting, and conservation.

Conservation

Additional conservation of water is a worthwhile goal, and much to be desired along the Rio Chama. We will map points of return flow of water that is diverted by the Rio Chama acequias, and eventually implement measurement of such return flows to the river system in order to more equitably estimate depletions. Mr. Shaw has stated on many occasions in the past that it is his impression that return flow to the river is quite a large percentage of total diversions. In meeting with Rio Chama water users we continue to urge conservation of water whenever possible.

Conservation language is employed in every case by the Rio Chama Watermaster, both in correspondence with water users and with applicants for State Engineer permits.

Acknowledgement

Much of the information presented in this report is relayed from other sources. We would like to give general thanks to those who have freely shared their time and information with us this past season.

Special thanks to Christina Serrano, of Abiquiu Reservoir, for maintaining precipitation records.

ADMINISTRATION

Rate of Flow Administration

In Mr. Shaw's 1996 Annual Report he states that farm delivery requirements, conveyance losses, stock and domestic requirements and sand sluicing requirements were considered in establishing the maximum allowable rate of flow for each of the permitted acequia diversions on the Rio Chama. Maximum allowable water levels are clearly marked at all gauge locations in the irrigation district below Abiquiu Reservoir.

The maximum rates of flow developed in the past by Mr. Shaw and other staff members of the Office of the New Mexico State Engineer have remained in force on the Rio Chama for 38 years. We will continue to use these rates for maximum allowable flows to the acequias in the future, until such time that they may need to be modified for any reason.

The Rio Chama acequias will operate under the Rate of Flow Administration at all times except when ordered under the Priority Administration. The following table shows the acreage served by each acequia, and lists the maximum approved rate of flow for that diversion.

RIO CHAMA ACEQUIAS
RATE OF FLOW ADMINISTRATION

Ditches listed in order from upstream to downstream:

Name	Diversion Rate (cfs)	Acres Served
Scull Ranch	pump-(not determined)	294.70 seasonal in the Spring only
Monastery	1.0	13.7
Abeyta-Trujillo	6.0	236.25
Winfield-Morton	abandoned, not in use	
Jose Pablo Gonzales	16.0	521.42
Gonzales	6.0	211.15
La Puente	5.0	177.03
Quintana	1.0	30.87
Valentine Martinez	1.0	20.82
Mariano	4.0	121.09
Ferran	4.0	130.38
Tierra Azul	7.0	175.99
J.V. Martinez	4.0	138.71
Manzanares y Montoya	1.5	40.61
Rio de Chama	11.0	380.84
Martinez y Garcia	15.0	538.91
Chili	8.0	281.11
Chamita	18.0	716.54
Hernandez	16.0	583.34
Salazar	13.0	467.27

Note: The points of diversion for the Acequia Martinez and the Acequia Duranes were combined several years ago, therefore only 20 points of diversion are shown here. The Commissioners informed me in year 2006 that the name of this acequia was officially changed to the Acequia Martinez y Garcia, which has not been formally verified. The pump at Scull Ranch was used during the first part of the Year 2009 season, but not at any continuous authorized rate of flow, therefore no rate is shown here. This water is used by USFS in the Spring season for rangeland beneficiation only. The pump at Winfield-Morton is inactive and is abandoned. A new and much smaller pump was installed by the current permitee at the beginning of the 2007 season, pursuant to permit, serving only a few acres.

Priority Administration

The Rio Chama acequias have historically been ordered by the Watermaster from the Rate of Flow Administration to the Priority Administration when the calculated available natural flow of the Rio Chama at La Puente Gauge decreases below 140 cubic feet per second. At this stage of flow, possibility exists that shortages may be imminent, and the natural flow of the Rio Chama may not be sufficient to satisfy all legal diversions along the Mainstream section. Priority Administration was not called for during the 2009 irrigation season on the lower Rio Chama, despite the fact that the La Puente Gauge was quite low in the later part of the season. The matter was under discussion with senior staff at the time, but no action was ordered at that time.

The Priority Administration is necessary to satisfy the irrigation requirements of diversions having earlier priorities and to by-pass upstream storage releases from Heron and El Vado Reservoirs. During the 2009 irrigation season the Priority Administration was not deemed to be necessary due to the acequias' use of water stored in Abiquiu Reservoir, pursuant to contract with City of Albuquerque, and authorized by permit of the Office of the State Engineer. The details related to the accounting and release of this stored water fall under the jurisdiction and management of the State Engineer's Water Rights Division, and also the New Mexico Interstate Stream Commission. This file, Surface Permit # SP-4901, related to general depletions to project water, is now managed by Eric Keyes and Mr. Kevin Flanigan.

All orders to individual acequias are issued in writing by the Watermaster if and when restrictions become necessary, as required in Article 1-9 of the Watermaster's Rules and Regulations. A correspondence file maintained by the Rio Chama Watermaster includes all such orders, as well as documents that support these decisions, and the history of each year's administrative actions, in chronological order as they occurred.

Priority dates in Section 1 of the Rio Chama were revised for the 2006 report, and used again this year, based on historical studies performed by Dr. John Baxter, PhD., and summarized in his book "Irrigation in the Rio Chama Valley". The general effect of the revision has been to recognize earlier priority dates for the lower Rio Chama acequias than were previously contained in OSE water right files. The dates shown below are a summary of information that has been provided to the Watermaster. A court motion was filed seeking to finalize the new dates, however to my knowledge, final order has not been received.

When it is necessary to restrict diversions of the natural flow of the Rio Chama in order to by-pass storage releases, the following priority dates will be used to determine seniority.

REVISED PRIORITY DATES FOR RIO CHAMA ACEQUIAS:
As of December 1, 2005

Scull Ranch Pump	1/26/1948 (from WATERS database)
Winfield Morten Pump	not used, abandoned
Monastery Pump	5/1/1904 (per Declaration 01821)
Acequia de Abeyta y Trujillo	1735 (State's Motion filed June 2003)
Acequia de Jose V. Martinez	1735 "
Acequia Mariano	1734 "
Acequia Valentin Martinez	1734 "
Acequia de la Puente	1734 "
Acequia de Quintana	1734 "
Acequia de la Tierra Azul	1734 "
Acequia de Jose Ferran	1734 "
Acequia de Jose Pablo Gonzales	1734 "
Acequia de los Gonzales	1734 "
Acequia del Rio de Chama	1724 "
Acequia de los Duranes	1724 "
Acequia de Manzanares y Montoya	1724 "
Acequia de los Martinez y Garcias	1724 "
Acequia de Chili y la Cuchilla	1715 "
Acequia de Chamita	1714 "
Acequia de los Salazares	1714 "
Acequia de Hernandez	1714 "

Note: The diversions at Winfield Morton, Monastery of Christ, and Scull Ranch are pumps lifting water directly from the river. The rest of the diversions listed are community ditches that intake water from the river by diversion dam and/or headworks.

Section 1: Rio Chama Acequia or Point of Diversion	2009 Summary of Diversion in Acre-Feet	Authorized Diversion (Authorized Rate of Flow x 214 Days in Irrigation Season x 1.98 ac-ft/cfs/day)	Adjudicated Amount (Acreage on acequia x Duty of 3.0 ac-ft per annum)
Salazar	4,850e	5508	1402
Chamita	6,759	7627	2150
Hernandez	6,970	6780	1750
Chili	3,300e	3390	843
Martinez y Garcia	4,364	6356	1617
Rio de Chama	3,600e	4661	1143
Manzanares y Montoya	440e	636	122
Jose Valentin Martinez	1,150e	1695	416
Tierra Azul	1,250e	2966	528
Ferran	comb.w/Mariano	1695	391
Mariano	2,844	1695	363
La Puente	840e	2119	531
Quintana	190e	424	93
Val. Martinez	110e	424	62
Gonzales	380e	2542	633
Jose Pablo Gonzales	5,588	6780	1564
Abeyta Trujillo	1,514	2542	709
Total:	**44,149 ac-ft**	**58,262 ac-ft**	**15,537 ac-ft**

RIO CHAMA ACEQUIA MEASUREMENT STATIONS BELOW ABIQUIU DAM
CURRENT STATUS OF MEASUREMENT EQUIPMENT AND CONDITION OF HEADWORKS
As of 10/31/2009, the end of the 2009 Season

Note: A status report on the measurement stations and equipment in use on the Rio Chama normally accompanies the Watermaster's annual report.

ABEYTA / TRUJILLO 08287020
H-510 on station, needs radio and battery charging equipment in order to upgrade to real time data collection. Parshall flume is in serviceable condition. Headworks are in fair condition.

WINFIELD MORTON 08287040
No station is currently located at Winfield Morten pump. There is only one permittee currently irrigating at this location, with a metered diversion, and previously existing works have been long abandoned.

JOSE PABLO GONZALES 08287060
H-510 on station, needs radio and battery charging equipment. Parshall flume is in serviceable condition.

GONZALES 08287150
A-71 on station; Headworks are collapsed. Measuring station and headworks need to be completely rebuilt. This station is abandoned at this time.

LA PUENTE 08287200
H-510 on station needs repair, it is broken. Station also needs radio and battery charging equipment. Parshall flume is in poor condition. Headworks are in poor condition, and in need of renovation. Needs complete overhaul.

QUINTANA 08287250
No instrument on station, needs a new equipment enclosure, and complete equipment upgrade. Radio and battery charging equipment are needed. Local ditch association previously requested that the existing 1' flume and measurement station be relocated. Headworks are in satisfactory condition at this time.

VALENTINE MARTINEZ 08287270
No measurement instrument is on station at this time. Diversion is rarely used, but is equipped with a 1 foot wide Parshall flume, which is in fair condition. A new equipment enclosure, stilling well, radio equipment and battery charging equipment will also be needed. Headworks are in satisfactory condition at this time.

MARIANO 08287300
H-510 and 28 AH battery on station, needs radio and battery charging equipment. Parshall flume is in serviceable condition. Headworks are in poor condition and should be renovated. The diversion structure and gauge also provides water to a lower ditch, the Ferran.

FERRAN 08287400
Not equipped with data recorder. This ditch has recently been reactivated by informal agreement to use the tailwater from an upper ditch, the Mariano. The Ferran diversion dam washed away many years ago, and has not been rebuilt. Diversion dam may possibly be replaced in the future; at that time a new station would be needed.

TIERRA AZUL 08287600
Not equipped. The original stilling well and equipment enclosure built in 1971 are badly damaged. The headworks are also in very poor condition. Both headworks and measurement station need to be re-built.

JOSE V MARTINEZ 08288050
Not equipped. Station has been destroyed by vandalism, and flume has been removed. Measuring station needs to be completely replaced. Headworks at POD were rebuilt by water users in 2000. Headworks are in serviceable condition.

MANZANARES Y MONTOYA 08288100
Not currently equipped with instrumentation. Parshall flume with 1 foot wide throat is in serviceable condition, however, the entire measurement station should be replaced with new equipment in order to make upgrade to real time data collection. Headworks are in serviceable condition.

RIO DE CHAMA 08288150
Entire station was relocated and rebuilt with surplus materials and equipped with an H-510 unit prior to the beginning of the 2003 season. Station is not very accurate. Headworks are in serviceable condition, but in need of some repair and stabilization.

MARTINEZ Y DURANES 08288200
H-510 unit on station. Radio and battery charging equipment needed. Existing Parshall flume is in very poor condition and needs to be replaced. Headworks are in fair to poor condition, and complete renovation is recommended.

CHILI 08288300
H-510 unit on station. Radio and battery charging equipment needed. Parshall flume is in serviceable condition. Headworks are in serviceable condition.

CHAMITA 08289500
#1- not equipped, inactive, this station has been removed due to Corps of Engineer Project work, and replacement is not anticipated.
#2- H-510 and 28 AH battery on station, radio and battery charging equipment are needed. Headworks are in serviceable condition.

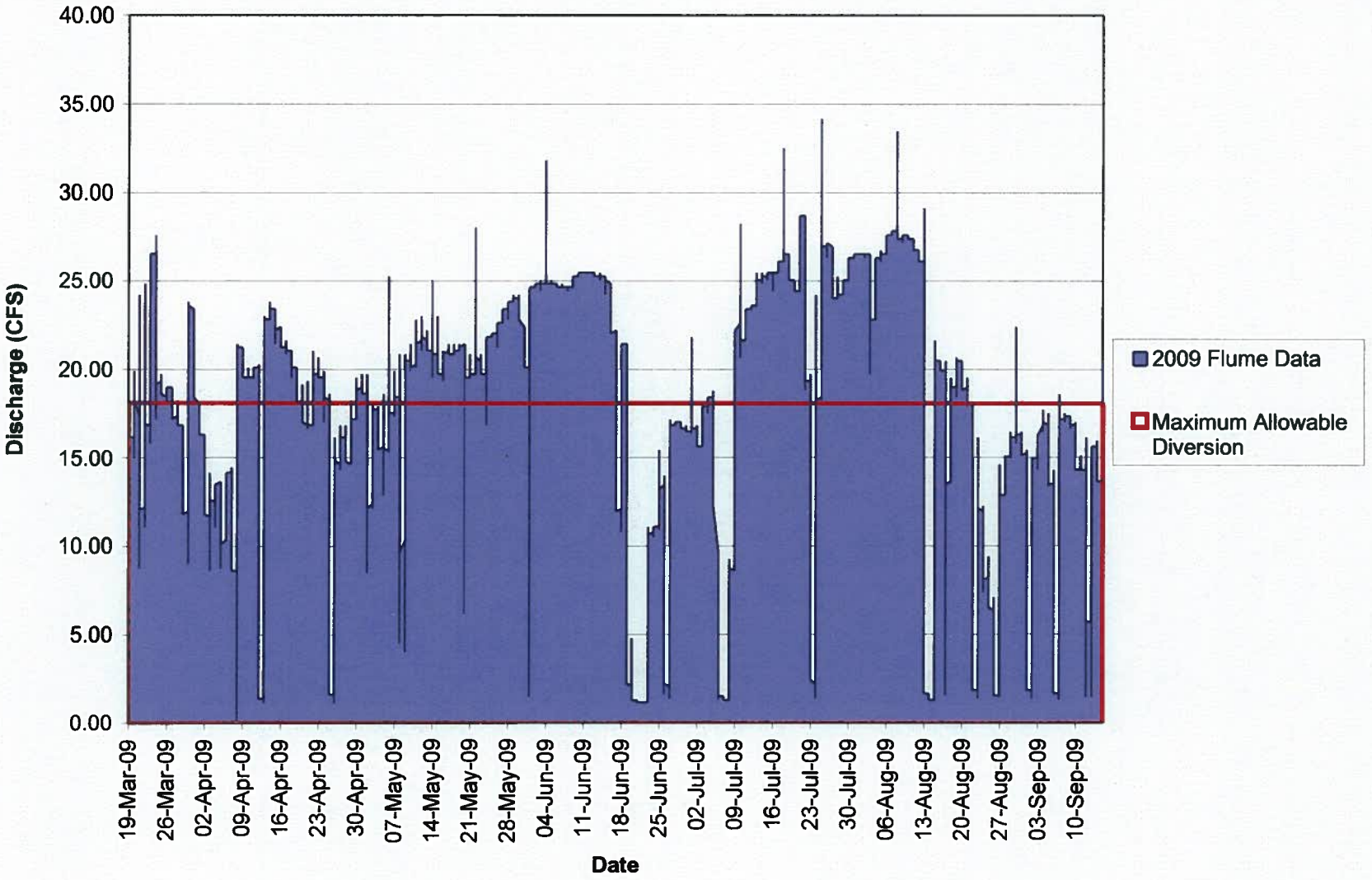
HERNANDEZ 08289800
H-510 is on station. Radio and battery charging equipment are needed. Headworks and flume are in serviceable condition.

SALAZAR 08290100
This station was completely rebuilt by OSE early in Season 2009. Measurement station is now in excellent condition, and the headworks still need repair or replacement. A OSE standard ditch agreement has been signed by the Commissioners of the Salazar Ditch, headworks replacement has been discussed, station replacement is complete and no headworks replacement project has so far has been agreed upon or taken place. Flume is new and station is in good condition.

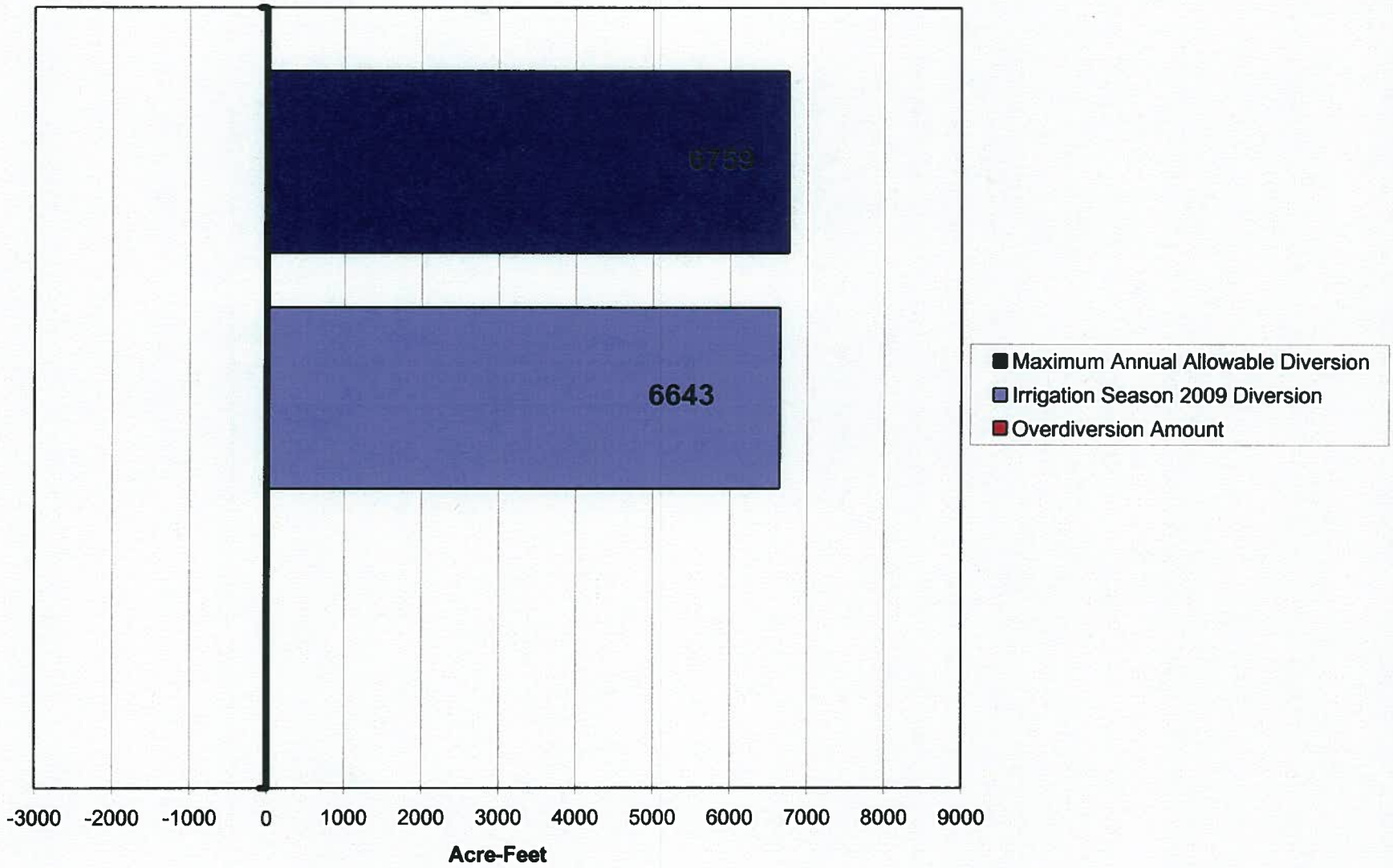
2009 IRRIGATION SEASON

GRAPHS AND DATA

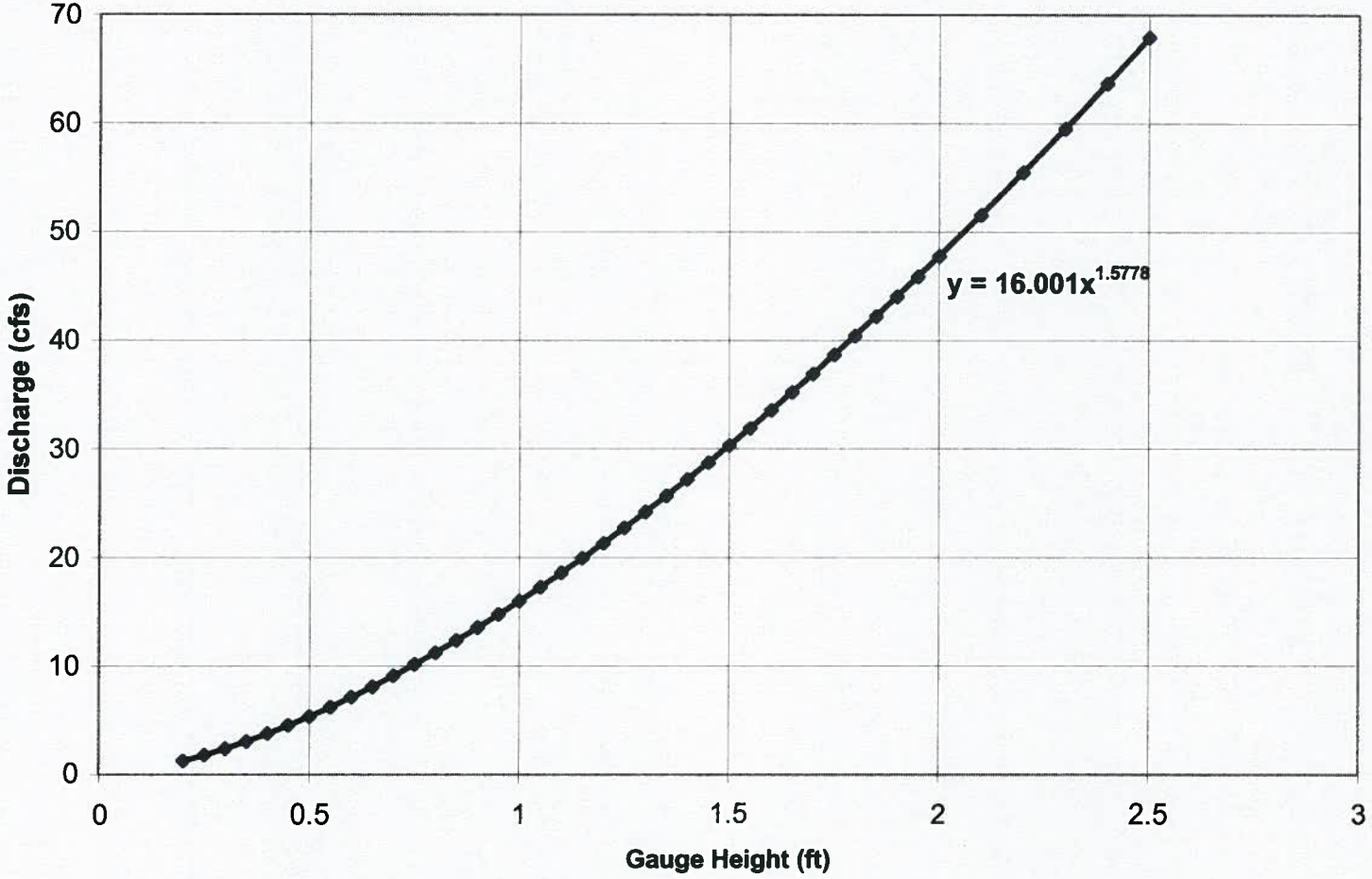
Acequia Chamita Hydrograph -2009



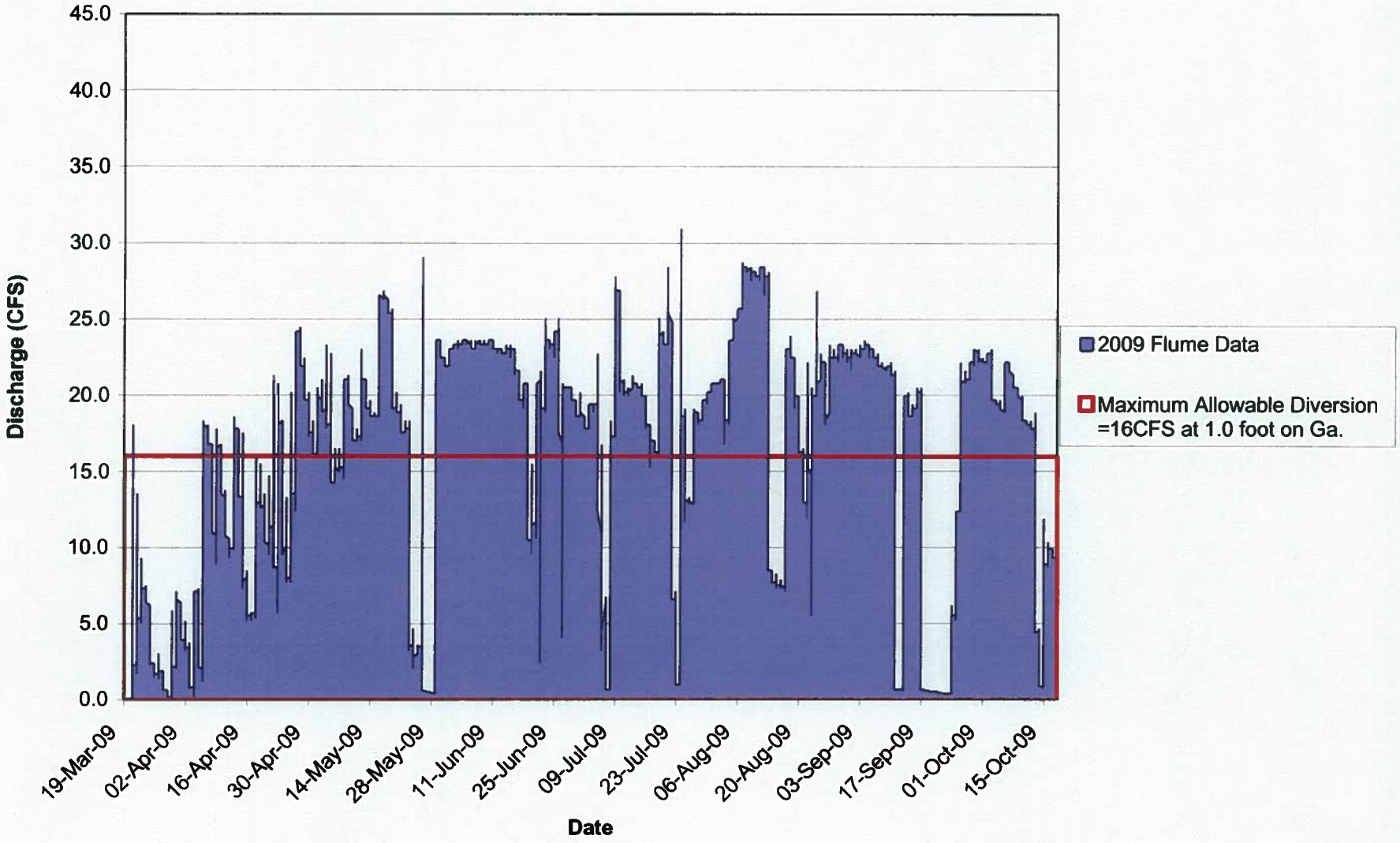
Acequia Chamita Diversion Volume



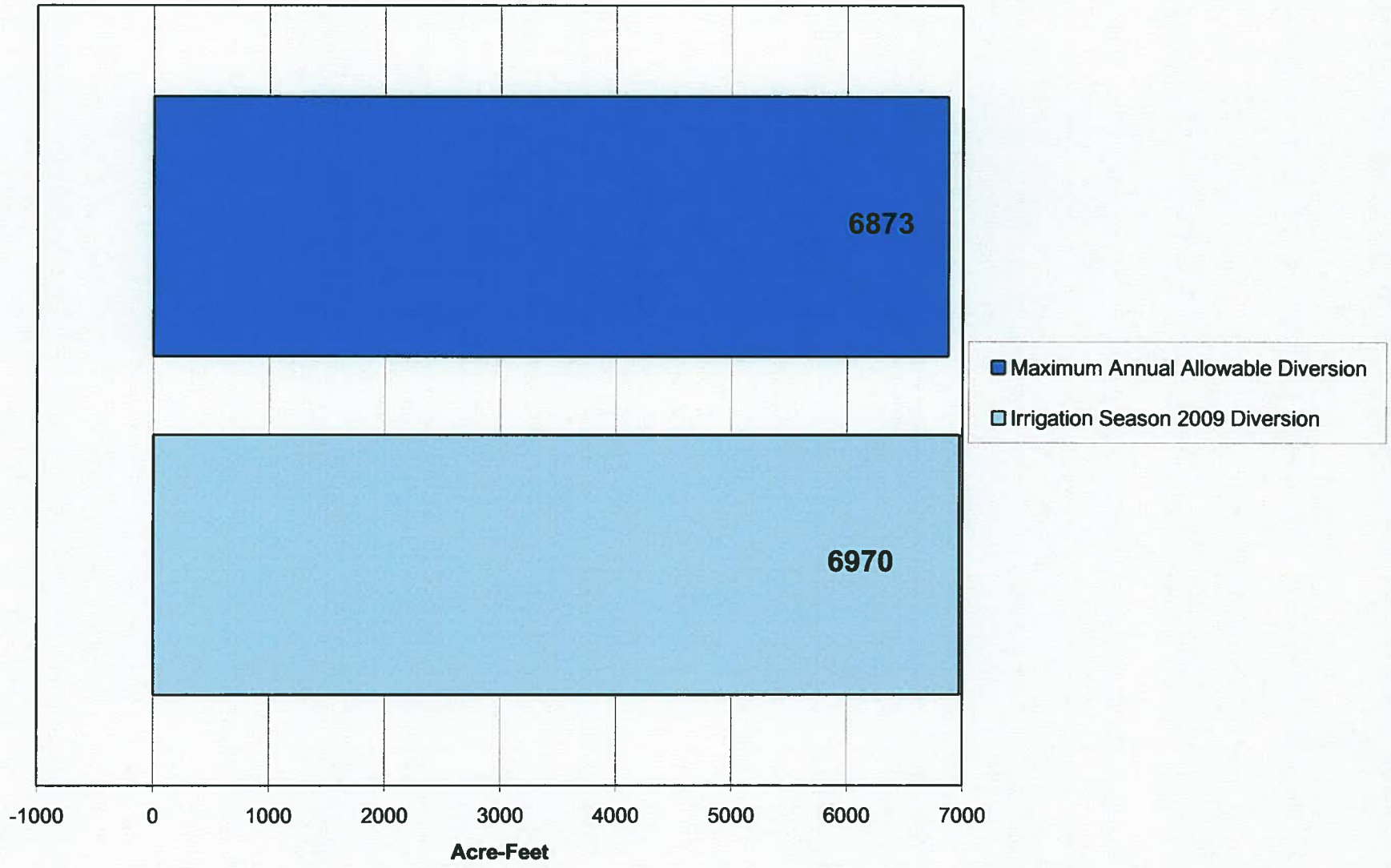
Rating Curve for Hernandez Ditch

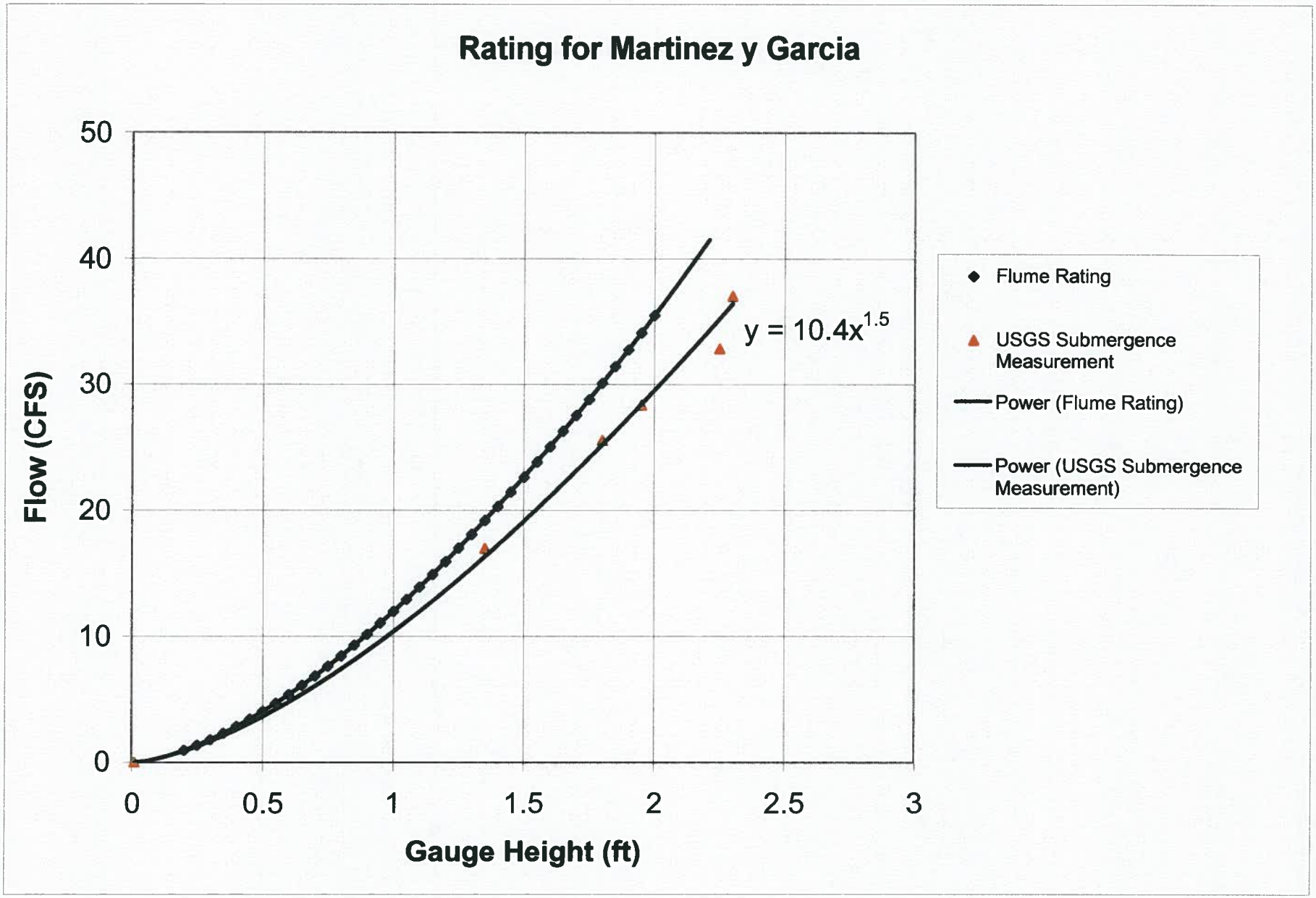


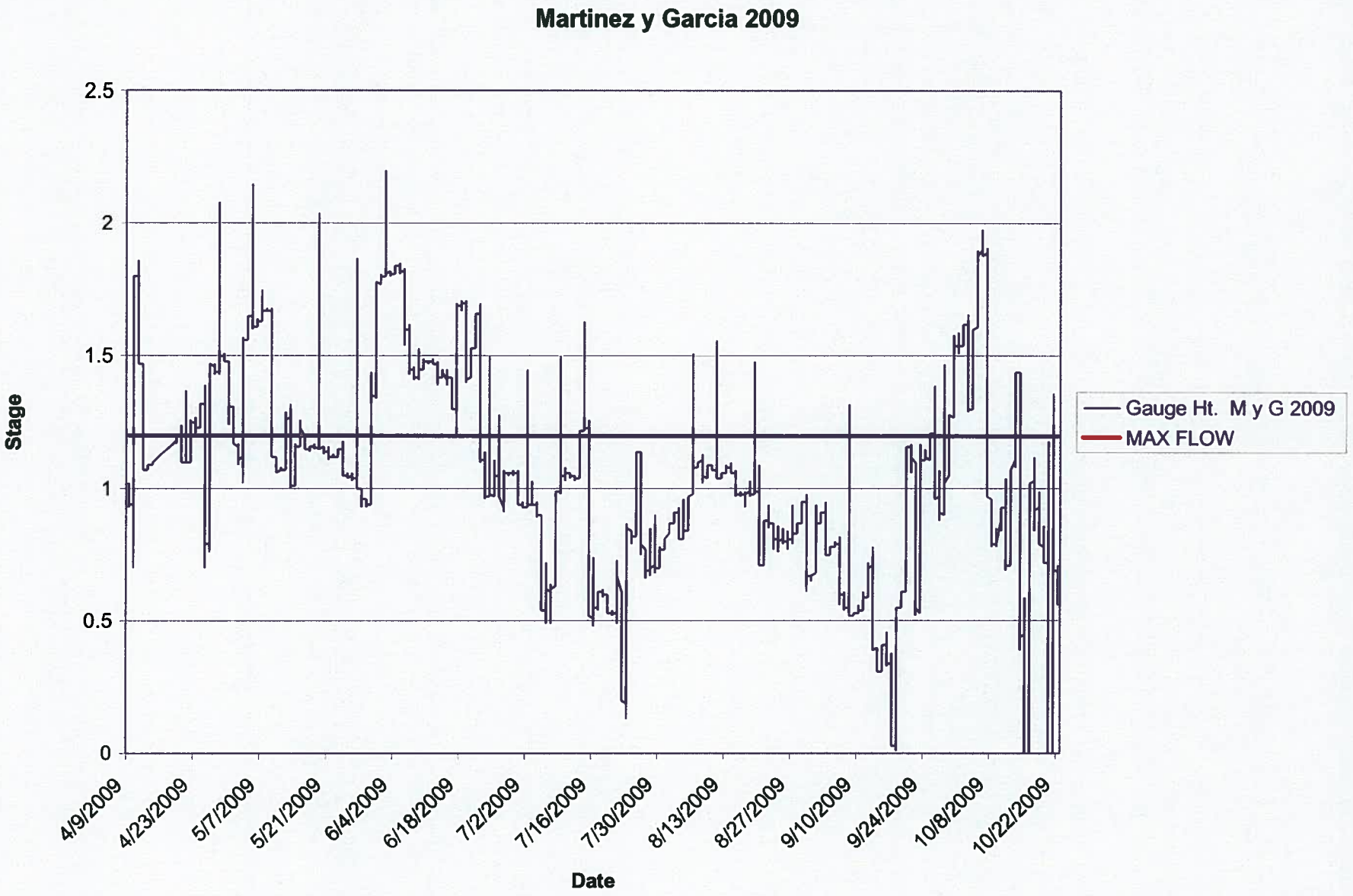
Acequia de Hernandez Hydrograph 2009

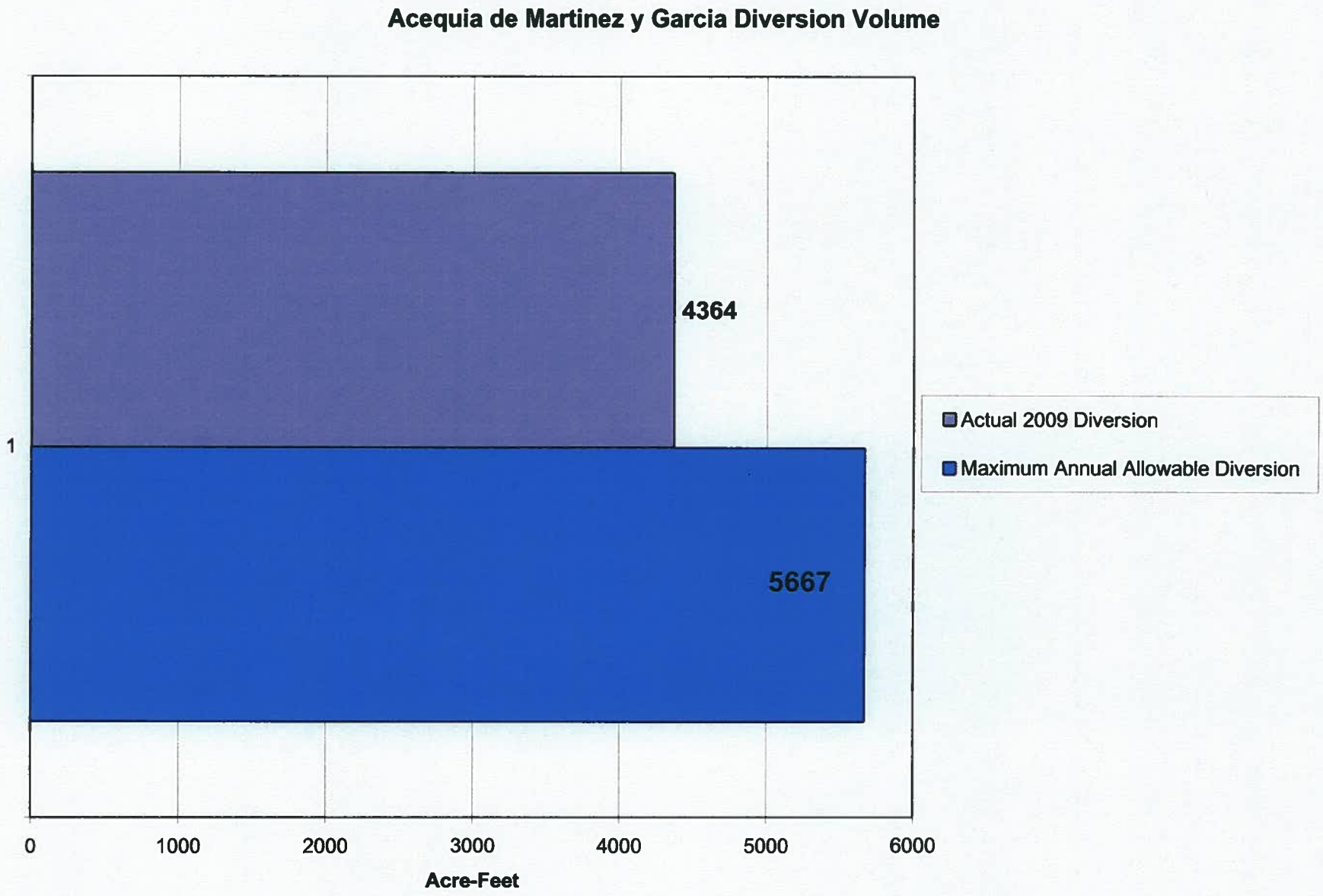


Acequia de Hernandez 2009 Diversion Volume

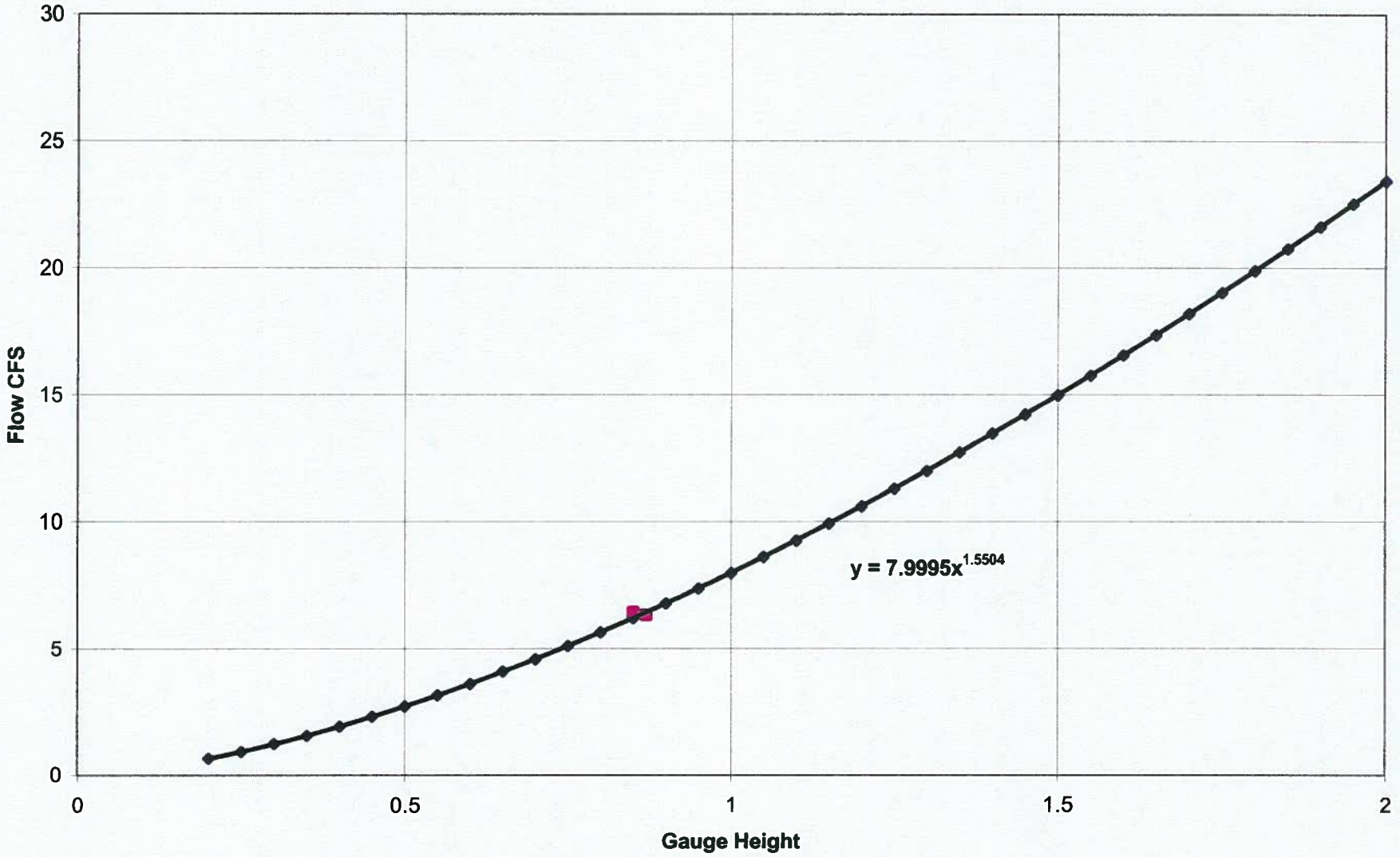



Rating for Martinez y Garcia
Flow (CFS)
50
40
30
20
10
0
0
0.5
1
1.5
2
2.5
3
Gauge Height (ft)
y = 10.4x^1.5
Flume Rating
USGS Submergence Measurement
Power (Flume Rating)
Power (USGS Submergence Measurement)

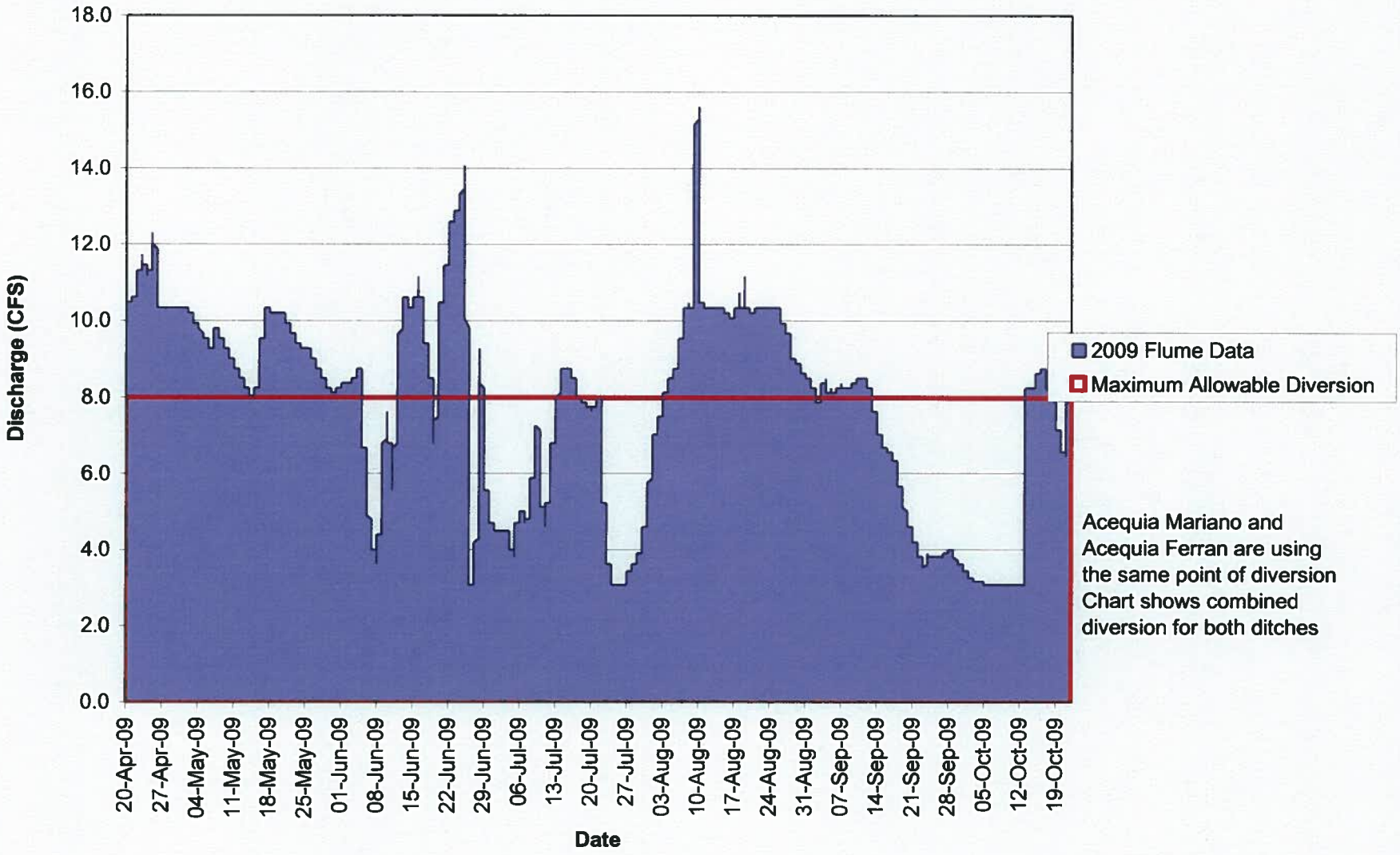

Martinez y Garcia 2009
Stage
2.5
2
1.5
1
0.5
0
4/9/2009
4/23/2009
5/7/2009
5/21/2009
6/4/2009
6/18/2009
7/2/2009
7/16/2009
7/30/2009
8/13/2009
8/27/2009
9/10/2009
9/24/2009
10/8/2009
10/22/2009
Date
Gauge Ht. M y G 2009
MAX FLOW


Acequia de Martinez y Garcia Diversion Volume
4364
5667
1
Actual 2009 Diversion
Maximum Annual Allowable Diversion
0
1000
2000
3000
4000
5000
6000
Acre-Feet

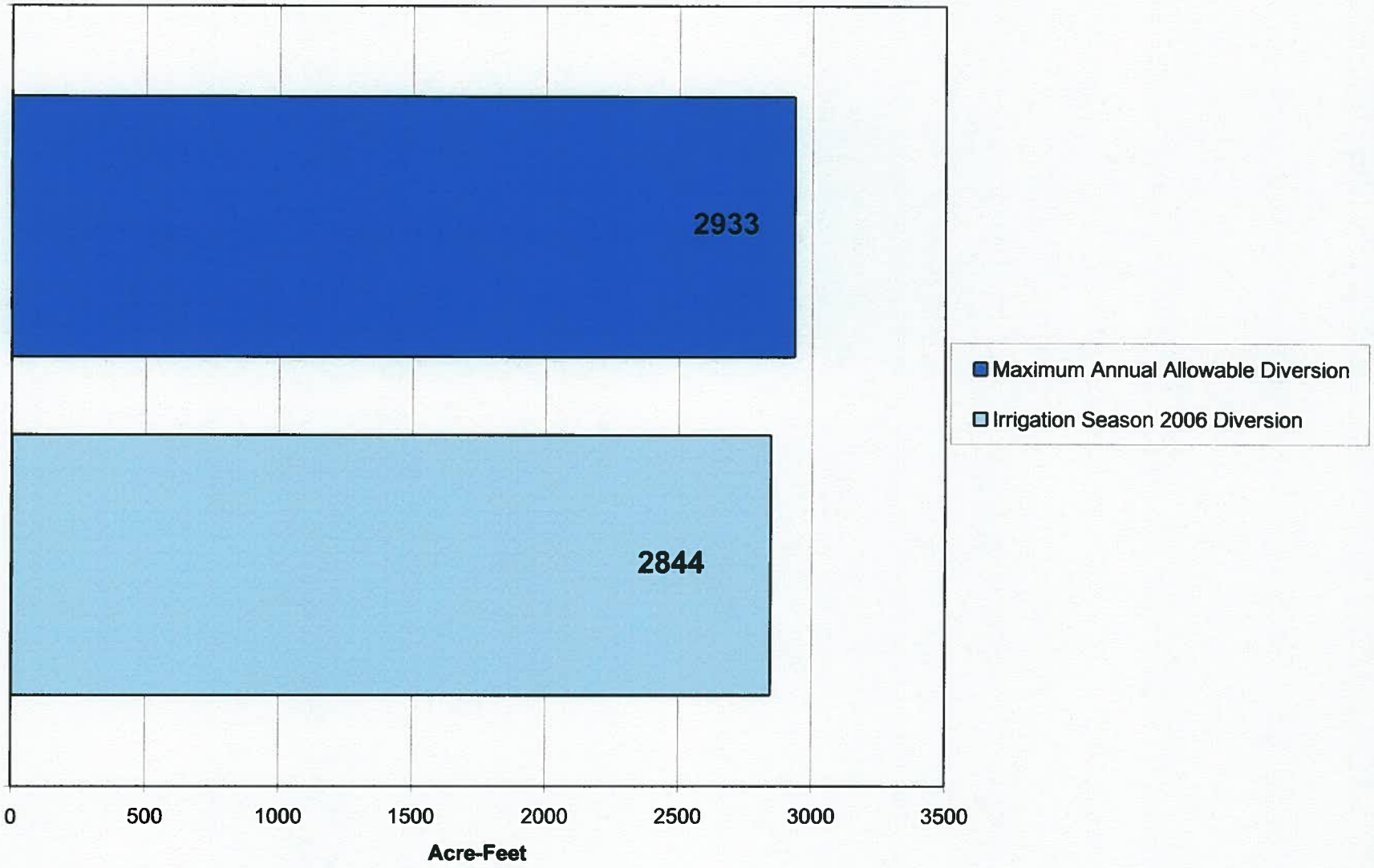
Rating Curve for Acequia Mariano

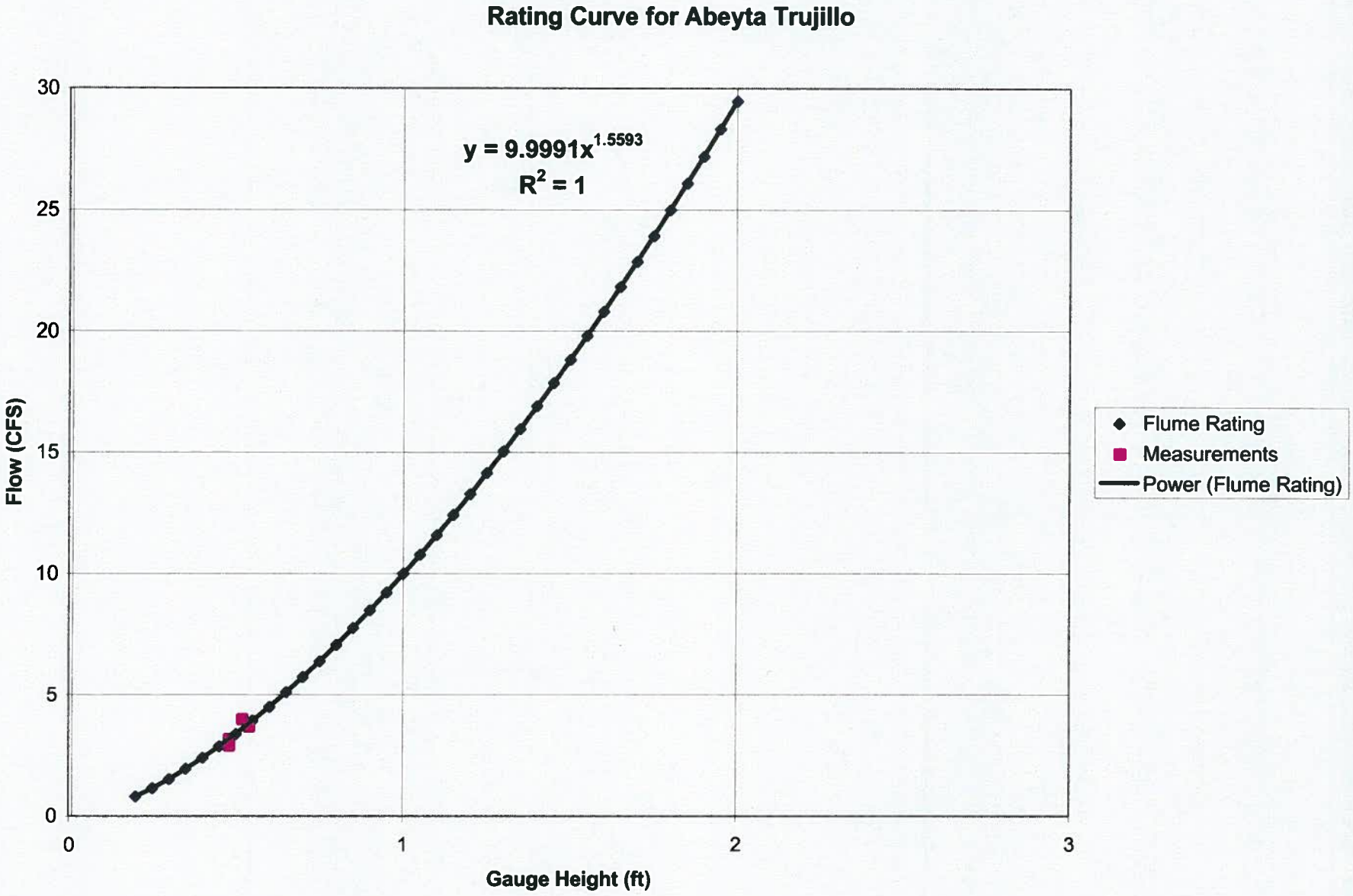


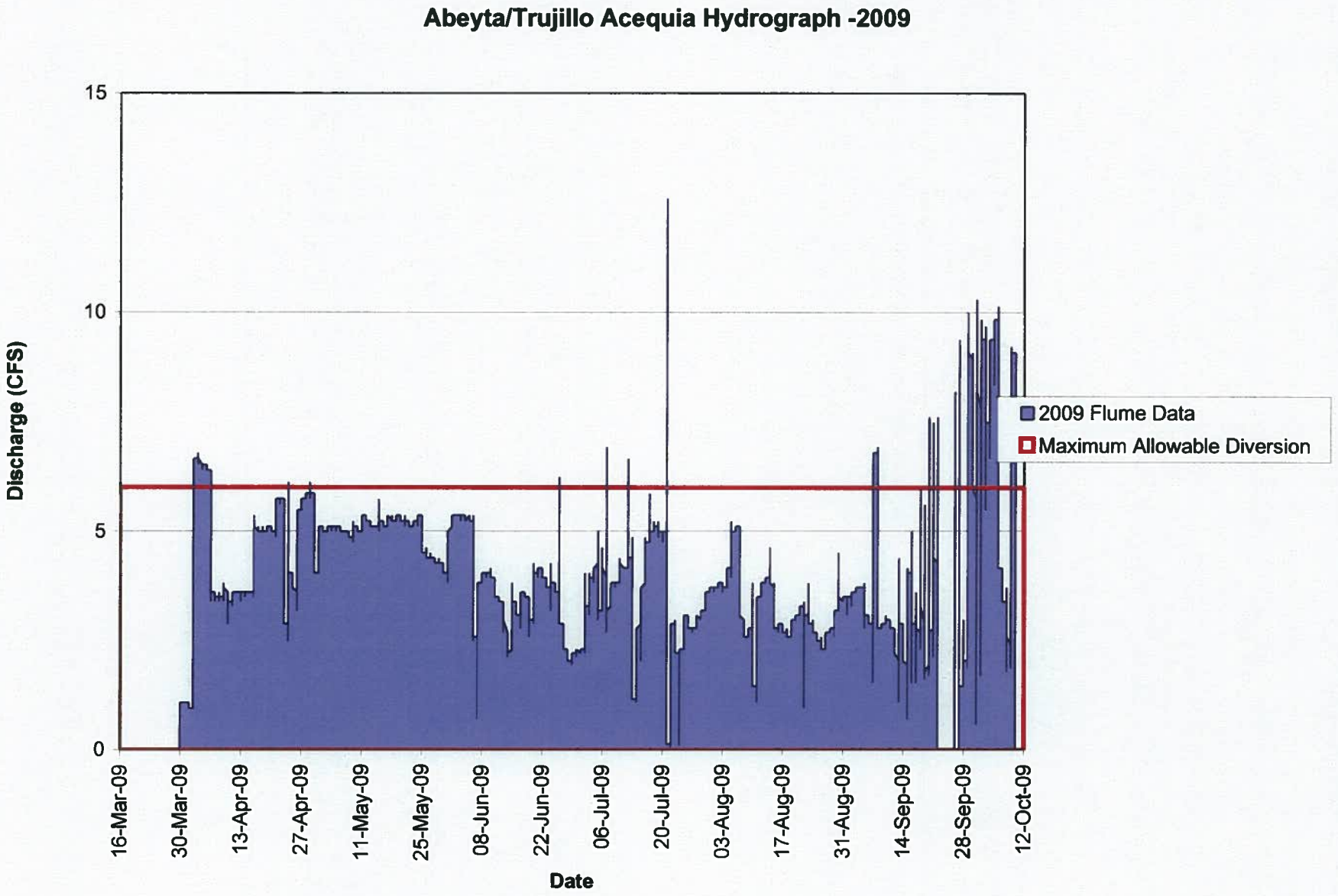
Mariano/Ferran Acequia Hydrograph -2009



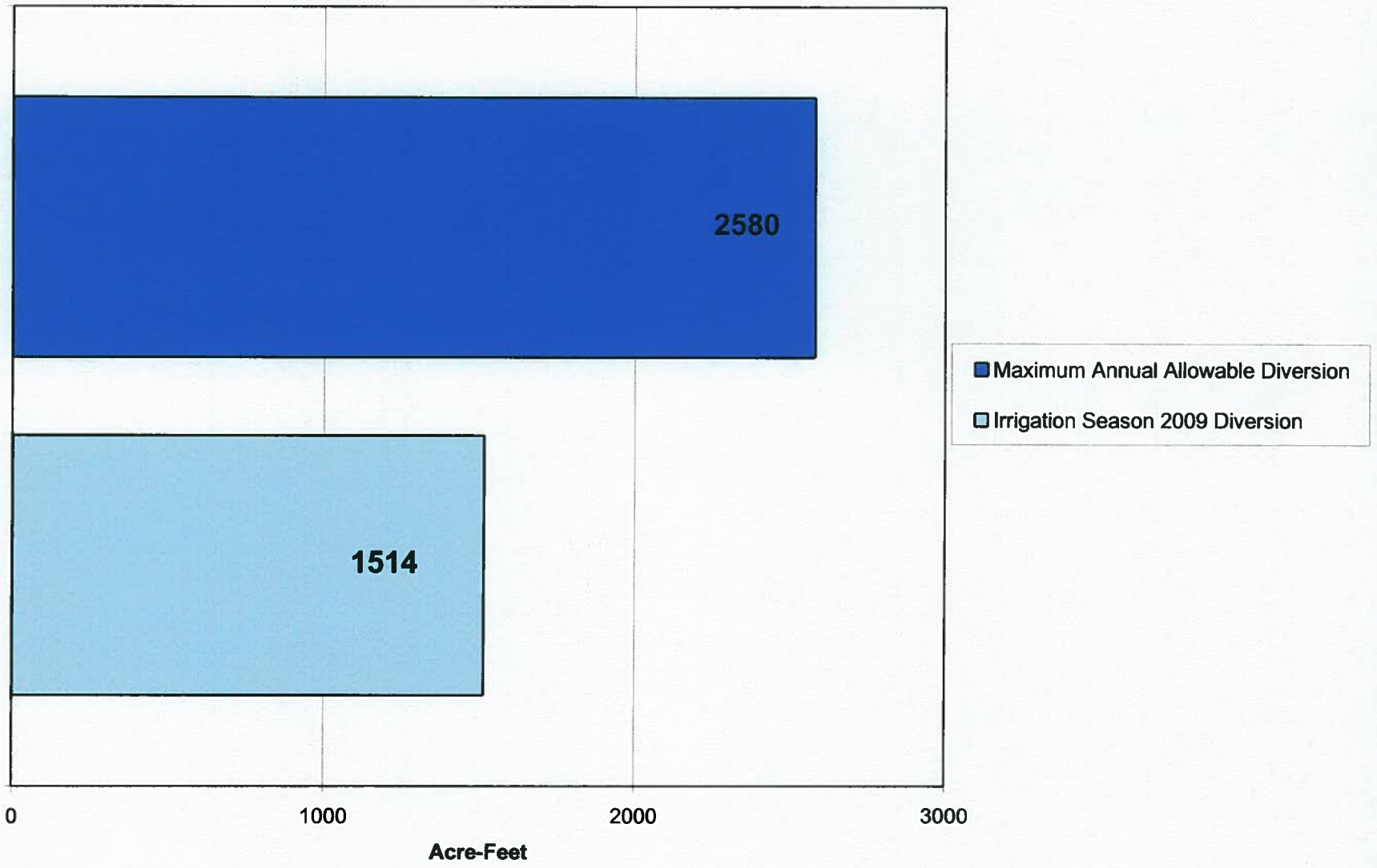
Mariano Acequia Diversion Volume

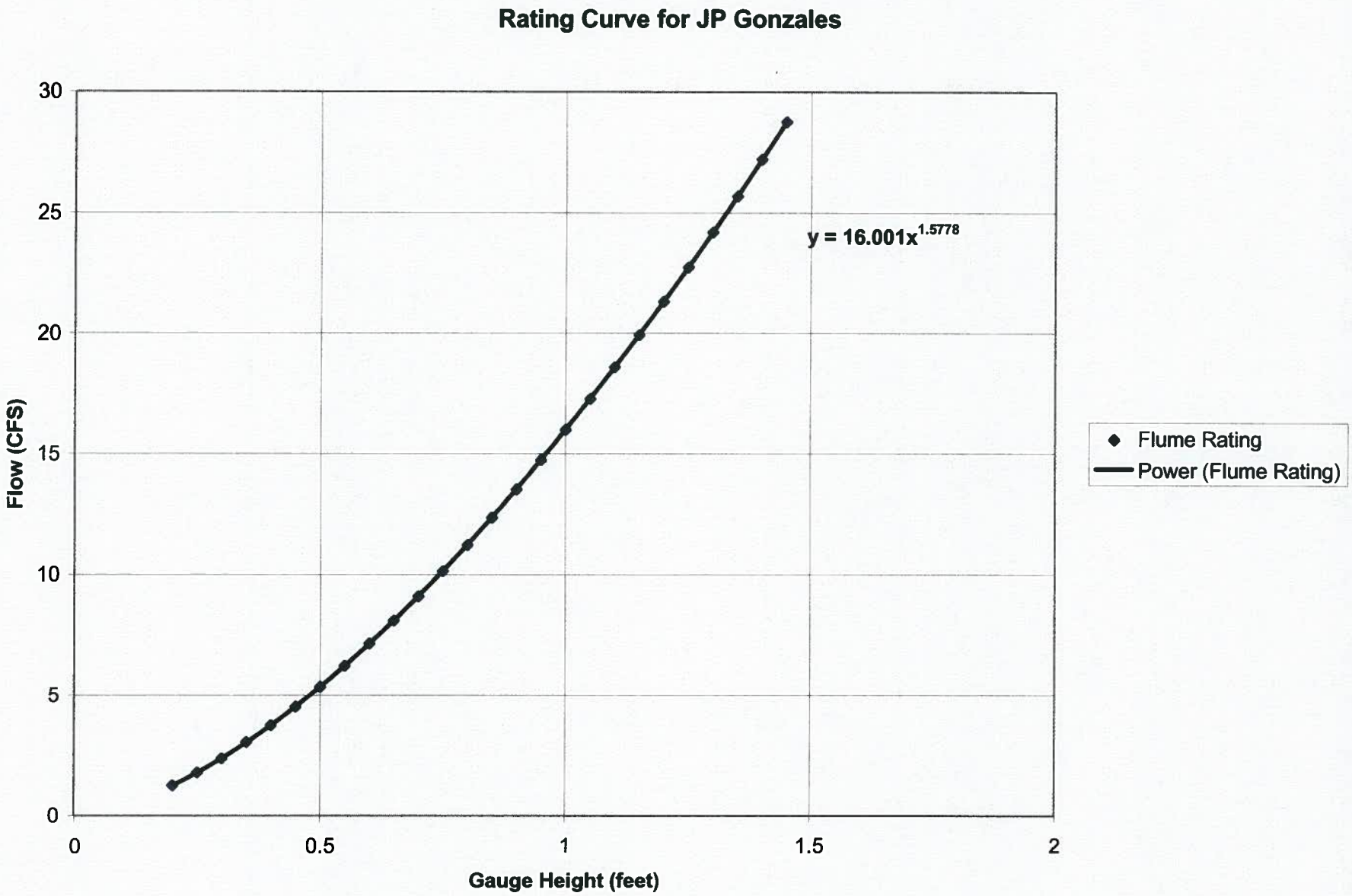



Rating Curve for Abeyta Trujillo
y = 9.9991x^1.5593
R^2 = 1
Flow (CFS)
Gauge Height (ft)
0
5
10
15
20
25
30
0
1
2
3
Flume Rating
Measurements
Power (Flume Rating)

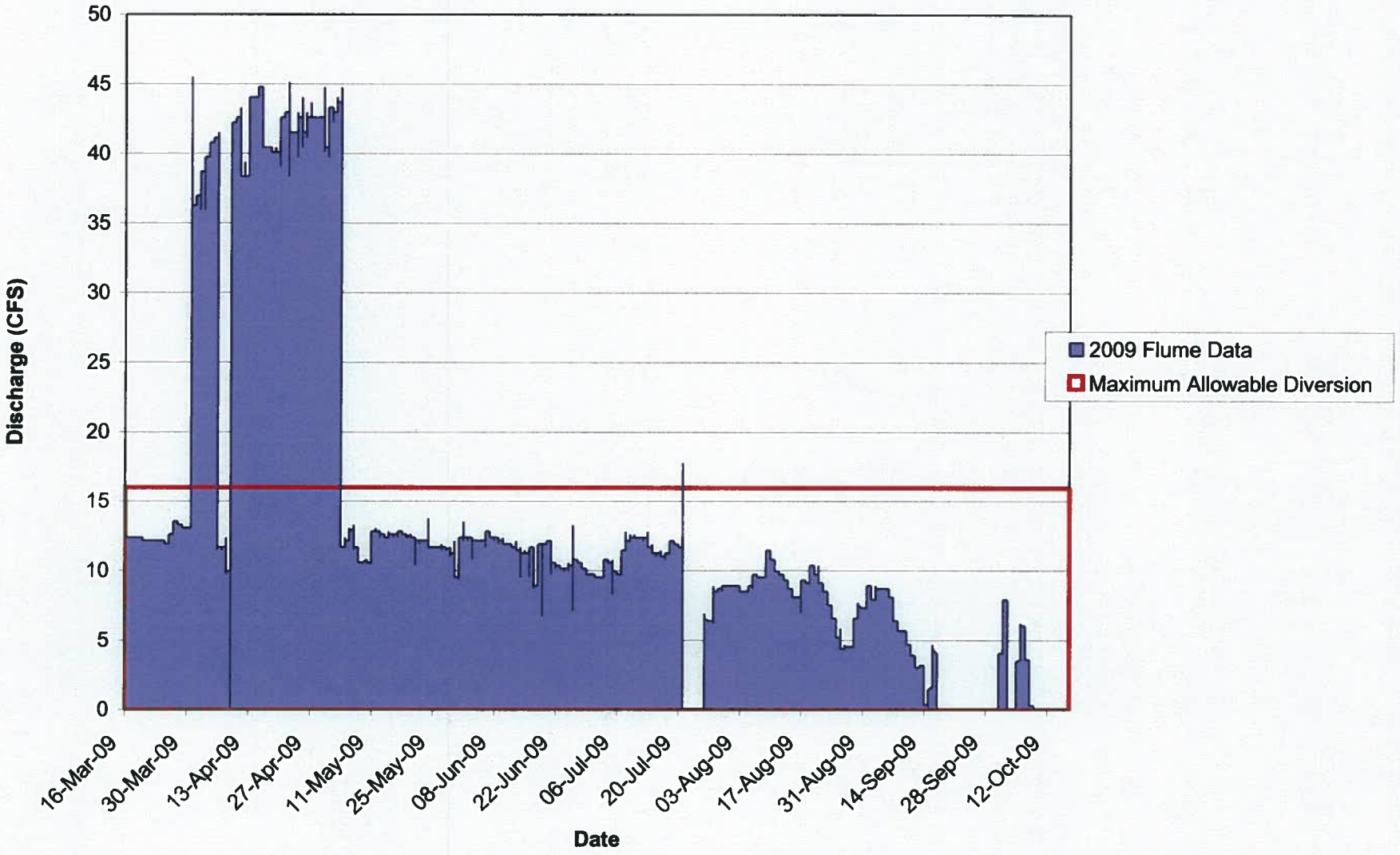

Abeyta/Trujillo Acequia Hydrograph -2009
Discharge (CFS)
15
10
5
0
16-Mar-09
30-Mar-09
13-Apr-09
27-Apr-09
11-May-09
25-May-09
08-Jun-09
22-Jun-09
06-Jul-09
20-Jul-09
03-Aug-09
17-Aug-09
31-Aug-09
14-Sep-09
28-Sep-09
12-Oct-09
Date
2009 Flume Data
Maximum Allowable Diversion

Abeyta/Trujillo Acequia Diversion Volume

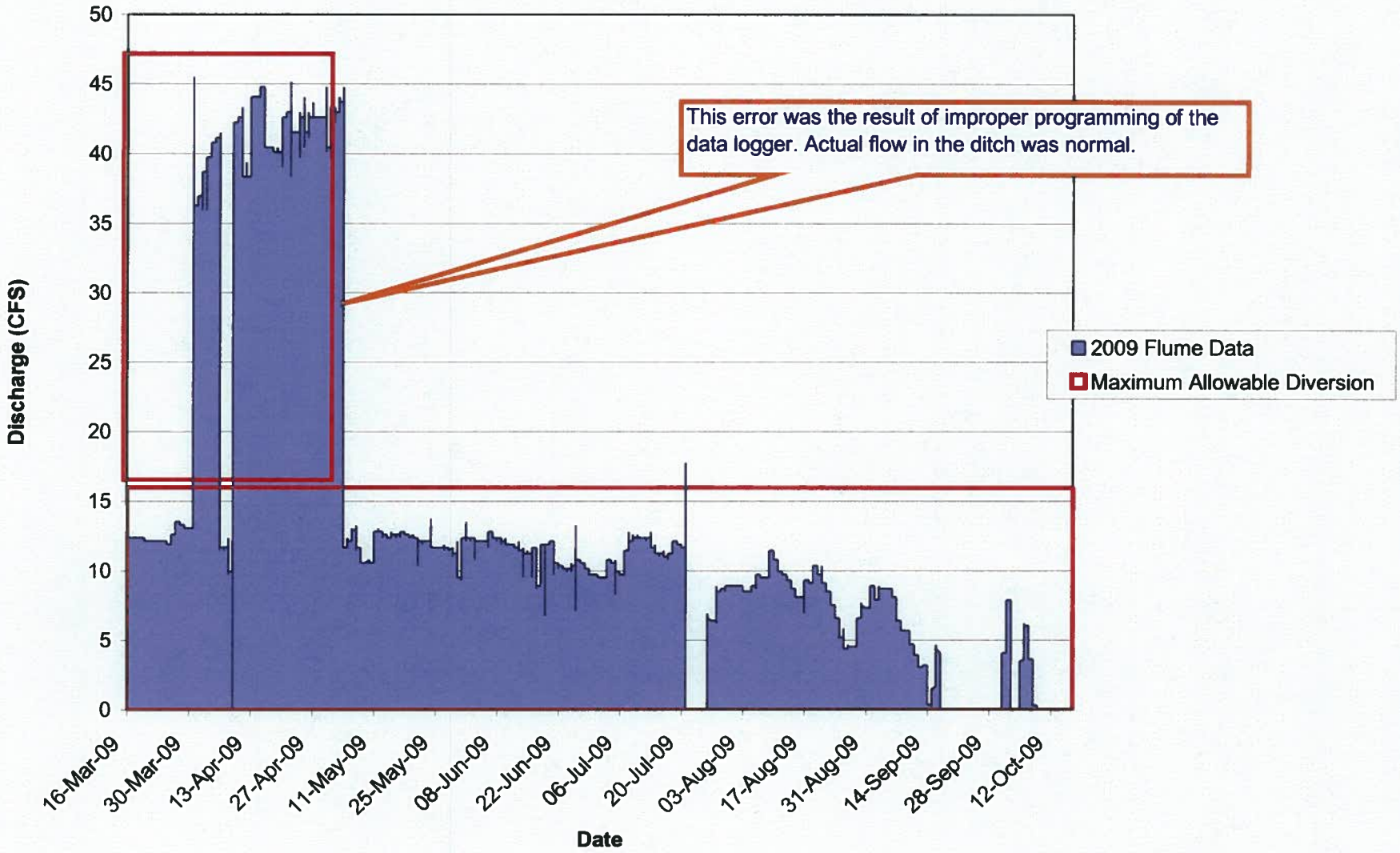



Rating Curve for JP Gonzales
30
25
20
15
10
5
0
Flow (CFS)
0
0.5
1
1.5
2
Gauge Height (feet)
y = 16.001x^1.5778
Flume Rating
Power (Flume Rating)

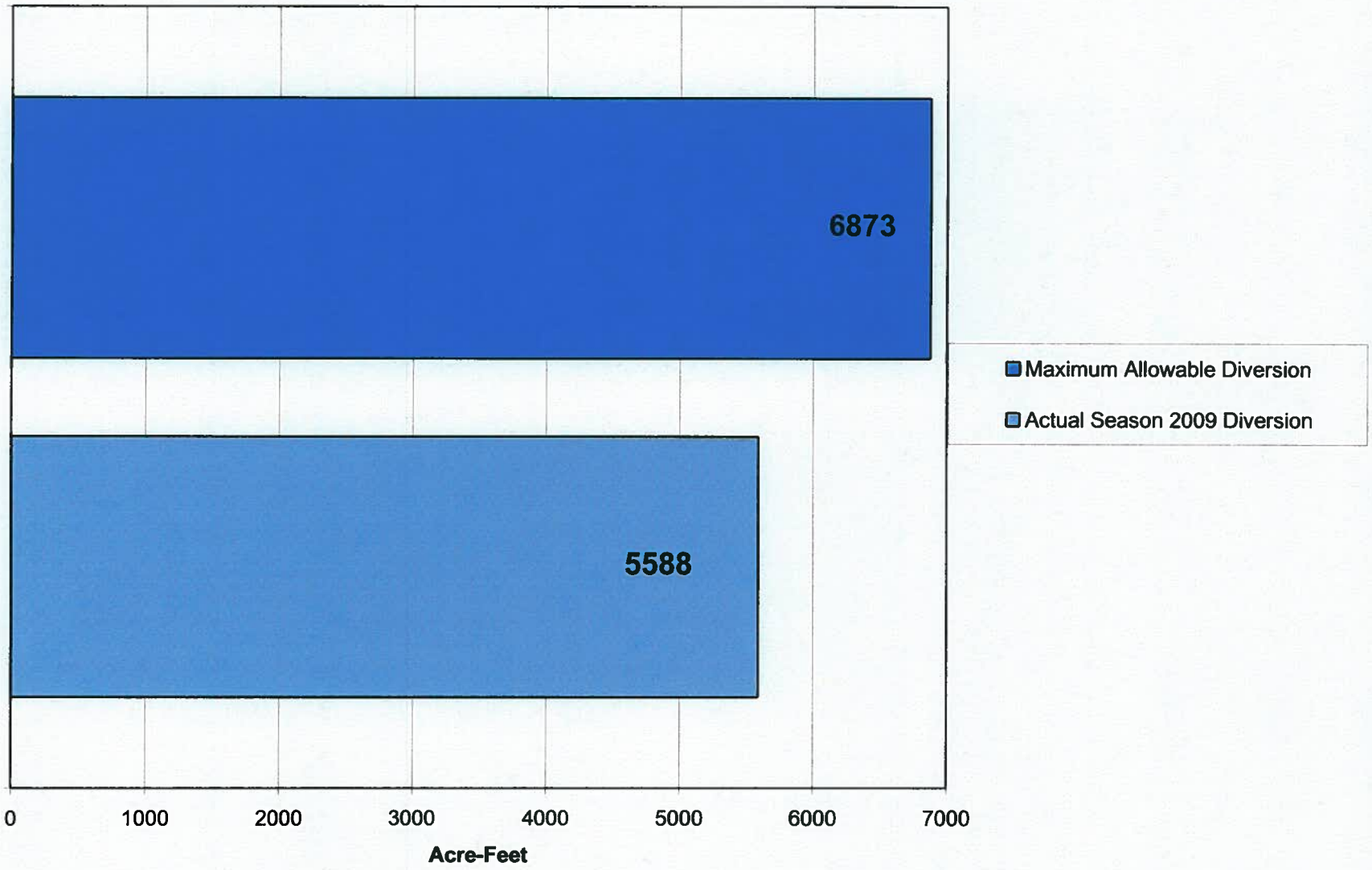
J.P. Gonzales Acequia Hydrograph -2009



J.P. Gonzales Acequia Hydrograph -2009



J.P. Gonzales Acequia Diversion Volume 2009



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Water Resources

Provisional Data Disclaimer

Data from realtime streamflow gages are relayed to the District's office through telephone lines or the Geostationary Operational Environmental Satellite (GOES) data-collection system. Data are transmitted from each station at intervals of either 3 or 4 hours and are loaded onto the District's computer system.

Realtime data available on the District Home Pages are **provisional** data that have not been reviewed or edited. These data may be subject to significant change and are not citeable until reviewed and approved by the U.S. Geological Survey. Realtime data may be changed after review because the stage-discharge relationship may have been affected by:

- backwater from ice or debris such as log jams
- algal and aquatic growth in the stream
- sediment movement
- malfunction of recording equipment

Data are reviewed periodically to ensure accuracy. Each station record is considered **provisional** until the data are published. The data are usually published within 6 months of the end of the water year (Sept 30).

Data users are cautioned to consider carefully the provisional nature of the information before using it for decisions that concern personal or public safety or the conduct of business that involves substantial monetary or operational consequences.

Information concerning the accuracy and appropriate uses of these data or concerning other hydrologic data may be obtained by contacting the individual listed on the data page.

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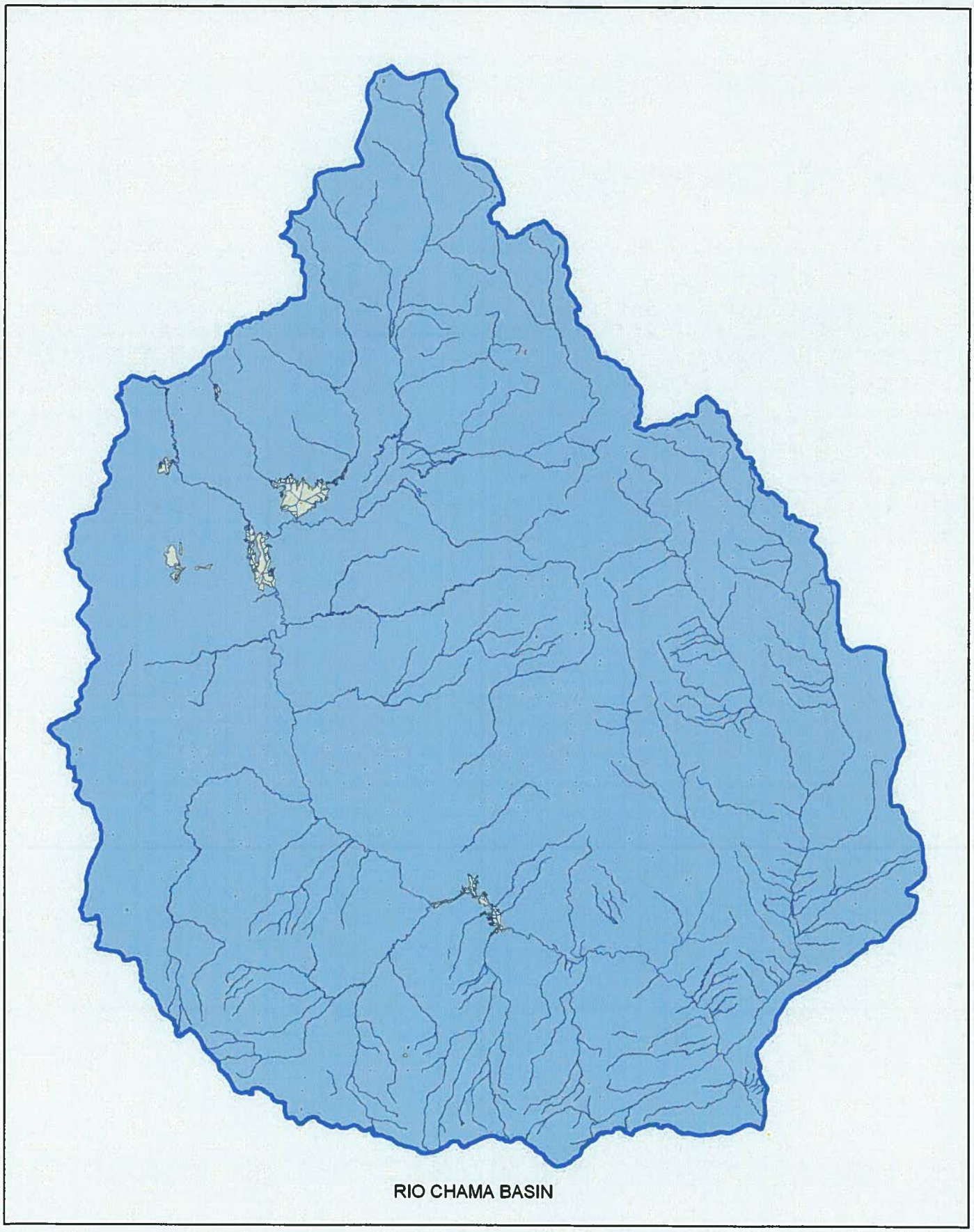

RIO CHAMA BASIN

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

John R. D' Antonio, Jr., P.E.
State Engineer

Certified Mail – Return Receipt Requested

P.O. Box 25102
Santa Fe, NM 87504-5102
Telephone: (505) 827-6091
Fax: (505) 827-3806

December 15, 2009

Mr. Fred Vigil, President
Rio Chama Acequia Association
P.O. Box 687
Medanales, New Mexico 87548

Re: Rio Chama Acequia Association Permit SP-4901

Dear Mr. Vigil:

This letter is in follow-up to the recent meetings between the Rio Chama Acequia Association (RCAA) and the New Mexico Office of the State Engineer (OSE) and the New Mexico Interstate Stream Commission (ISC) regarding water supply issues on the Rio Chama during the latter part of the 2009 irrigation season. Those meetings were convened at the request of the Middle Rio Grande Conservancy District (MRGCD), which had complained that the RCAA was intercepting and consuming storage water released from El Vado Reservoir by MRGCD for the purpose of supplementing the flows of the Rio Grande in the middle valley below Cochiti Reservoir. Native Rio Grande water stored in El Vado Reservoir is stored by MRGCD in priority in accordance with OSE permit 1690 during such times that the native flow is in excess of RCAA diversion needs, and, as such, the RCAA has no right to its diversion and use upon its subsequent release.

In the absence of a formal priority call on the river, the OSE will not implement administration in the upper portion of the basin. As the recent letter from Arianne Singer, of my staff, to RCAA counsel Fred Waltz indicated, the July 31, 2009 letter from Mr. Waltz to Ed Newville did not constitute a priority call on the waters of the Rio Chama, as was represented to members of my staff by the RCAA during the aforementioned meetings. That letter is simply a statement of RCAA's opinion on certain issues and a request for additional information on installation of meters and gauges.

The RCAA has a certain amount of San Juan-Chama Project water available for use in Abiquiu Reservoir in accordance with OSE permit SP-4901. That water is available pursuant to a 1999 agreement, as amended, with the Albuquerque Bernalillo County Water Utility Authority (ABCWUA), and a 1995 agreement with Ghost Ranch. The

amount available as of the beginning of 2009 is 2,494 acre-feet, as shown in Column Q of Table 1 (Accounting of SJC Transactions between Ghost Ranch, ABCWUA, and RCAA, attached). As the RCAA is aware, the agreement between the ABCWUA and RCAA will expire on December 31, 2009. Unless the agreement is extended, any unused water originating from that agreement will revert back to the ABCWUA on January 1, 2010, and will not be available for use by the RCAA. The amount of that reversion is 752 acre-feet, as shown in Column N of Table 2 (Accounting of SJC Water Stored on Behalf of RCAA in Abiquiu Reservoir, attached).

SP-4901 requires the RCAA to actually release its SJC storage prior to its diversion and use. For example, if the native flow below Abiquiu Dam was 50 cfs, and the RCAA required 100 cfs below Aibuiqui Dam to meet it diversion needs, it would have to release 50 cfs of its SJC water from reservoir storage, an amount equivalent to 100 acre-feet per day. At that rate, the RCAA would have used all of its currently available stored SJC water in less than one month. In order to conserve RCAA's SJC water, the OSE and RCAA several years ago agreed upon an alternative administrative approach that allows the RCAA to make payback for water stored and released by MRGCD that is calculated to have been diverted and consumed by the RCAA in excess of what RCAA was actually entitled to. Should the RCAA no longer wish to utilize this alternative approach, the OSE will enforce the permit requirements of SP-4901 commencing at the start of the 2010 irrigation season.

In 2009, natural flows available for irrigation use throughout the basin were generally good throughout the summer irrigation season, as measured at the U.S. Geological Survey gaging station Rio Chama at La Puente, except for during August and September. The natural flows tailed off as the summer wore on and in early August dropped to a level where they were more or less consistently below 50 cubic feet per second (cfs) for the remainder of the irrigation season.

Table 3 (RCAA 2009 Depletions) shows that in 2009, the RCAA diverted and consumed a total of 475 acre-feet in excess of its entitlement from the period August 8 to September 11. The calculations and methodology of Table 3 are the same as those used in 2005, as negotiated between the RCAA and MRGCD.

Therefore, as an administrative action in accordance with SP-4091 and the alternative approach discussed above, unless the RCAA arrives at some other arrangement with the MRGCD within 30 days, the attached letter directing transfer of 475 acre-feet of RCAA SJC water in storage in Abiquiu Reservoir to MRGCD ("transfer letter") will be executed and delivered to the U.S. Bureau of Reclamation (Reclamation).

Alternatively, if requested by the RCAA in writing, the transfer letter will be executed and delivered to Reclamation prior to December 31, 2009 should this office receive such a request within the next two weeks.

If you are aggrieved by this permit administration action and wish an opportunity to

present evidence in a hearing contesting this action, you must advise this office in writing within 30 days of receipt of this letter. Your letter should request that the action be set aside and request a hearing before the State Engineer pursuant to NMSA 1978, Section 72-2-16.

Sincerely,

John R. D'Antonio, Jr., P.E.
State Engineer

JRD/ke

Attachments

cc: Subhas Shah, MRGCD
Arianne Singer, OSE LAP
Rolf Schmidt-Petersen, ISC
Kevin Flanigan, ISC
Vince Chavez, OSE, WRAP
Buck Wells, OSE, WRAP
Kent Malmquist, OSE, WRAP

Table 1: Accounting of SJC Transactions between Ghost Ranch, ABCWUA, and RCAA

Year	ABCWUA					Ghost Ranch							RCAA (Abiquiu Reservoir)								Accounting of SJC Transactions between RCAA and the Jicarilla Nation (RCAA Heron Reservoir)				
	Transfer to Ghost Ranch	Transfer to RCAA	Ghost Ranch Reversion	RCAA Reversion	Annual Change to Storage	Payment from ABCWUA	Transfer to RCAA	Beginning of Year Accounting	Reversion to ABCWUA	Water Used	Annual Losses	End of Year Accounting	Transfer from Ghost Ranch	Transfer from ABCWUA	Routed from Heron (Jicarilla)	Reversion to ABCWUA	Beginning of Year Accounting	Water Used	Annual Losses	End of Year Accounting	Transfer from Jicarilla Nation	Beginning of Year Accounting	Beginning of Year Accounting	Water Used	End of Year Accounting
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)
1981	(300)		-	-	(300)	300	-	300	-	-		600	-	-		-	-	-	-						
1982	(300)		-	-	(300)	300	-	900	-	-		900	-	-		-	-	-	-						
1983	(300)		-	-	(300)	300	-	1,200	-	-		1,200	-	-		-	-	-	-						
1984	(300)		-	-	(300)	300	-	1,500	-	-		1,500	-	-		-	-	-	-						
1985	(300)		-	-	(300)	300	-	1,719	-	-	(82)	1,419	-	-		-	-	-	-						
1986	(300)		-	-	(300)	300	-	1,966	-	-	(53)	1,686	-	-		-	-	-	-						
1987	(300)		117	-	(183)	300	-	2,189	(117)	-	(67)	1,889	-	-		-	-	-	-						
1988	(300)		234	-	(66)	300	-	2,306	(234)	-	(76)	2,006	-	-		-	-	-	-						
1989	(300)		203	-	(97)	300	-	2,262	(203)	-	(110)	1,962	-	-		-	-	-	-						
1990	(300)		133	-	(167)	300	-	2,171	(133)	-	(140)	1,898	-	-		-	-	-	-						
1991	(300)		175	-	(125)	300	-	2,198	(175)	-	(91)	1,932	-	-		-	-	-	-						
1992	(300)		218	-	(82)	300	-	2,232	(218)	-	(142)	1,872	-	-		-	-	-	-						
1993	(300)		171	-	(129)	300	-	2,172	(171)	-	(111)	1,890	-	-		-	-	-	-						
1994	(300)		199	-	(101)	300	-	2,190	(199)	-	(162)	1,829	-	-		-	-	-	-						
1995	(300)		-	-	(300)	300	(1,800)	329	-	-	(16)	313	1,800	-		-	1,800	-	(85)	1,715					
1996	(300)		-	-	(300)	300	(250)	383	-	-	(31)	332	250	-		-	1,965	-	(163)	1,802					
1997	(300)		-	-	(300)	300	(250)	382	-	-	(25)	357	250	-		-	2,052	-	(137)	1,915					
1998	(300)		-	-	(300)	300	(250)	407	-	-	(23)	384	250	-		-	2,165	-	(185)	1,980					
1999	(300)	(1,000)	-	-	(1,300)	300	(250)	434	-	-	(23)	411	250	1,000		-	3,230	-	(189)	3,041					
2000	(300)	(1,000)	-	-	(1,300)	300	(250)	461	-	-	(49)	412	250	1,000		-	4,291	(1,357)	(310)	2,624					
2001	(300)	(1,000)	-	-	(1,300)	300	(250)	462	-	-	(42)	420	250	1,000		-	3,874	(1,480)	(217)	2,177					
2002	(300)	(1,000)	-	-	(1,300)	300	(250)	470	-	-	(55)	415	250	1,000		-	3,427	(1,408)	(238)	1,781					
2003	(300)	(1,000)	-	-	(1,300)	300	(250)	465	-	-	(65)	400	250	1,000		-	3,031	(267)	(398)	2,366					
2004	(300)	-	-	-	(300)	300	(250)	450	-	-	(43)	408	250	-		-	2,816	(833)	(230)	1,553					
2005	(300)	-	-	-	(300)	300	(250)	458	-	-	(39)	419	250	-		-	1,803	-	(187)	1,636					
2006	(300)	-	-	-	(300)	300	(250)	469			(32)	437	250	-	320	-	2,206	-	(128)	2,078	180	180	180	180	180
2007	(300)				(300)	300	(250)	487			(32)	455	250	-		-	2,328	-	(149)	2,179					
2008	(300)				(300)	300	(250)	505			(38)	467	250				2,429	-	(185)	2,244					
2009	(300)				(300)	300	(250)	517					250				2,494								

NOTES:
All values are in acre-feet.
Losses are accounted on a monthly basis through 2002, and on a daily basis thereafter.

LEASES AND AGREEMENTS (see attached table for terms)
The 1981 lease between the City (ABCWUA) and Ghost Ranch expires on January 12, 2011
The 1995 lease between the Ghost Ranch and RCAA expires on January 12, 2011
The 1999 lease between the City (ABCWUA) and RCAA expires on December 31, 2009. Any water unused by the RCAA reverts back to the City on January 1, 2010.
The 2003 lease between the Jicarilla Nation and RCAA expires on December 31, 2009

RCAA use in 2004 totalled 833 acre-feet. Of this amount, 445 acre-feet was offset in 2004 (transferred on 8-11-04) and the balance, or 388 acre-feet was offset in 2005 (transferred on June 26, 2005).
RCAA use in 2005 was negotiated with MRGCD and the agreed upon amount totaled 180 acre-feet which was transferred in 2006.

Table 2: Accounting of SJC Water Stored on Behalf of RCAA in Abiquiu Reservoir

	Transfer from Jicarilla	Transfer from Ghost Ranch	Transfer from ABCWUA	Reversion to ABCWUA	Beginning of Year Accounting	Beginning of Year Ghost Ranch	Beginning of Year ABCWUA	Beginning of Year Jicarilla	Beginning of Year Check	Water Used	Annual Losses	End of Year Accounting	End of Year Ghost Ranch	End of Year ABCWUA	End of Year Jicarilla	End of Year Check
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
1981		-	-	-	-					-						
1982		-	-	-	-					-						
1983		-	-	-	-					-						
1984		-	-	-	-					-						
1985		-	-	-	-					-						
1986		-	-	-	-					-						
1987		-	-	-	-					-						
1988		-	-	-	-					-						
1989		-	-	-	-					-						
1990		-	-	-	-					-						
1991		-	-	-	-					-						
1992		-	-	-	-					-						
1993		-	-	-	-					-						
1994		-	-	-	-					-						
1995		1,800	-	-	1,800	1,800				-	(85)	1,715				
1996		250	-	-	1,965	1,965				-	(163)	1,802				
1997		250	-	-	2,052	2,052				-	(137)	1,915				
1998		250	-	-	2,165	2,165				-	(185)	1,980				
1999		250	1,000	-	3,230	2,230	1,000		3,230	-	(188)	3,041	2,100	942		3,041
2000		250	1,000	-	4,291	2,350	1,942		4,291	(1,357)	(310)	2,624	1,437	1,187		2,624
2001		250	1,000	-	3,874	1,687	2,187		3,874	(1,480)	(217)	2,177	948	1,229		2,177
2002		250	1,000	-	3,427	1,198	2,229		3,427	(1,408)	(238)	1,781	622	1,158		1,781
2003		250	1,000	-	3,031	872	2,158		3,031	(267)	(398)	2,366	681	1,685		2,366
2004		250	-	-	2,616	931	1,685		2,616	(445)	(230)	1,941	691	1,250		1,941
2005		250	-	-	2,191	941	1,250		2,191	(388)	(167)	1,636	702	933	-	1,636
2006	320	250	-	-	1,886	952	933	-	1,886	-	(128)	1,757	888	870	-	1,757
2007		250	-	-	2,327	1,138	870	320	2,327	-	(149)	2,179	1,065	814	300	2,179
2008		250	-	-	2,429	1,315	814	300	2,429	-	(185)	2,244	1,215	752	277	2,244
2009		-	-	-				277								

Table 3 - RCAA 2009 depletions									
Date	Day	Flow at La Puente	Bosque ET	Evap	RCAA Available Flow	Total Chama Depletion	RCAA Depletion (from ET toolbox)	70% Adjustment	RCAA Caused Deficit
1-Mar	60	200			200	13.4	6.5	4.53	0
	61	200			200	17.2	8.3	5.82	0
	62	200			200	13.4	6.5	4.53	0
	63	200			200	13.4	6.5	4.53	0
	64	200			200	20.1	9.7	6.80	0
	65	200			200	12.4	6.0	4.19	0
	66	200			200	16.3	7.9	5.51	0
	67	200			200	15.3	7.4	5.17	0
	68	200			200	11.5	5.6	3.89	0
	69	200			200	17.2	8.3	5.82	0
	70	200			200	14.4	7.0	4.87	0
	71	200			200	14.4	7.0	4.87	0
	72	200			200	2.8	1.4	0.95	0
	73	200			200	12.4	6.0	4.19	0
	74	200			200	34.8	16.8	11.77	0
	75	200			200	39	18.8	13.19	0
	76	200			200	43.4	21.0	14.68	0
	77	260			260	38	18.4	12.85	0
	78	316			316	42.1	20.3	14.24	0
	79	370			370	33.5	16.2	11.33	0
	80	391			391	36.7	17.7	12.41	0
	81	463			463	39.9	19.3	13.49	0
	82	543			543	39.9	19.3	13.49	0
	83	379			379	45.4	21.9	15.35	0
	84	335			335	37.7	18.2	12.75	0
	85	316			316	17.3	8.4	5.85	0
	86	262			262	24.6	11.9	8.32	0
	87	244			244	35.4	17.1	11.97	0
	88	253			253	26.8	12.9	9.06	0
	89	239			239	44.1	21.3	14.91	0
	90	197			197	41.8	20.2	14.14	0
1-Apr	91	216			216	33.2	16.0	11.23	0
	92	170			170	41.8	20.2	14.14	0
	93	210			210	50.5	24.4	17.08	0
	94	217			217	46.3	22.4	15.66	0
	95	202			202	41.8	20.2	14.14	0
	96	188			188	45.1	21.8	15.25	0
	97	218			218	50.5	24.4	17.08	0
	98	266			266	56.9	27.5	19.24	0
	99	347			347	61	29.5	20.63	0
	100	339			339	46	22.2	15.56	0
	101	440			440	9.6	4.6	3.25	0
	102	387			387	11.8	5.7	3.99	0
	103	362			362	43.8	21.2	14.81	0
	104	504			504	37.3	18.0	12.61	0
	105	444			444	46.9	22.7	15.86	0
	106	440			440	56.5	27.3	19.11	0
	107	465			465	15	7.2	5.07	0
	108	413			413	47.9	23.1	16.20	0
	109	446			446	58.4	28.2	19.75	0
	110	561			561	59.8	28.9	20.22	0
	111	807			807	64.9	31.4	21.95	0
	112	1140			1140	61.7	29.8	20.87	0
	113	1310			1310	44.7	21.6	15.12	0
	114	1460			1460	72.3	34.9	24.45	0
	115	1980			1980	70	33.8	23.67	0
	116	1950			1950	63.6	30.7	21.51	0
	117	1880			1880	60.4	29.2	20.43	0
	118	2200			2200	70	33.8	23.67	0

Table 3 - RCAA 2009 depletions									
Date	Day	Flow at La Puente	Bosque ET	Evap	RCAA Available Flow	Total Chama Depletion	RCAA Depletion (from ET toolbox)	70% Adjustment	RCAA Caused Deficit
	119	2490			2490	71.9	34.7	24.32	0
	120	3030			3030	71.9	34.7	24.32	0
1-May	121	3180	7.2	1	3171.8	61.3	29.6	20.73	0
	122	3110	7.2	1	3101.8	16.9	8.2	5.72	0
	123	2580	7.2	1	2571.8	47.6	23.0	16.10	0
	124	2510	7.2	1	2501.8	69.7	33.7	23.57	0
	125	3130	7.2	1	3121.8	72.9	35.2	24.65	0
	126	3460	7.2	1	3451.8	81.2	39.2	27.46	0
	127	3820	7.2	1	3811.8	84.4	40.8	28.54	0
	128	4010	7.2	1	4001.8	87.6	42.3	29.63	0
	129	3890	7.2	1	3881.8	79	38.2	26.72	0
	130	3710	7.2	1	3701.8	83.1	40.1	28.10	0
	131	3540	7.2	1	3531.8	86.4	41.7	29.22	0
	132	3300	7.2	1	3291.8	91.4	44.2	30.91	0
	133	3070	7.2	1	3061.8	91.4	44.2	30.91	0
	134	2830	7.2	1	2821.8	73.5	35.5	24.86	0
	135	2560	7.2	1	2551.8	76.7	37.1	25.94	0
	136	2230	7.2	1	2221.8	37.7	18.2	12.75	0
	137	1930	7.2	1	1921.8	77.7	37.5	26.28	0
	138	1850	7.2	1	1841.8	89.2	43.1	30.17	0
	139	1880	7.2	1	1871.8	85	41.1	28.75	0
	140	1680	7.2	1	1671.8	80.7	39.0	27.29	0
	141	1730	7.2	1	1721.8	34.5	16.7	11.67	0
	142	2010	7.2	1	2001.8	37.7	18.2	12.75	0
	143	1640	7.2	1	1631.8	31.3	15.1	10.59	0
	144	1640	7.2	1	1631.8	37.7	18.2	12.75	0
	145	1420	7.2	1	1411.8	73.2	35.4	24.76	0
	146	1240	7.2	1	1231.8	61.6	29.8	20.83	0
	147	1170	7.2	1	1161.8	50.2	24.3	16.98	0
	148	990	7.2	1	981.8	73.2	35.4	24.76	0
	149	851	7.2	1	842.8	85.7	41.4	28.98	0
	150	805	7.2	1	796.8	70.9	34.3	23.98	0
	151	790	7.2	1	781.8	70.9	34.3	23.98	0
1-Jun	152	741	17.5	1	722.5	74.2	35.8	25.09	0
	153	670	17.5	1	651.5	59.4	28.7	20.09	0
	154	652	17.5	1	633.5	69	33.3	23.34	0
	155	619	17.5	1	600.5	78.3	37.8	26.48	0
	156	573	17.5	1	554.5	40.6	19.6	13.73	0
	157	537	17.5	1	518.5	59.4	28.7	20.09	0
	158	469	17.5	1	450.5	92.7	44.8	31.35	0
	159	423	17.5	1	404.5	71.9	34.7	24.32	0
	160	398	17.5	1	379.5	41.5	20.1	14.04	0
	161	631	17.5	1	612.5	52.1	25.2	17.62	0
	162	623	17.5	1	604.5	67.8	32.8	22.93	0
	163	434	17.5	1	415.5	91.7	44.3	31.01	0
	164	368	17.5	1	349.5	88.6	42.8	29.96	0
	165	362	17.5	1	343.5	46.9	22.7	15.86	0
	166	345	17.5	1	326.5	85.4	41.3	28.88	0
	167	299	17.5	1	280.5	89.5	43.2	30.27	0
	168	270	17.5	1	251.5	66.5	32.1	22.49	0
	169	259	17.5	1	240.5	73.8	35.7	24.96	0
	170	247	17.5	1	228.5	98.8	47.7	33.41	0
	171	298	17.5	1	279.5	32.2	15.6	10.89	0
	172	396	17.5	1	377.5	87.3	42.2	29.52	0
	173	284	17.5	1	265.5	96.5	46.6	32.64	0
	174	259	17.5	1	240.5	72.9	35.2	24.65	0
	175	268	17.5	1	249.5	82.2	39.7	27.80	0
	176	286	17.5	1	267.5	73.8	35.7	24.96	0
	177	528	17.5	1	509.5	50.8	24.5	17.18	0

Table 3 - RCAA 2009 depletions									
Date	Day	Flow at La Puente	Bosque ET	Evap	RCAA Available Flow	Total Chama Depletion	RCAA Depletion (from ET toolbox)	70% Adjustment	RCAA Caused Deficit
	178	494	17.5	1	475.5	88.3	42.7	29.86	0
	179	338	17.5	1	319.5	35.1	17.0	11.87	0
	180	331	17.5	1	312.5	97.5	47.1	32.97	0
	181	279	17.5	1	260.5	101.7	49.1	34.40	0
1-Jul	182	243	19.7	1	222.3	106.8	51.6	36.12	0
	183	215	19.7	1	194.3	104.9	50.7	35.48	0
	184	202	19.7	1	181.3	60.1	29.0	20.33	0
	185	189	19.7	1	168.3	49.8	24.1	16.84	0
	186	177	19.7	1	156.3	64.2	31.0	21.71	0
	187	166	19.7	1	145.3	77.6	37.5	26.24	0
	188	158	19.7	1	137.3	102.7	49.6	34.73	0
	189	138	19.7	1	117.3	108.7	52.5	36.76	0
	190	119	19.7	1	98.3	90.2	43.6	30.51	0
	191	118	19.7	1	97.3	86.9	42.0	29.39	0
	192	114	19.7	1	93.3	103.6	50.1	35.04	0
	193	84	19.7	1	63.3	111.9	54.1	37.84	0
	194	76	19.7	1	55.3	103.6	50.1	35.04	0
	195	73	19.7	1	52.3	98.5	47.6	33.31	0
	196	65	19.7	1	44.3	92.1	44.5	31.15	0
	197	64	19.7	1	43.3	107.7	52.0	36.42	0
	198	57	19.7	1	36.3	98.5	47.6	33.31	0
	199	56	19.7	1	35.3	91.2	44.1	30.84	0
	200	55	19.7	1	34.3	91.2	44.1	30.84	0
	201	52	19.7	1	31.3	81.9	39.6	27.70	0
	202	62	19.7	1	41.3	62	30.0	20.97	0
	203	234	19.7	1	213.3	91.2	44.1	30.84	0
	204	128	19.7	1	107.3	87.9	42.5	29.73	0
	205	111	19.7	1	90.3	104.6	50.5	35.38	0
	206	98	19.7	1	77.3	87.9	42.5	29.73	0
	207	114	19.7	1	93.3	71.2	34.4	24.08	0
	208	122	19.7	1	101.3	96.3	46.5	32.57	0
	209	119	19.7	1	98.3	92.1	44.5	31.15	0
	210	100	19.7	1	79.3	79.6	38.5	26.92	0
	211	97	19.7	1	76.3	71.2	34.4	24.08	0
	212	93	19.7	1	72.3	71.2	34.4	24.08	0
1-Aug	213	85	17.6	1	66.4	96.3	46.5	32.57	0
	214	76	17.6	1	57.4	93.1	45.0	31.49	0
	215	70	17.6	1	51.4	93.1	45.0	31.49	0
	216	65	17.6	1	46.4	93.1	45.0	31.49	0
	217	58	17.6	1	39.4	69.3	33.5	23.44	0
	218	58	17.6	1	39.4	79.6	38.5	26.92	0
	219	60	17.6	1	41.4	96.3	46.5	32.57	0
	220	51	17.6	1	32.4	102.3	49.4	34.60	-2.20
	221	47	17.6	1	28.4	99.4	48.0	33.62	-5.22
	222	44	17.6	1	25.4	99.4	48.0	33.62	-8.22
	223	40	17.6	1	21.4	99.4	48.0	33.62	-12.22
	224	39	17.6	1	20.4	87.9	42.5	29.73	-9.33
	225	39	17.6	1	20.4	69.3	33.5	23.44	-3.04
	226	47	17.6	1	28.4	39.3	19.0	13.29	0
	227	75	17.6	1	56.4	87.9	42.5	29.73	0
	228	57	17.6	1	38.4	93.1	45.0	31.49	0
	229	45	17.6	1	26.4	93.1	45.0	31.49	-5.09
	230	39	17.6	1	20.4	93.1	45.0	31.49	-11.09
	231	34	17.6	1	15.4	96.3	46.5	32.57	-17.17
	232	32	17.6	1	13.4	96.3	46.5	32.57	-19.17
	233	32	17.6	1	13.4	91.2	44.1	30.84	-17.44
	234	31	17.6	1	12.4	92.1	44.5	31.15	-18.75
	235	30	17.6	1	11.4	62	30.0	20.97	-9.57
	236	36	17.6	1	17.4	36.1	17.4	12.21	0

Table 3 - RCAA 2009 depletions									
Date	Day	Flow at La Puente	Bosque ET	Evap	RCAA Available Flow	Total Chama Depletion	RCAA Depletion (from ET toolbox)	70% Adjustment	RCAA Caused Deficit
	237	43	17.6	1	24.4	30	14.5	10.15	0
	238	38	17.6	1	19.4	81.9	39.6	27.70	-8.30
	239	34	17.6	1	15.4	76.7	37.1	25.94	-10.54
	240	33	17.6	1	14.4	81.9	39.6	27.70	-13.30
	241	33	17.6	1	14.4	78.6	38.0	26.58	-12.18
	242	31	17.6	1	12.4	68.4	33.0	23.13	-10.73
	243	29	17.6	1	10.4	65.2	31.5	22.05	-11.65
1-Sep	244	28	11.7	1	15.3	81.9	39.6	27.70	-12.40
	245	28	11.7	1	15.3	81.9	39.6	27.70	-12.40
	246	30	11.7	1	17.3	55.9	27.0	18.91	-1.61
	247	33	11.7	1	20.3	68.4	33.0	23.13	-2.83
	248	34	11.7	1	21.3	72.5	35.0	24.52	-3.22
	249	35	11.7	1	22.3	33.2	16.0	11.23	0
	250	38	11.7	1	25.3	64.2	31.0	21.71	0
	251	41	11.7	1	28.3	51.7	25.0	17.48	0
	252	45	11.7	1	32.3	72.5	35.0	24.52	0
	253	41	11.7	1	28.3	71.6	34.6	24.22	0
	254	41	11.7	1	28.3	89.3	43.1	30.20	-1.90
	255	59	11.7	1	46.3	84.1	40.6	28.44	0
	256	56	11.7	1	43.3	80.9	39.1	27.36	0
	257	70	11.7	1	57.3	89.3	43.1	30.20	0
	258	50	11.7	1	37.3	86	41.6	29.09	0
	259	50	11.7	1	37.3	69.3	33.5	23.44	0
	260	44	11.7	1	31.3	30.0	14.5	10.15	0
	261	48	11.7	1	35.3	60.1	29.0	20.33	0
	262	45	11.7	1	32.3	51.7	25.0	17.48	0
	263	46	11.7	1	33.3	55.0	26.6	18.60	0
	264	47	11.7	1	34.3	79.9	38.6	27.02	0
	265	41	11.7	1	28.3	58.1	28.1	19.65	0
	266	53	11.7	1	40.3	41.6	20.1	14.07	0
	267	46	11.7	1	33.3	48.9	23.6	16.54	0
	268	49	11.7	1	36.3	60.1	29.0	20.33	0
	269	50	11.7	1	37.3	68.4	33.0	23.13	0
	270	46	11.7	1	33.3	70.6	34.1	23.88	0
	271	43	11.7	1	30.3	60.1	29.0	20.33	0
	272	40	11.7	1	27.3	50.8	24.5	17.18	0
	273		11.7	1	-12.7				
1-Oct	274		4.2	1	-5.2				
	275		4.2	1	-5.2				
	276		4.2	1	-5.2				
	277		4.2	1	-5.2				
	278		4.2	1	-5.2				
	279		4.2	1	-5.2				
	280		4.2	1	-5.2				
	281		4.2	1	-5.2				
	282		4.2	1	-5.2				
	283		4.2	1	-5.2				
	284		4.2	1	-5.2				
	285		4.2	1	-5.2				
	286		4.2	1	-5.2				
	287		4.2	1	-5.2				
	288		4.2	1	-5.2				
	289		4.2	1	-5.2				
	290		4.2	1	-5.2				
	291		4.2	1	-5.2				
	292		4.2	1	-5.2				
	293		4.2	1	-5.2				
	294		4.2	1	-5.2				
	295		4.2	1	-5.2				

Table 3 - RCAA 2009 depletions									
Date	Day	Flow at La Puente	Bosque ET	Evap	RCAA Available Flow	Total Chama Depletion	RCAA Depletion (from ET toolbox)	70% Adjustment	RCAA Caused Deficit
	296		4.2	1	-5.2				
	297		4.2	1	-5.2				
	298		4.2	1	-5.2				
	299		4.2	1	-5.2				
	300		4.2	1	-5.2				
	301		4.2	1	-5.2				
	302		4.2	1	-5.2				
	303		4.2	1	-5.2				
Total Defecit Due to RCAA:								CFS:	-239.55
								Acre-feet:	-475.02

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Phone/Fax: (575) 758-0407

January 7, 2010

John R. D'Antonio, State Engineer
Office of the State Engineer
P.O. Box 25102
Santa Fe, New Mexico 87504-5102

Re: Rio Chama Acequia Association Permit SP-4901

Dear Mr. D'Antonio:

In response to your letter dated December 15, 2009 to Fred Vigil, President of the Rio Chama Acequia Association (RCAA), the RCAA has reached agreement with the Middle Rio Grande Conservation District (MRGCD) on the amount of water that the RCAA agrees to deliver to the MRGCD for the 2009 irrigation season. (See attached letter to MRGCD). The RCAA hereby authorizes the New Mexico Interstate Stream Commission to release to the MRGCD 475 acre feet from water which the RCAA has in storage at Abiquiu Reservoir.

The RCAA also advises you that it is presently negotiating a one year extension, through the end of 2010, of the water storage contract that the RCAA has with the Albuquerque Bernalillo County Water Utility Authority. We expect the ABCWUA to take formal action at its next meeting this month to approve such a contract extension.

Please contact me if you have any question about the matters addressed above.

Sincerely,

Fred J. Waltz
Attorney at Law

FJW/co

Xc: Fred Vigil, Chairman-RCAA
Subhas Shah, MRGCD
Arianne Singer, OSE LAP
Rolf Schmidt-Petersen, ISC
Kevin Flanigan, ISC
Vince Chavez, OSE
Buck Wells, OSE, WRAP
Ken Malmquist, OSE, WRAP