Appendix P

Reclamation Ditch Yield Study

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RECLAMATION DITCH YIELD STUDY

Prepared for

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

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Cover photos: Reclamation Ditch below Carr Lake at Sherwood Drive and Hwy 101, summer and winter 2004.

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Table i. Acronyms Used in this Report

Acronym	Description
AFY, ac-ft/yr	Acre-feet/year
cfs	Cubic foot per second
ft/s	Foot per second
gpd	Gallons per day
mgd	Million gallons per day
mg/L	Milligrams per liter
µg/L	Micrograms per liter
MPN	Most Probable Number
ng/L	Nanogram per liter
ppb	Parts per billion
ppm	Parts per million
ASBS	Areas of Special Biological Significance
ASR	Aquifer Storage and Recovery
BMP	Best management practice
CAW, CalAm	California American Water Company
CCAMP	Central Coast Ambient Monitoring Program
CCoWS	Central Coast Watershed Studies Program
CCR	California Code of Regulations
CCRWQCB	Central Coast Regional Water Quality Control Board
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CSIP	Castroville Seawater Intrusion Project
CWC	California Water Code
DWR	California Department of Water Resources
GWR	Groundwater Replenishment
MCWRA	Monterey County Water Resources Agency
MPWMD, District	Monterey Peninsula Water Management District
MRSWMP	Monterey Regional Stormwater Management Program
MRWPCA, Agency	Monterey Regional Water Pollution Control Agency
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	USDA Natural Resources Conservation Service
RTP	MRWPCA Regional Treatment Plant
SIWTF	Salinas Industrial Wastewater Treatment Facility
SRDF	Salinas River Diversion Facility
SRDP	Salinas River Diversion Project
SVRP	Salinas Valley Reclamation Plant
SVWP	Salinas Valley Water Project
SVGB	Salinas Valley Groundwater Basin
SWRCB	California State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USGS	U.S. Geologic Survey

Table ii. Units of Measure Used in this Report

Unit	Equals
1 acre-foot	= 43,560 cubic feet = 325,851 gallons
1 cubic foot	= 7.48 gallons
1 cfs	= 448.8 gallons per minute
1 MGD	= 1,000,000 gallons/day = 1,120 acre-feet / year
1 mg/L	= 1 ppm = $1 / 10^6$
1 µg/L	= .001 mg/L = 1 ppb =$1 / 10^9$
1 ng/L	= 0.001 µg/L = 1 part per trillion = $1 / 10^{12}$

Summary of Reclamation Ditch Yield Study

The Monterey Peninsula Water Management District (MPWMD) and the Monterey Regional Water Pollution Control Agency (MRWPCA) are jointly sponsoring the proposed Pure Water Monterey Groundwater Replenishment Project (Proposed Project), a water supply project that will serve northern Monterey County. The project will provide purified water for recharge of the Seaside Groundwater Basin that serves as drinking water supply, and recycled water to augment the existing Castroville Seawater Intrusion Project agricultural irrigation supply. One of the proposed sources of water supply to be developed for this project is surface water flowing in the Reclamation Ditch and Tembladero Slough. The purpose of this study was to (1) analyze water availability in the Reclamation Ditch, (2) provide an engineering analysis of the potential yields and the infrastructure required to capture and convey those flows to the Proposed Project, and (3) assess the potential project impacts on hydrology and water quality in the Reclamation Ditch and Tembladero Slough.

The Reclamation Ditch watershed is approximately 157 square miles that includes headlands, agricultural areas, the City of Salinas and portions of Castroville and Prunedale. Summer flows are predominantly agricultural tile drainage. Winter flows include runoff from throughout the basin.

Yields were estimated for two diversion points, the Reclamation Ditch at Davis Road and Tembladero Slough at Castroville. These locations were selected based on their proximity to existing wastewater collection facilities, which may be used to convey the flows to the MRWPCA Regional Treatment Plant. Maximum diversion rates were based upon the average historic flows in the Reclamation Ditch, the available conveyance capacity in the existing wastewater collection systems and assumed minimum in-stream flows rates to maintain existing habitat. Water rights permit applications for diversions less than 3 cfs may be processed more quickly than applications requesting higher diversion rates, so the Proposed Project includes an initial phase with 2.99 cfs diversions, and a second phase with higher diversion rates. The estimated annual yields are shown in Table S-1, below.

Table S-1: Estimated Annual Diversions

Proposed Project, Initial Water Rights Permits		
Location	**Diversion Rate (cfs)**	**Annual Diversion (AF)**
Davis Road	2.99	1,088
Castroville	2.99	1,162
Total		2,250
Proposed Project, Ultimate Water Rights Permits		
Location	**Diversion Rate (cfs)**	**Annual Diversion (AF)**
Davis Road	6.0	1,521
Castroville	2.99	1,134
Total		2,655

The yields in Table S-1 assume a minimum in-stream flow requirement of 0.69 cfs at Davis Road during the months of June through November, and 2.0 cfs during the months of December through May when higher flows are required for fish migration. A minimum in-stream flow of 1 cfs was assumed for the Tembladero Slough at Castroville in all months.

Flows in the Reclamation Ditch and Tembladero Slough below the proposed diversion facilities were estimated using a mass balance model, and a statistical analysis was performed on the results. Diverting stream flows to the Proposed Project would reduce average monthly flows in the Reclamation Ditch by up to 79% during the dry summer months, and by 12% to 40% during the wet winter months.

Section 1 - Introduction

1.1 Project Description

The Monterey Peninsula Water Management District (MPWMD) and the Monterey Regional Water Pollution Control Agency (MRWPCA) are jointly sponsoring the proposed Pure Water Monterey Groundwater Replenishment Project (Proposed Project), a water supply project that will serve northern Monterey County. The project will provide purified water for recharge of the Seaside Groundwater Basin that serves as drinking water supply, and recycled water to augment the existing Castroville Seawater Intrusion Project agricultural irrigation supply.

Source water for the project would include agricultural wash water from the City of Salinas Industrial Wastewater Collection System, stormwater from MRWPCA member cities, secondary-treated effluent from the MRWPCA Regional Treatment Plant, and surface water diverted from the Reclamation Ditch, Tembladero Slough and Blanco Drain. Water supplied to the Proposed Project would undergo primary and secondary treatment at the existing Regional Treatment Plant. The portion used for groundwater recharge would then undergo advanced treatment at a new facility to be located at the MRWPCA site, and then be conveyed to the Seaside Groundwater Basin for injection. The portion used for agricultural irrigation would undergo tertiary treatment at the existing Salinas Valley Reclamation Plant, and distribution through the Castroville Seawater Intrusion Project system.

The MRWPCA provides wastewater treatment for municipalities along the Monterey Bay from Pacific Grove north to Moss Landing, and inland to the City of Salinas. Wastewater is collected in an interceptor pipeline system and conveyed to the Regional Treatment Plant (RTP), located two miles north of the City of Marina. A large portion of this incoming flow is tertiary treated and used for unrestricted agricultural irrigation within the Castroville Seawater Intrusion Project system in the northern Salinas Valley. Flow that is not sent to the tertiary treatment system is discharged through an outfall to Monterey Bay after receiving secondary treatment. The RTP has an average dry weather design capacity of 29.6 million gallons per day (mgd) and a peak wet weather design capacity of 75.6 mgd. It currently receives and treats approximately 17 to 18 mgd of average dry weather flow and therefore has capacity to treat additional flows. The interceptor pipeline system also has currently unused or excess conveyance capacity. Most of the new source waters would be conveyed to the RTP using the existing wastewater collection system.

Transfers of source water flowing in known and definite channels, such as the Reclamation Ditch, to the GWR project would be a consumptive use that may require an appropriative permit from the State Water Resources Control Board (SWRCB). The purpose of this study was to analyze water availability in the Reclamation Ditch and provide an engineering analysis of the potential yields and the infrastructure required to capture and convey those flows to the RTP. The study also provides a preliminary analysis of the water quality and hydrologic impacts of the

Proposed Project. This hydrologic information and analysis may then be used in a permit application to the SWRCB.

1.2 Water Source Description

The Reclamation Ditch watershed is approximately 157 square miles that includes headlands, agricultural areas, the City of Salinas and portions of Castroville and Prunedale. The Ditch, created between 1917 and 1920, is a network of excavated earthen channels used to drain surface runoff generated in the watershed. It captures Alisal Creek at Smith Lake, southeast of the City of Salinas, Gabilan and Natividad Creeks within the City at Carr Lake, and Santa Rita Creek west of the City. The Ditch is a major drainage channel that flows from east to west through Salinas and continues west where it drains into Tembladero Slough, then the Old Salinas River Channel, and ultimately into Moss Landing Harbor through the Potrero Road Tide Gates. See Figures A-1, Reclamation District No. 1665, and A-2, Reclamation Ditch Watershed and Zone 9 Boundary.

The Reclamation Ditch is perennial downstream of agricultural and urban development. According to USGS records, flow west of Salinas at the San Jon Road gage only ceased on three days between 1971 and 1985, and on those days, standing water was probably still present throughout most of the Reclamation Ditch. The presence of standing water is reflective of historical conditions, since the area was a system of lakes. However, the presence of dry-season flow is a consequence of dry-season urban discharges and agricultural tailwater[1]. Annual runoff at the USGS gage station at San Jon Road for Water Years 1971-2012 has averaged 11,220 AFY. This average has declined by almost a third in recent years as water conservation practices have reduced the amount of agricultural irrigation. Monthly average flows for the San Jon gage are tabulated below. The gage was inactive from March 1986 to May 2002. Recorded flows prior to February 1986 reflect the maximum daily flow[2] and not the true daily mean. In the dry season months (June to October), the daily maximum and average flows are nominally equal, but in the wet months, the data will skew slightly higher than using true daily average flows.

[1] Casagrande, J. & Watson, F. (2006) Reclamation Ditch Watershed Assessment and Management Plan: Part A - Watershed Assessment. Monterey County Water Resources Agency and the Watershed Institute, California State University Monterey Bay. 283 pp.

[2] USGS Water-Data Report 2012, 11152650 Reclamation Ditch near Salinas, CA

Table 1-1: USGS Flow Data, Station 11152650, Reclamation Ditch at San Jon Road

Mean Monthly Data, Water Years 1971-2012[3]			Compiled Daily Data, JAN 2003 – DEC 2013	
Month	Mean Flow	Net Flow	Mean Flow	Net Flow
	(cfs)	(AF)	(cfs)	(AF)
OCT	6.32	389	4.88	300
NOV	11.6	690	4.93	293
DEC	16.9	1,039	16.97	1,044
JAN	27.8	1,709	21.62	1,329
FEB	32.3	1,810	21.48	1,203
MAR	36.6	2,250	25.99	1,598
APR	22.2	1,321	15.21	905
MAY	8.02	493	4.27	263
JUN	6.1	363	3.33	198
JUL	5.76	354	3.13	193
AUG	6.06	373	2.94	181
SEP	5.19	309	2.23	133
ANNUAL		11,220		7,640

Summer flows in the Reclamation Ditch come from urban runoff and agricultural return flows. The primary source of this water is groundwater from the Salinas Valley Groundwater Basin. Approximately 12,000 acres in north Monterey County receive recycled water for agricultural irrigation under the Castroville Seawater Intrusion Project (CSIP), which is intended to reduce well pumping along the coast. The MRWPCA operates the Salinas Valley Reclamation Plant adjacent to the RTP to produce tertiary treated and disinfected recycled water for this system. About half of the CSIP service area is tributary to the Reclamation Ditch. Since 2010, Salinas River water has also been included in the CSIP deliveries, as discussed below.

The Reclamation Ditch is maintained by the Monterey County Water Resources Agency (MCWRA). The Ditch is a trapezoidal channel which connects a series of natural creeks and seasonal lakes. Flows from some tributary channels, such as Markley Swamp, are controlled by flap gates to prevent high seasonal flows from backing up into these side channels. The lakes are FEMA floodways for major storm events, but are used for irrigated agriculture during the majority of the time. In several locations, the MCWRA operates pump stations to drain low points along the tributary channels to improve the drainage for agricultural use. There are no gates or control structures within the main stem of the Reclamation Ditch system other than the tides gates at Potrero Road.

[3] USGS Water-Data Report 2012, 11152650 Reclamation Ditch near Salinas, CA

Figure 1.1: Reclamation Ditch at Alisal Street

The Salinas Valley Groundwater Basin is the primary source of water supply in the Salinas Valley. The Salinas River recharges the aquifer through percolation in the Upper Valley and Forebay sub-areas (see figure A-3). Historically, the river flowed seasonally, with little to no flows in the late summer months. To augment the natural aquifer recharge, the MCWRA operates two reservoirs in the upper valley: San Antonio Reservoir (water right permit 12261) and Nacimiento Reservoir (water right permits 10137 and 21089). Water is released from these reservoirs to maintain year-round flow in the Salinas River for aquifer recharge. Permits 12261 and 10137 allow MCWRA to redivert flows released to the Salinas River at the Salinas River Diversion Facility (SRDF), located near the MRWPCA RTP. This water is currently used to augment the recycled water supplies for the CSIP. The permit for SRDF operation requires certain seasonal flow releases for habitat maintenance in the main-stem river channel and in the Salinas River Lagoon. Of note, during summer operation of the SRDF, a minimum bypass flow of 2 cfs be maintained for the Salinas Lagoon.

During the summer months, the Salinas River flows into the Old Salinas River Channel through a gated culvert at the Salinas Lagoon. Direct discharge to the ocean is blocked by a seasonal sand bar which forms across the mouth of the Salinas Lagoon due to wave and tidal action in the

Monterey Bay. Discharge from the lagoon through the culvert is limited to 100 cfs[4]. The Old Salinas River channel is controlled by tide gates at Potrero Road in Moss Landing. River flows combine with Tembladero Slough flows approximately 1.2-miles above the tide gates. During high winter flows in the Salinas River, the sand bar breaches and the river flows directly to the Bay. When this occurs, MCWRA closes the slide gate to the Old Salinas River, and only Tembladero Slough flows through the Potrero Road tide gates.

The water quality in the Reclamation Ditch is generally poor, containing high levels of nitrates and pesticides and low levels of dissolved oxygen. The Reclamation Ditch (Salinas Reclamation Canal) and all of its tributary streams are on the California Listing of Water Quality Limited Stream Segments, as reported under Section 303(d) of the Federal Clean Water Act. A summary matrix of 303(d) listed streams is at Table B-1. Water quality is discussed in greater detail in Section 4 of the Report.

Aquatic habitats within the Reclamation Ditch system are poor. In addition to the poor water quality, the Ditch is generally maintained as a drainage canal without tree canopy. The adjacent agricultural lands are used for growing table crops (leafy greens, berries and artichokes). The growers prevent vegetation from establishing along the Ditch banks to discourage birds and rodents from nesting near their fields. Within the City of Salinas, the Reclamation Ditch is an urban watercourse with steep sides and numerous pipe culverts or bridges with lined inverts. Three of the tributary streams, Alisal, Gabilan and Natividad Creek, extend beyond the agricultural areas into the Gabilan Range. The upper portions of these streams are in a more natural state, although the adjacent lands are used for ranching and cattle grazing. Rainbow trout may have been introduced to the upper reaches of Gabilan Creek for an unknown period ending in 1958[5]. Any fish migration from the ocean to these upper reaches would occur in the winter months (November to March) during high seasonal flows, and downstream migration of juvenile fish would occur in the spring (March to May). These creeks are general dry above Old Stage Road in Salinas during the summer months.

[4] Schaaf & Wheeler, Old Salinas River Channel, Fish Screen Hydraulic Study, March 2009

[5] Casagrande, J. & Watson, F. (2006) Reclamation Ditch Watershed Assessment and Management Plan: Part A - Watershed Assessment. Monterey County Water Resources Agency and the Watershed Institute, California State University Monterey Bay, pp 174.

Section 2 - Yield Estimation

2.1 Methodology

As stated in the Project Description, water supplies for the GWR Project will be conveyed to the RTP using existing excess capacity in the MRWPCA interceptor system. Potential diversion points along the Reclamation Ditch were identified that were in close proximity to existing wastewater collection and conveyance facilities. Estimates of stream flow capture from the Reclamation Ditch system were made for two locations: the Reclamation Ditch at Davis Road and Tembladero Slough at the MRWPCA Castroville pump station. The Davis Road location is adjacent to a City of Salinas 54-inch sanitary sewer main which flows to the MRWPCA Salinas Pump Station.

Flow data for the Reclamation Ditch at San Jon Road (USGS Gage No 11152650) was used as the basis of this analysis. A second stream gage exists on Gabilan Creek well above Carr Lake. This gage was not included in the estimate because of its distance from the diversion points.

The drainage basin above the USGS Gage is listed as 53.2 square-miles, which is incorrect. In the earlier Reclamation Ditch Zone 9 Report, Schaaf & Wheeler calculated the sub-basin sizes for the entire Reclamation Ditch watershed (see figure A-4). Based on that data, the basin size above the USGS gage is 109.4 square-miles. The drainage basin above the proposed diversion point on the Reclamation Ditch at Davis Road is 102.5 square-miles, or 93.7% of the gaged area. The drainage basin above the MRWPCA Castroville Pump Station is 152.7 square-miles, or 140% of the gaged area.

Historic mean daily flows at the two diversion points were calculated by scaling the recorded flows at San Jon Road by the factors listed above (see Appendix B, Tables B-2 and B-3). For the Davis Road diversion point, the two areas are nearly the same and therefore the estimate is fairly reliable. For the Castroville diversion point, the difference in basin size is significant, and the additional area is predominantly irrigated agriculture, which may result in higher tile drain return flows than this method would indicate. The scaled value may therefore be considered conservatively low.

Diversions at the two locations were calculated on a daily basis using the following formulas:

Available Flow = (Daily Flow) - (In-stream Flow Target)

IF (Available Flow) < 0, Daily Diversion = 0

IF (Available Flow) <= (Target Diversion), Daily Diversion = Available Flow

IF (Available Flow) > (Target Diversion), Daily Diversion = Target Diversion

In-stream flow targets for habitat maintenance from 0.67 cfs to 2 cfs were used in the yield estimations, as discussed in Section 2.2. Daily diversions were converted to acre-feet and summed by month.

Target diversion rates were based upon available flows and the existing conveyance capacity in the sanitary sewer system. At the Davis Road diversion point, there is an existing 54-inch City of Salinas sanitary sewer main (see figure A-5), which conveys flows to the MRWPCA Salinas Pump Station (see figure A-6). The full pipeline profile was not available, but the profile of downstream segments showed slopes of 0.0006 and greater. We assumed that the limiting segment in the pipeline would have a slope of 0.0003, which would allow gravity flow at 2.44 ft/s with d/D of 0.9. This equates to a maximum Q of 36.3 cfs, or 23.5 mgd. The 54-inch sanitary sewer was metered in summer 2010 as part of a capacity study for the MRWPCA Salinas Pump Station[6]. The average dry weather flow in that main was about 7 mgd. The diurnal peaking factor (per the City's 2004 SSMP) is 1.6, so the Peak Dry Weather Flow (PDWF) is 11.2 mgd or 17.3 cfs. That leaves up to 19 cfs of conveyance capacity within the gravity main to carry dry weather flows from the Reclamation Ditch. This pipeline is projected to approach full capacity as the City is built-out[7], but that may take several decades to occur. The Salinas Pump Station has a rated capacity of 35.4 MGD and sees PDWF of 19 MGD[8], leaving 16.4 MGD of available conveyance capacity.

Mean summer flows in the Reclamation Ditch are typically less than 5 cfs at San Jon Rd (period May to October, see Table 2-1). Average daily flows exceed 3 cfs about 30% of the time, and exceed 6 cfs only 5% of the time (see Table 2-2). Therefore, 6 cfs was used as the maximum diversion rate for the Davis Road site. Diversions were calculated for the Reclamation Ditch at Davis Road using diversion targets from 1.0 cfs to 6.0 cfs, assuming an in-stream flow requirement from 0.67 to 2.0 cfs to maintain aquatic and riparian habitats. The permitting process for a water right diversion under 3 cfs is shorter than for a larger water right, so the Proposed Project assumes an initial water right diversion permit at 2.99 cfs, and an ultimate water right allowing diversions at up to 6 cfs. The annual yield results are presented in Table 2-3, below. Monthly diversion estimates are shown in Table B-4.

[6] Carollo Engineers, Technical Memorandum, Salinas Sewage Conveyance Study 2011
[7] CDM, Salinas Sanitary Sewer Master Plan, 2004
[8] Carollo Engineers, Technical Memorandum, Salinas Sewage Conveyance Study 2011

Table 2-1: Average Reclamation Ditch Flow at San Jon Rd (cfs)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2002						1.1	1.3	1.8	2.0	1.7	8.1	34.1
2003	12.2	5.7	6.0	9.0	2.6	2.0	1.3	0.9	1.5	0.8	2.9	24.3
2004	17.2	38.5	6.4	3.2	2.8	3.6	2.9	3.1	2.4	14.9	2.1	30.2
2005	46.8	33.7	58.9	16.5	7.5	5.8	5.5	4.0	3.2	3.0	3.2	17.7
2006	30.3	4.3	49.7	67.9	8.6	5.2	5.0	4.0	3.4	2.2	7.0	13.4
2007	4.7	17.9	4.8	6.4	4.7	3.6	3.6	3.7	3.4	4.1	2.6	6.2
2008	36.6	28.3	2.6	3.2	2.5	2.0	2.0	2.2	1.7	1.7	4.6	15.3
2009	8.1	38.6	17.7	3.4	3.7	1.3	2.7	3.1	2.0	13.7	0.9	7.6
2010	36.7	29.1	43.3	29.0	5.6	3.9	3.9	3.2	2.1	2.9	12.1	23.8
2011	19.7	32.6	75.8	9.5	5.2	4.6	3.7	2.9	2.3	7.8	7.7	1.2
2012	10.3	3.4	17.9	17.1	2.4	3.1	2.3	3.6	1.4	1.6	9.8	45.8
2013	15.3	3.6	2.7	2.1	1.5	1.5	1.6	1.7	1.1	1.0	1.4	1.4
2014	1.4	13.4	10.6	4.6	1.2	1.2	1.3	1.5	1.4	2.5	7.0	122.2
AVG	**19.9**	**20.8**	**24.7**	**14.3**	**4.0**	**3.0**	**2.9**	**2.7**	**2.1**	**4.5**	**5.3**	**26.4**

Table 2-2: Maximum Reclamation Ditch Flow at San Jon Rd (cfs)[9]

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2002						1.6	1.9	2.8	2.6	3.1	78.0	151.0
2003	115.0	68.0	78.0	45.0	7.7	2.6	1.9	1.5	2.3	9.3	15.0	220.0
2004	155.0	197.0	43.0	4.4	4.2	7.0	4.1	4.3	3.8	82.0	10.0	247.0
2005	206.0	133.0	245.0	97.0	38.0	15.0	9.1	6.4	4.9	6.9	19.0	86.0
2006	188.0	20.0	114.0	270.0	51.0	7.6	6.1	5.7	6.3	5.8	89.0	94.0
2007	33.0	77.0	27.0	30.0	13.0	4.3	5.4	5.0	22.0	36.0	26.0	45.0
2008	111.0	156.0	13.0	8.5	4.4	2.7	6.2	3.3	3.6	11.0	36.0	91.0
2009	76.0	138.0	157.0	7.3	12.0	2.0	4.4	13.0	5.2	163.0	1.5	52.0
2010	186.0	168.0	270.0	233.0	25.0	6.0	6.1	4.8	3.2	14.0	83.0	211.0
2011	200.0	174.0	257.0	34.0	26.0	10.0	5.6	3.7	3.3	110.0	60.0	3.0
2012	131.0	24.0	191.0	140.0	5.7	12.0	3.7	5.7	3.9	6.2	190.0	188.0
2013	203.0	26.0	27.0	7.9	2.4	2.3	2.2	2.4	3.3	2.5	20.0	12.0
2014	4.6	125.0	116.0	45.0	1.9	1.8	1.9	2.5	4.5	37.0	95.0	400.0

[9] Source: USGS gage 11152650, daily average flows in cfs

Table 2-3: Estimated Yields from the Reclamation Ditch at Davis Road

Bypass and Diversion Targets	Annual Diversion (AF)
Bypass 1 cfs, Max Diversion 1 cfs	541.2
Bypass 1 cfs, Max Diversion 2 cfs	906.2
Bypass 1 cfs, Max Diversion 2.9 cfs	1,134.7
Bypass 1 cfs, Max Diversion 2.99 cfs	1,153.8
Bypass 1 cfs, Max Diversion 3 cfs	1,155.9
Bypass 1 cfs, Max Diversion 4 cfs	1,337.5
Bypass 1 cfs, Max Diversion 5 cfs	1,484.0
Bypass 1 cfs, Max Diversion 6 cfs	1,610.6
Bypass 2 cfs, Max Diversion 2.99 cfs	794.7
Bypass 2 cfs, Max Diversion 6 cfs	1185.7
Bypass 0.67 cfs, Max Diversion 2 cfs	1,014.3
Bypass 0.67, Max Diversion 2.99 cfs	1,295.6
Bypass 0.67, Max Diversion 6 cfs	1,783.2

The estimates above include diversions during wet winter months. Peak wet weather flows in the City's sanitary sewer system may not allow for capture of peak winter flows from the Reclamation Ditch (i.e., there may not be 6 cfs of available capacity in the collection system when there is 6 cfs available for diversion). The 6 cfs diversion rate was used for facility sizing, as discussed in Section 3.

At the Castroville diversion point on Tembladero Slough, the MRWPCA Castroville Pump Station has a rated capacity of 3.2 MGD. The peak dry weather flow is listed at 1.2 MGD, leaving 2 MGD of excess summer capacity, or 3.1 cfs. The peak wet weather flow is listed at 2.0 MGD, leaving 1.2 MGD of excess winter capacity, or 2.2 cfs. Diversions were calculated for Tembladero Slough using diversion targets from 2.2 cfs to 3.5 cfs, assuming an in-stream flow requirement of 1.0 cfs. The annual yield results are tabulated below. The Proposed Project assumes a diversion rate of 2.99 cfs to allow for the simpler water rights permitting process. Monthly diversion estimates are shown in Table B-5.

Table 2-4: Estimated Yields from Tembladero Slough at Castroville

Bypass and Diversion Targets	Annual Diversion (AF)
Bypass 1 cfs, Max Diversion 2.2 cfs	1,234.5
Bypass 1 cfs, Max Diversion 2.5 cfs	1,355.1
Bypass 1 cfs, Max Diversion 2.9 cfs	1,501.7
Bypass 1 cfs, Max Diversion 2.99 cfs	1,532.5
Bypass 1 cfs, Max Diversion 3 cfs	1,535.9
Bypass 1 cfs, Max Diversion 3.5 cfs	1,694.4

Estimates were also prepared for diverting at both stations concurrently. This option entails higher capital and operating costs, but the potential yields are higher because you can capture more of the lower basin flows from Santa Rita and Merritt Creeks. It also reduced the potential of not being able to capture high winter flows due to competition with City of Salinas peak wet weather flows in the municipal collection system. The annual yield results are tabulated below. Monthly diversion estimates are shown in Table B-6. As can be seen, more total flow is captured when the daily maximum diversion of 6 cfs is divided between the two sites. Even after increasing the in-stream bypass requirement to 2 cfs, the total annual diversion is higher than applying the 6 cfs target at the Davis Road site alone. In the final two estimates, seasonal in-stream flow targets of 0.67 cfs in the summer and 2.0 cfs in the winter were assumed, with the higher flows required in during the fish migration season, discussed below.

Table 2-5: Estimated Yields from Two Diversion Locations

Bypass and Diversion Targets	Annual Diversion (AF)
Bypass 1 cfs, Max Diversion 2 cfs (net 4 cfs)	1,834.1
Bypass 1 cfs, Max Diversion 2.9 cfs (net 5.8 cfs)	2,220.5
Bypass 1 cfs, Max Diversion 2.99 cfs (net 5.98 cfs)	2,252.0
Bypass 1 cfs, Max Diversion 3 cfs (net 6 cfs)	2,255.5
Bypass 2 cfs, Max Diversion 3 cfs (net 6 cfs)	1,770.5
Bypass 1 cfs, Divert 6 cfs RD, 2.99 cfs TS (net 8.99 cfs)	2,562.3
Bypass 2 cfs, Divert 6 cfs RD, 2.99 cfs TS (net 8.99 cfs)	2,049.6
Seasonal Bypass, Div 2.99 cfs both sites (net 5.98 cfs)	2,249.9
Seasonal Bypass, Divert 6 cfs RD, 2.99 cfs TS (net 8.99 cfs)	2,654.8

Notes:
Same diversion target at both sites, unless noted otherwise
Seasonal bypass targets: 0.69 cfs at Davis Rd (JUN-NOV), 2 cfs at Davis Rd (DEC-MAY), 1 cfs at Castroville (JAN-DEC)

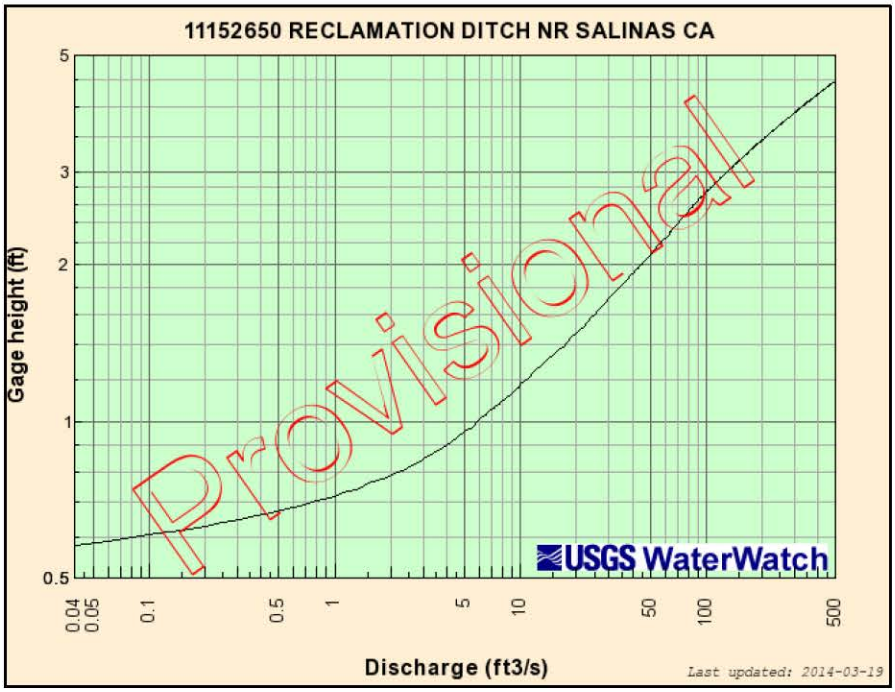
2.2 In-Stream Flow Requirements

For the initial analysis, we assumed a minimum in-stream flow of 1 cfs must be maintained prior to making any diversions. This was based upon the typical minimum summer flow rate as recorded at the USGS gage 11152650 on the Reclamation Ditch. A minimum in-stream flow was not established in the documents reviewed, but habitats for some aquatic species were identified in the source reports.

Figure 2.1: USGS Station 11152650 (flowing at 4.9 cfs)

The USGS Gaging Station on the Reclamation Ditch uses a weir gage, as shown in Figure 2.1, above. The rating curve for this station is provided at Figure 2.2. A log-log plot is required to show the change in depth vs. flow at lower flow rates. As can be seen in the graph, the water level at the gaging station is 0.7 feet above the datum when the flow is 1 cfs. However, the gage datum is not the weir crest, so a flow of 1 cfs is only about 0.1 ft deep across the weir. As seen in the photograph, the water depths above and below the gaging weir are deeper, and the change in channel water level tracks with the recorded gage height. At 7 cfs, the gage height increases to 1.1 feet. Therefore, diverting at the maximum target of 6 cfs would, in the most extreme case (i.e., diverting 6 cfs and bypassing 1 cfs), reduce the water level in the channel by 0.4 feet. At higher flow rates, a 6 cfs flow reduction produces a smaller change in water depth.

Figure 2.2: Rating Curve for USGS Station 11152650, log-log Plot[10]



Figures 2.3 and 2.4, below, show the cumulative effects of diverting flows from the Reclamation Ditch. Tables B-7 and B-8 with the underlying data are included in Appendix B. In Figure 2.3, flows with no diversion at Davis Road are compared to flows after capturing up to 6 cfs with a 1 cfs minimum bypass. The flow reductions range from 15% in the winter months to 65% in the summer. Note that despite this flow reduction, the summer water surface would only be reduced by 0.4 feet. In Figure 2.4, the same comparison is made, but a 2 cfs minimum bypass is modeled. The summer flows would be reduced by only 40% under this scenario. Under the seasonal by-pass scenario (leaving the first 2 cfs in-stream from December through May, and leaving 0.69 cfs in-stream from June through November), the summer flow reduction reaches 79% when diverting up to 6 cfs at Davis Road.

The Tembladero Slough is tidally influenced from the Old Salinas River Channel up to Highway 183 in Castroville. The backwater condition caused by the tide gates would prevent measurable reductions in water levels throughout that reach. The potential change in water level in the Reclamation Ditch below the Davis Road diversion site should not affect riparian species along the creek banks, which are adapted to seasonally varying water levels.

[10] USGS Gaging Station website

Figure 2.3: Flows Comparison for 6 cfs Diversion with 1 CFS Bypass

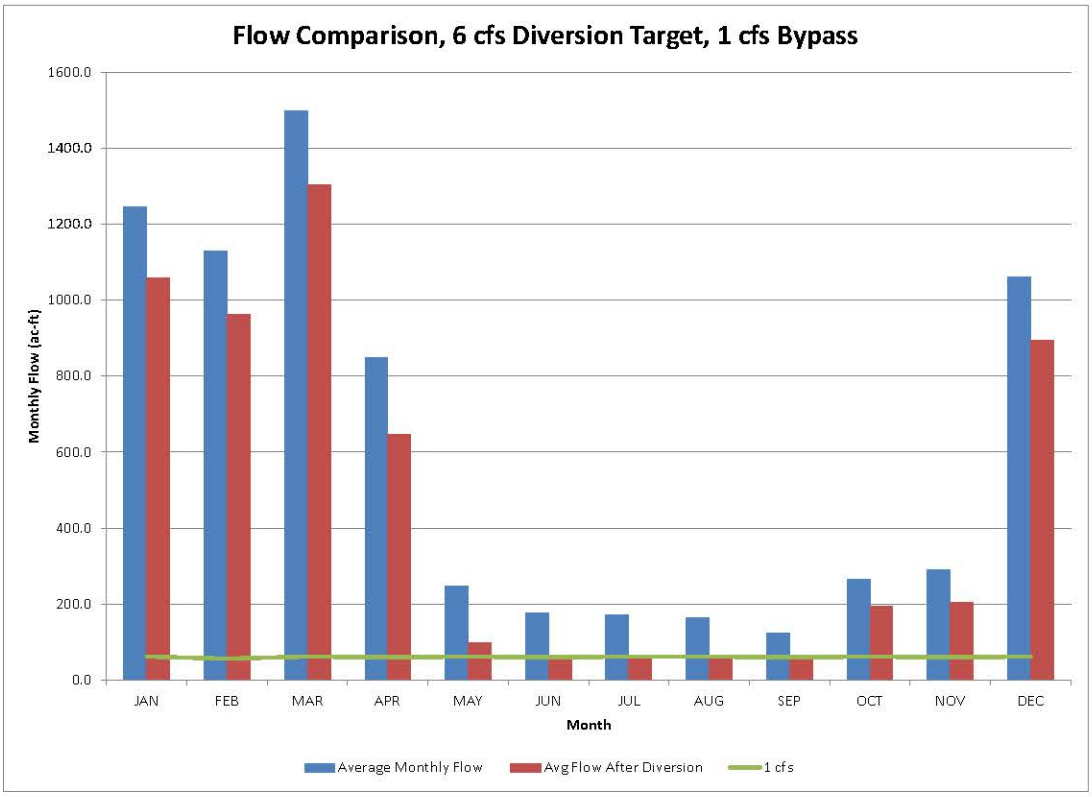
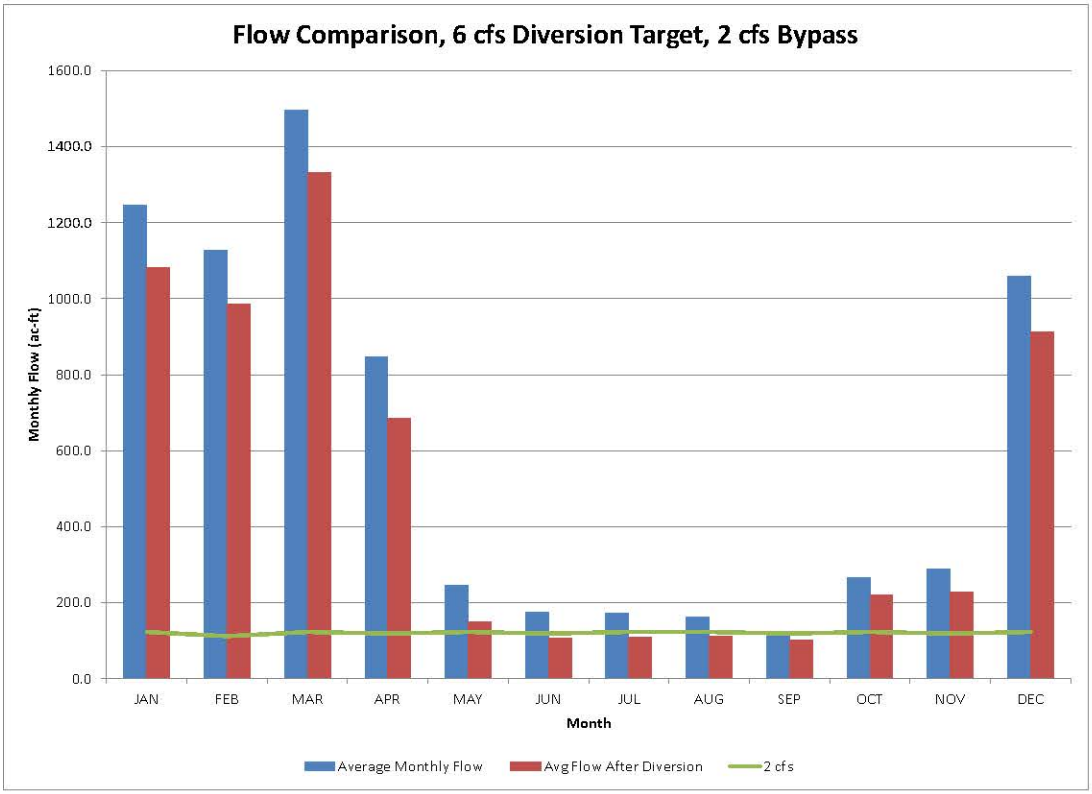


Figure 2.4: Flows Comparison for 6 cfs Diversion with 2 CFS Bypass



Reduced flows may affect migratory fish species which traverse the Tembladero Slough and Reclamation Ditch to and from Gabilan Creek, which has been identified as suitable habitat for South-Central California Coast Steelhead[11]. Objects in the channel bottom, such as the USGS stream gage or riprap placed for erosion control, present obstacles to fish passage at low flows but are submerged at higher flows. The steelhead are adapted to the seasonal availability of passage flows, with adults migrating upstream in December through March to spawn, and with juveniles migrating downstream in April through May to reach the ocean or tidal estuaries. To evaluate the effects of the proposed project on fish passage, flow exceedance curves were developed for the current condition and four project scenarios (see Appendix D). The four modeled scenarios are:

Case 1: Divert up to 2.99 cfs at Davis Road, leaving 2 cfs in-stream during the migration season (December-May), and 0.69 cfs in-stream during the other months (June-October). Divert up to 2.99 cfs at Castroville, leaving 1 cfs in-stream year-round.

Case 2: Divert up to 6 cfs at Davis Road, leaving 2 cfs in-stream during the migration season (December-May), and 0.69 cfs in-stream during the other months (June-October). Divert up to 2.99 cfs at Castroville, leaving 1 cfs in-stream year-round.

Case 3: Divert up to 2.99 cfs at Davis Road, leaving 1 cfs in-stream year-round. Divert up to 2.99 cfs at Castroville, leaving 1 cfs in-stream year-round.

Case 4: Divert up to 6 cfs at Davis Road, leaving 1 cfs in-stream year-round. Divert up to 2.99 cfs at Castroville, leaving 1 cfs in-stream year-round.

A qualified fisheries biologist identified several locations along the Reclamation Ditch and Tembladero Slough that present obstacles to fish passage[12]. Based upon his estimation of the flow rate needed to submerge the obstacle and allow the depth of flow needed for passage, the biologist may then use the flow exceedance curves to determine if the project will significantly affect the number of days the passage flows occur. Those results are reported separately in the Technical Memorandum by Hagar Environmental Science.

The obstacles identified were man-made erosion controls within the Reclamation Ditch, including stone rip-rap downstream of bridge crossings and the concrete weir and apron at the USGS stream gage. No obstacles to fish passage were identified in the Tembladero Slough, which has several feet of water depth even during dry seasons. The most restrictive location was the gaging weir at San Jon Road. If the proposed project diversions are found to have significant effects on fish passage, the effects may be mitigated in several ways.

[11] Reclamation Ditch Watershed Assessment and Management Strategy, Part A: Watershed Assessment, 2004

[12] Hagar Environmental Science, 2015

First, the obstacles may be removed or modified. Stone riprap for erosion control may be replaced with smaller, grouted stone or cast-in-place concrete. The concrete apron below the gaging weir may be replaced with a concrete lined plunge pool or a center channel. This would not remove the weir itself as an obstacle, but it would allow migrating fish a path to approach the weir before jumping.

A second mitigation method would be to determine the flow rate required to allow fish passage, and not divert flows at Davis Road when the base flow in the channel would otherwise allow passage. For the San Jon Road location, Hagar Environmental Science estimated the passage flow for upstream migration of adults at 78 cfs, and the passage flow for downstream migration of juveniles at 31 cfs. During the adult migration months of December through February, diversions would not be made when the base flow in the channel is between 78 and 84 cfs. If the flow is greater than 84 cfs, diverting 6 cfs for the project would still leave at least 78 cfs in-stream. Similarly, during the smolt migration months of March through May, diversions would not be made when the base flow in the channel is between 31 and 39 cfs. Schaaf & Wheeler estimated the passage flows separately, with higher results: 90 cfs for downstream migration of smolts and 121 cfs for upstream migration of adults. Because of the varying channel geometry across the short run of the weir and apron, the depth of flow on the downstream apron should be field measured during a rain event and a depth to flow curve developed.

The estimated average diversions at Davis Road when applying these non-diversion windows are shown in Table 2-6. The baseline scenario used is a 6 cfs target diversion rate, with a winter seasonal by-pass of 2 cfs and a summer season bypass of 0.69 cfs. The original model with no diversion windows is included for comparison. Project yields are reduced by approximately 1%, with the differences occurring in the wet season months. The non-diversion windows at Davis Road did not increase the yield of the Tembladero Slough diversion at Castroville, which remained 1,134 AFY in all cases.

Table 2-6: Estimated Davis Road Diversions with Mitigation Windows

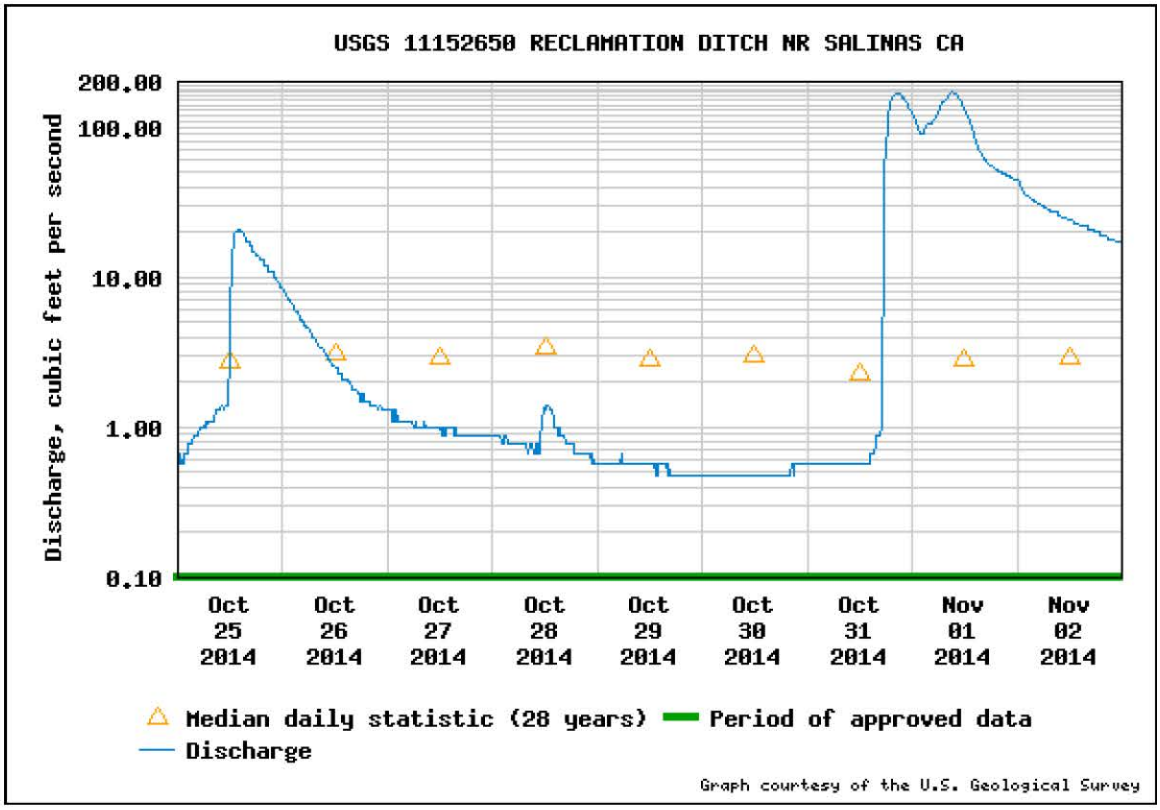
Smolt	Adult	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
31	78	157	141	158	159	96	132	129	121	80	87	98	142	1,500
90	121	161	140	165	161	97	132	129	121	80	87	98	144	1,515
0	0	162	143	165	162	97	132	129	121	80	87	98	146	1,521

Smolt migration window March-May, Adult migration window December-February

The model uses mean daily streamflow data from the USGS gage at San Jon Road. Actual flow rates in the Reclamation Ditch rise and fall quickly following a rain event due the rapid inflow of runoff from the City of Salinas. Figure 2.5, below, shows the gaged flow following two rain events in 2014. On 10/25/2014, 0.2 inch of rainfall was recorded at Salinas Airport. The flow at San Jon Road peaked at 20 cfs, but the recorded average for the day was 7.5 cfs. On 10/31/2014,

1.0 inch of rainfall was recorded, with 0.4 inch recorded on the following day. The flow on 10/31/2014 peaked at 190 cfs, but the recorded average for that day was 37 cfs, and only 95 cfs for the following day. For comparison, the 2-year, 1-hour storm for Salinas is 0.4 inch, and the 2-year, 24-hour storm is 1.6 inches. What this shows is that more passage events occur during the year than the current modeling method can describe, and the corresponding non-diversion passage windows will occur more frequently as well.

Figure 2.5: Discharge Curve at San Jon Road, 10/25/2014-11/02/2014

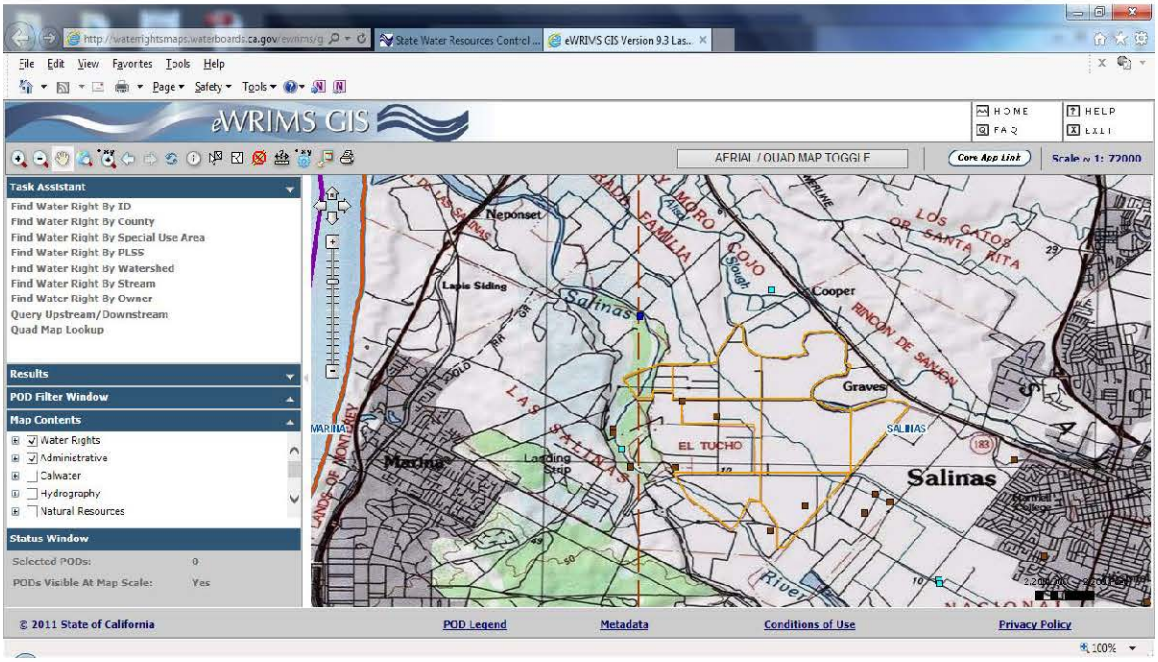


2.3 Water Rights

Water that enters surface streams and rivers is considered water of the state. A water rights permit is required to impound or divert waters of the state, except for certain riparian uses. Diverting stormwater and agricultural return flows in the Reclamation Ditch and Tembladero Slough would be subject to water rights permitting rules. Existing surface water rights were researched to assess potential impacts to current water right holders or challenges to the proposed diversions.

The State Water Resources Control Board Electronic Water Rights Information Management System (eWRIMS) was queried to identify existing water rights in the Reclamation Ditch Watershed. A listing of all current water rights for Monterey County was obtained using a database query. The Points of Diversion (PODs) within the Reclamation Ditch watershed and vicinity were identified using the on-line GIS mapping tool. The POD listing was used to create a tailored list of water rights within the area of interest (see Table B-9).

Figure 2.6: SWRCB eWRIMS Interface



The SWRCB Water Rights Order 98-08, Declaration of Fully Appropriated Stream Systems in California, identifies those stream segments which cannot support additional authorizations for diversion. Neither the Reclamation Ditch nor the Lower Salinas River were listed in that decision, so there is no regulatory prohibition on requesting a water right on this stream.

The water rights listing includes several water right types:

- Appropriative, for the diversion and use of surface water.
- Stockpond, for the on-stream impoundment and use of water.

- Statements of Diversion and Use, for reporting riparian use of surface water and for the use of groundwater. Statements of Diversion and Use are also used for claims of pre-1914 appropriative water rights. The limitation of the eWRIMS database is that most Claimed water rights do not appear with a Face Amount the way Appropriative Rights are listed.

The listing incudes four large surface water rights on the Salinas River which are owned by MCWRA. The point of diversion at the SRDF (small blue square on the map above) was within the data capture for the list, and these rights were left in the table for information only.

The existing points of diversion within the Reclamation Ditch watershed below the City of Salinas are all for groundwater use. The sources for these are variously listed as "Salinas River Underflow," "Salinas Valley Basin," or "Groundwater." The shallow "A-Aquifer" groundwater in this area is not used due to poor water quality. Wells in this area tap the Pressure and East Side subareas of the Salinas Valley Groundwater Basin (SVGB), which is recharged in the Forebay and Upper Valley subareas. Diverting surface water for this project should not affect groundwater yields from the SVGB.

Above the City of Salinas, there are 16 surface water rights or claims listed, with face value diversion amounts totaling 2,155 AFY (see Table B-10). There are also 19 stock ponds listed of various sizes. All of these sites are above Old Stage Road within the Alisal, Gabilan and Natividad Creeks watersheds. The annual usage reports for 2011 and 2012 were reviewed, to the extent available. Reported use ranged from 3% to 71% of the total face value amount. The majority of these rights are limited to wet season diversions (NOV – APR), and will not affect summer channel flows. Because these rights are all located above the existing gage, the gaged flow values did not require adjustment. Likewise, the proposed diversion points for this project are well below the diversion points for these rights, so adding this project will not affect current surface water right holders.

Section 3 - Facility Requirements

3.1 Description and Sizing

Conceptual designs were developed for diversion facilities at the two locations analyzed. The following design criteria and assumptions were used:

- The inlet would be located within the channel bottom
- The inlet will be screened to minimize fish and trash capture
- The pump station would consist of a wet well with submersible pumps
- The force main from the station will connect to a gravity portion of the existing sanitary sewer collection system (assumed discharge at atmospheric pressure)
- The minimum velocity in the force main shall be 2 feet/second to prevent the settling of suspended sediments in the pipeline.
- The maximum velocity in the force main shall be less than 8 feet/second to limit the friction losses

The conceptual design diagrams are provided in Appendix C.

The inlet structure consists of a concrete box with a screened inlet. The inlet must be sized to allow full flow through the screen with a maximum velocity of 1 ft/s to allow fish to escape. Assume the screen has an open area of 50%, and that 50% of the screen is blinded by trash/vegetation. For a maximum flow of 6 cfs:

A_{screen} = 6 cfs / [(1 ft/s) x (50% screen openings) x (50% blinded)] = 24 sq-ft

Minimum dimensions: 4-ft wide x 6-ft long

The channel invert will be concrete lined with a permanent low-flow channel adjacent to the inlet. This will prevent capturing the required minimum by-pass flows. The channel banks above the inlet structure will be protected with grouted rip-rap to prevent scour and potential bank sloughing into the by-pass and inlet. Concrete steps should be installed above the inlet to facilitate maintenance access.

The inlet will connect to the wet well through a large diameter pipe, sloped towards the wet well. The wet well is an 8-ft diameter manhole, with mounting rails to facilitate the installation and removal of the submersible pumps. Within the wet well, the pumps will be set below the inlet pipe elevation. The pump operation will be controlled by a pressure transducer in the wet well, with float switches for backup control and alarms. Because the system will be discharging to the municipal sanitary sewer, pressure transducers or float switches must be installed in the receiving system to shut off this station when the receiving sewer is flowing full.

The force main to the sanitary sewer system should be C900 PVC pressure pipe, with a check valve and isolation valve located outside the wet well in a separate vault. The pipeline should be installed with a minimum of 3-ft of cover in the pipe trench. It will connect to the sanitary system at an existing manhole. If the existing sewer is deeper than the new force main, the force main should be installed with an interior drop (pipeline to the manhole invert) to minimize the turbulence and the release of H_2S that it causes.

The pumps may operate at fixed speed or under variable speed control. Operation under fixed speed is simpler to design, but may require excessive cycling if the inflow rates are significantly lower than the pump design point. Variable speed control will allow the pumps to start and stop less frequently during the summer when flows are below 2 cfs.

For the Davis Road diversion point, two station configurations were considered. Option 1 assumed two pumps, primary and alternate, each sized to deliver 6 cfs through a shared force main. A 17 hp pump is required to provide 6 cfs of flow at that station. Option 2 assumed two independent pumps with separate force mains, each sized to deliver 3 cfs. An 8 hp pump is required to provide 3 cfs of flow. In either case, the station may be constructed next to the existing sanitary sewer main, minimizing the length of force main required. System Curves for the two configurations are provided in Figure 3.1 and Figure 3.2.

Looking at the statistics for flows at the USGS Gage at San Jon Road:

Flows are less than 1 cfs:	8% of the time
Flows are between 1 and 4 cfs:	69% of the time
Flows exceed 5 cfs:	23% of the time

Given these operating conditions, we recommend installing 3 cfs pumps with parallel force mains. If redundancy is required, a third 3 cfs pump may be installed.

The Reclamation Ditch is designed to carry the 1% (100-year) storm event. The southern bank of the Reclamation Ditch where this pump station would be located is not shown as being within the 100-year flood-plain[13]. However, it would make sense to install the electrical equipment for this station on elevated panels.

The proposed station location is adjacent to the existing railroad right-of-way, as well as MCWRA's maintenance right-of-way. Due to these restrictions, it may not be possible to provide security fencing around the pump station and controls.

[13] FEMA Flood Insurance Rate Map, Map Panel 06053C0216G, April 2009 (see Appendix A)

Figure 3.1: Davis Road Option 1, Two 6 cfs pumps

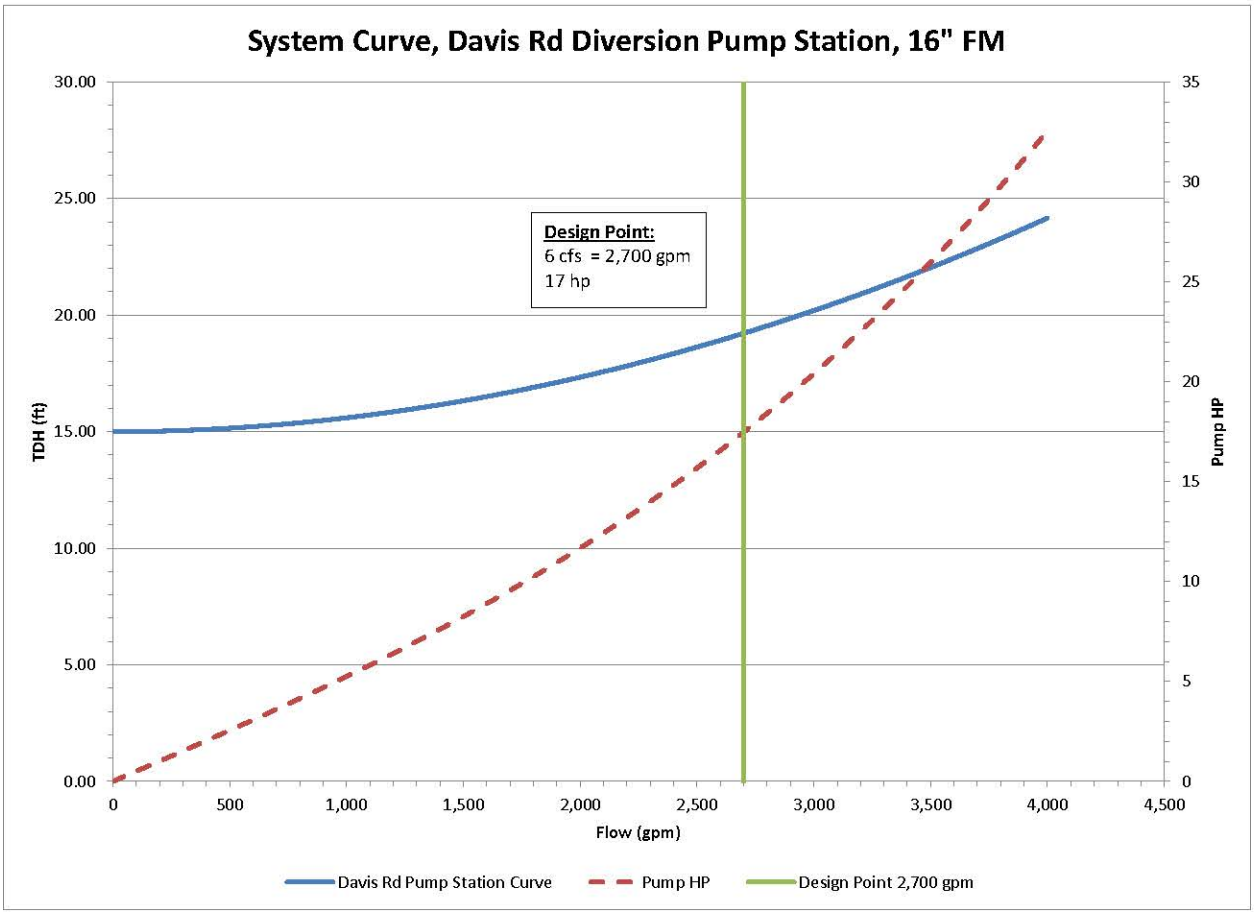
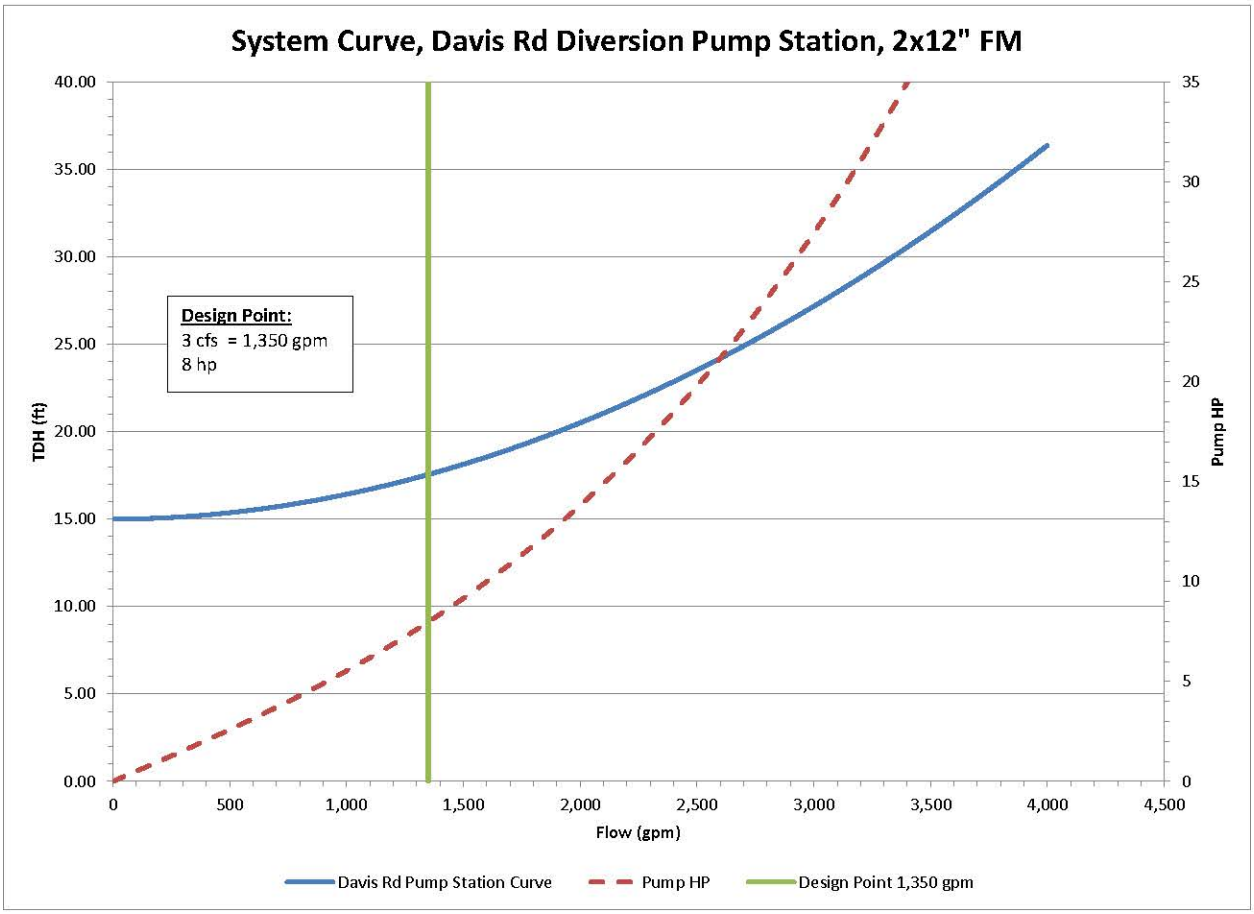


Figure 3.2: Davis Road Option 2, Two 3 cfs pumps

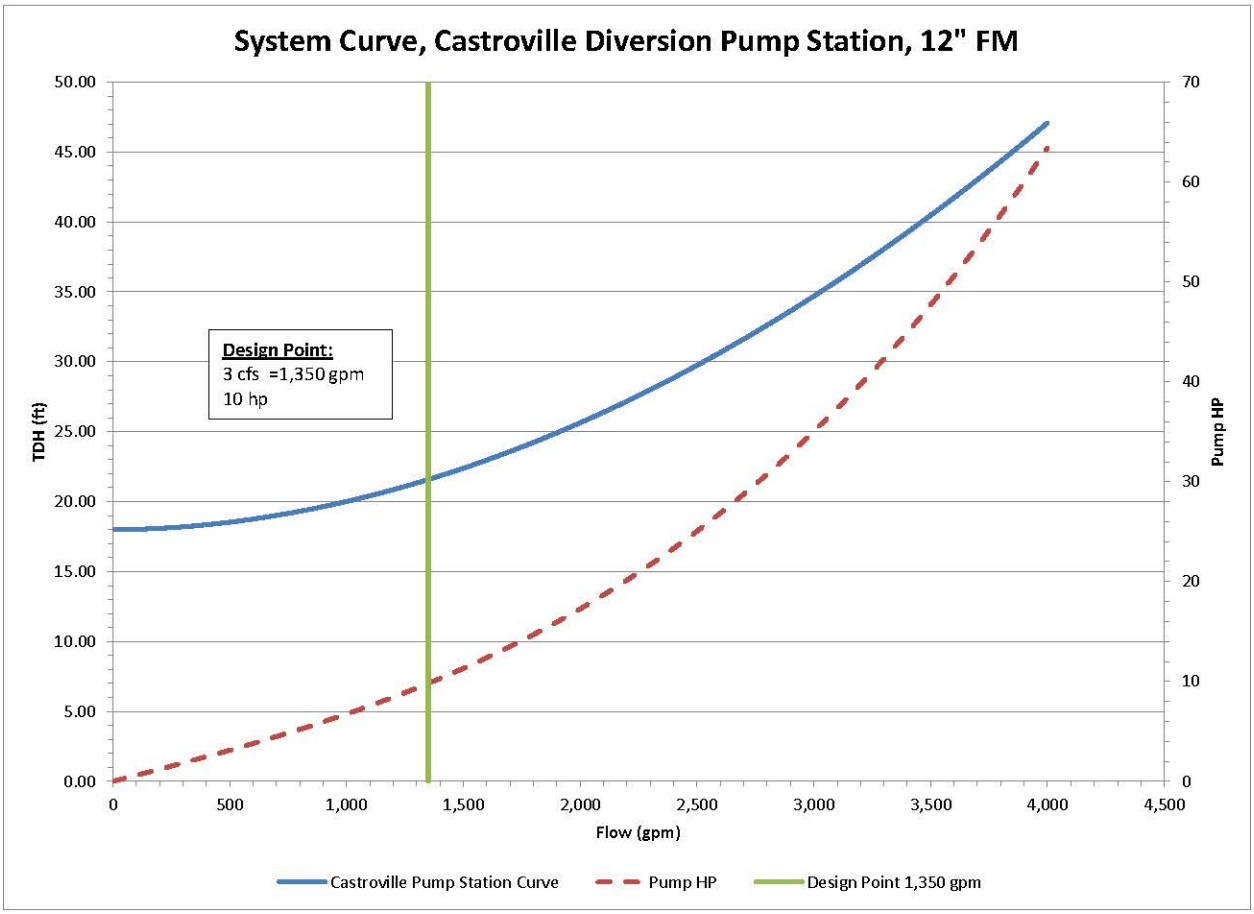


For the Castroville diversion point, the station will be similarly configured. The only difference is that the force main must be longer to reach the gravity manhole upstream of the MRWPCA Castroville Pump Station. A 10 hp pump is required to provide 3 cfs of flow at this station, due to the deeper wet well and longer force main. The system curve is provided at Figure 3.3.

The proposed station location is adjacent to MCWRA's maintenance right-of-way, in a lane also used for farm traffic. Due to the close proximity to the Castroville Pump Station, it may be possible to locate the electrical equipment at the existing building and avoid installing a free-standing panel. The site is within the 100-year floodplain, so the power and control equipment must be elevated above the base flood elevation of 13-ft[14].

[14] FEMA Flood Insurance Rate Map, Map Panel 06053C0070G, April 2009 (see Appendix A)

Figure 3.3: Castroville Pump Station



3.2 Costs

Capital costs were estimated for three pump station configurations, a 6 cfs station at Davis Road, a 3 cfs station at Davis Road, and a 3 cfs station at Castroville, summarized in Table 3-1, below. Detailed estimates are provided in Tables C-4, C-5 and C-6 in Appendix C. Non-construction costs (design, permitting, legal, etc.) were estimated as 40% of the construction cost.

Right-of-way acquisition costs were not included in the capital cost estimates. The proposed sites are within county or city rights-of-way, so standard encroachment fees should apply.

Table 3-1: Estimated Capital Costs

	Davis Rd 6 cfs Pumps	Davis Rd 3 cfs Pumps	Castroville 3 cfs Pumps
Estimated Construction Cost	$352,000	$346,000	$331,000
Inspection and Testing (15%)	$53,000	$52,000	$50,000
Construction Contingency (20%)	$70,000	$69,000	$66,000
Estimated Total Construction Cost	$475,000	$467,000	$447,000
Design, Permitting, Legal (40%)	$190,000	$186,800	$178,800

Costs are in 1st Quarter 2014 dollars

The City of Salinas has standard capacity charges and monthly fees for connecting to the sanitary sewer collection system, which would apply to the Davis Road Pump Station. These fees are not included in this estimate, but should be considered if this option is pursued.

Similarly, the MRWPCA has standard capacity charges for connection to the regional wastewater system, based upon the flow rate, the biological oxygen demand (BOD) and the suspended solids concentration, and monthly charges for wastewater treatment. These fees are not included in this estimate, because the MRWPCA is a sponsor of the GWR Project. The primary, secondary and advanced treatment costs for this source of supply will appear in the overall project cost analysis.

Annual operating and debt service costs for each configuration were estimated using the following planning factors:

- Debt service assumes a 30-year bond at 4% annual interest
- Annual operation and maintenance of pump stations is estimated at 2.5% of the capital cost
- Annual operation and maintenance of pipelines is estimated at 1% of the capital cost
- Electrical power cost is assumed at $0.16 per kWh
- Assume the station operates 365 days a year

The factors above provide an order-of-magnitude estimate of annual costs, which may be used in comparing project configurations. The estimated annual costs are provided below.

Table 3-2: Estimated Annual Costs, 6 cfs Pump Station at Davis Road

Category	Basis	Annual $
Capital Repayment		
Assume 30-year bond at 4%	$475,000.00	$27,469.30
Annual Operation and Maintenance		
Assume 2.5% of Pump Station Capital Cost	$461,500.00	$11,537.50
Assume 1.0% of Pipeline Capital Cost	$13,500.00	$337.50
Electrical Power		
Number of operating days/year	336	
Pumps: 17 HP (0.7457 kW/hp)	12.7	
Estimated annual kWh	102,227	
Assumed cost per KWH	$0.16	$16,356.24
Total Estimated Annual Cost		**$55,700.00**

Table 3-3: Estimated Annual Costs, 3 cfs Pump Station at Davis Road

Category	Basis	Annual $
Capital Repayment		
Assume 30-year bond at 4%	$467,000.00	$27,006.66
Annual Operation and Maintenance		
Assume 2.5% of Pump Station Capital Cost	$434,600.00	$10,865.00
Assume 1.0% of Pipeline Capital Cost	$32,400.00	$810.00
Electrical Power		
Number of operating days/year	336	
Pumps: 8 HP (0.7457 kW/hp)	6.0	
Estimated annual kWh	48,107	
Assumed cost per KWH	$0.16	$7,697.06
Total Estimated Annual Cost		**$46,400.00**

Table 3-4: Estimated Annual Costs, 3 cfs Pump Station at Castroville

Category	Basis	Annual $
Capital Repayment		
Assume 30-year bond at 4%	$447,000.00	$25,850.05
Annual Operation and Maintenance		
Assume 2.5% of Pump Station Capital Cost	$422,700.00	$10,567.50
Assume 1.0% of Pipeline Capital Cost	$24,300.00	$607.50
Electrical Power		
Number of operating days/year	336	
Pumps: 110 HP (0.7457 kW/hp)	7.5	
Estimated annual kWh	60,133	
Assumed cost per KWH	$0.16	$9,621.32
Total Estimated Annual Cost		**$46,600.00**

Section 4 - Water Quality

4.1 Summary of Current Condition

The Central Coast Regional Water Quality Control Board (CCRWQCB) Water Quality Control Plan for the Central Coast Basin (Basin Plan) designated beneficial uses of the Reclamation Ditch as including water contact recreation, non-contact water recreation, wildlife habitat, warm water fish habitat and commercial or sport fishing. These are the minimum uses listed for all inland water bodies within the region, unless specific water quality information caused the RWQCB to remove a specific use (e.g., not listing water contact recreation for a stream segment listed for fecal coliform contamination). The Tembladero Slough is designated as having additional beneficial uses of estuarine habitat, rare/threatened/endangered species, and spawning/reproduction/early development habitat. Table B-11 in Appendix B lists the Basin Plan designations for all stream segments in the lower Salinas Valley.

CCRWQCB Order No. R3-2012-0011 (Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands) found that:

> "...toxicity resulting from agricultural discharges of pesticides has severely impacted aquatic life in Central Coast streams...Twenty-two sites in the region, 13 of which are located in the lower Salinas/Tembladero watershed area, and the remainder in the lower Santa Maria area, have been toxic in 95% (215) of the 227 samples evaluated."

The Reclamation Ditch (Salinas Reclamation Canal) and Tembladero Slough are listed as impaired water bodies pursuant to Section 303(d) of the Clean Water Act for ammonia, fecal coliform, pesticides, nitrate, toxicity and other parameters. Water quality has been sampled and monitored for the past 15 years under various programs, including the Central Coast Ambient Monitoring Program (CCAMP) under the RWQCB, the Central Coast Watershed Studies (CCoWS) program of the Watershed Institute at California State University Monterey Bay, and the Cooperative Monitoring Program under the Conditional Waiver of Waste Discharges from Irrigated Lands (Ag Waiver). The results of these programs have been consolidated in Table B-12, Stream Water Quality, for the Reclamation Ditch, Tembladero Slough and all tributary water bodies. Figure A-9 shows the primary sampling locations.

The Reclamation Ditch and Tembladero Slough are not designated for use as municipal or domestic water supply, so Total Maximum Daily Loads (TMDL) for pollutants had to be established by the RWQCB. The Central Coast RWQCB adopted order R3-2013-0008 to establish certain TMDLs for the lower Salinas River Basin in 2013. These and other applicable water quality standards are consolidated in Table B-13, Total Maximum Daily Loads. A summary of the key parameters for the Reclamation Ditch are shown in Table 4-1, and for Tembladero Slough in Table 4-2.

Table 4-1: Water Quality Parameters, Reclamation Ditch below Carr Lake

Parameter	Units	Mean	Max	Standard
Ammonia as N, Unionized	mg/L	0.029	0.25	0.025
Ammonia as NH3	mg/L	0.61	6.00	0.025
Chloride	mg/L	106.41	200.00	150
Chlorophyll a, water column	mg/L	0.016	0.15	0.015
Chlorpyrifos	mg/L	0.0016	0.055	0.00025
Coliform, Fecal	MPN/100 ml	17,954	160,001	400
Coliform, Total	MPN/100 ml	53,966	160,001	1000
Diazinon	mg/L	0.10	3.16	0.00016
Dissolved Solids, Total	mg/L	641.83	1,080.00	1000
Nitrate as N	mg/L	13.00	69.10	8.0
OrthoPhosphate as P	mg/L	0.65	12.90	0.30
Oxygen, Dissolved	mg/L	0.93	6.58	> 5.0
Suspended Solids, Total	mg/L	69.46	385.00	500
Turbidity	NTU	141.51	1,454.00	10

Table 4-2: Water Quality Parameters, Tembladero Slough

Parameter	Units	Mean	Max	Standard
Ammonia as N, Unionized	mg/L	0.010	0.074	0.025
Ammonia as NH3	mg/L	0.030	0.060	0.025
Chloride	mg/L	876.41	9,600.00	150
Chlorophyll a, water column	mg/L	0.037	0.66	0.015
Chlorpyrifos	mg/L	0.011	0.070	0.00025
Coliform, Fecal	MPN/100 ml	2,310	54,000	400
Coliform, Total	MPN/100 ml	29,307	240,001	1000
Diazinon	mg/L	0.20	0.52	0.00016
Dissolved Solids, Total	mg/L	2,024.71	18,000.00	1000
Nitrate as N	mg/L	28.59	107.00	8.0
OrthoPhosphate as P	mg/L	0.43	1.20	0.30
Oxygen, Dissolved	mg/L	0.60	8.98	> 5.0
Suspended Solids, Total	mg/L	133.85	1,600.00	500
Turbidity	NTU	211.18	2,663.00	10

4.2 Potential Pollutant Removal

A benefit of the proposed GWR Project is that it can accept waters of marginal quality as source water because of the proposed routing through the sanitary sewer collection system to the MRWPCA Regional Treatment Plant and then to the existing tertiary treatment or the proposed advanced treatment system. Water diverted from the Reclamation Ditch and/or Tembladero Slough will remove a portion of the current pollutant load from the streams. The water quality within the streams may not noticeably improve, particularly in the summer months when the source flows are mainly agricultural tile drainage. The reduction in pollutant-loaded flows should have a positive effect on the water quality in the Moss Landing Harbor below Potrero Road tide gates.

Pollutant removal was estimated using the conversion formula 1 mg/L = 2.7 pounds/acre-foot. The tables below show the estimates for diverting 6 cfs at Davis Road, 3 cfs at Davis Road, and 3 cfs at Castroville. The current annual flow total is included for comparison.

Table 4-3: Estimated Pollutant Removal at Davis Road, 6 cfs capacity

Pollutant	Average Conc.	Average Annual Flow	Average Pollutant Load	Diverted Flow	Diverted Pollutant Load
	(mg/L)	(AFY)	(lb/yr)	(AFY)	(lb/yr)
Ammonia as N, Unionized	0.029	7,640	597	1,611	126
Ammonia as NH3	0.61	7,640	12,581	1,611	2,653
Chloride	106.41	7,640	2,195,025	1,611	462,852
Chlorophyll a, water column	0.016	7,640	332	1,611	70
Chlorpyrifos	0.0016	7,640	32	1,611	7
Diazinon	0.10	7,640	2,058	1,611	434
Dissolved Solids, Total	641.83	7,640	13,239,724	1,611	2,791,780
Nitrate as N	13.00	7,640	268,084	1,611	56,529
OrthoPhosphate as P	0.65	7,640	13,327	1,611	2,810
Suspended Solids, Total	69.46	7,640	1,432,718	1,611	302,108

Table 4-4: Estimated Pollutant Removal at Davis Road, 3 cfs capacity

Pollutant	Average Conc.	Average Annual Flow	Average Pollutant Load	Diverted Flow	Diverted Pollutant Load
	(mg/L)	(AFY)	(lb/yr)	(AFY)	(lb/yr)
Ammonia as N, Unionized	0.029	7,640	597	1,156	90
Ammonia as NH3	0.61	7,640	12,581	1,156	1,904
Chloride	106.41	7,640	2,195,025	1,156	332,127
Chlorophyll a, water column	0.016	7,640	332	1,156	50
Chlorpyrifos	0.0016	7,640	32	1,156	5
Diazinon	0.10	7,640	2,058	1,156	311
Dissolved Solids, Total	641.83	7,640	13,239,724	1,156	2,003,288
Nitrate as N	13.00	7,640	268,084	1,156	40,563
OrthoPhosphate as P	0.65	7,640	13,327	1,156	2,017
Suspended Solids, Total	69.46	7,640	1,432,718	1,156	216,783

Table 4-5: Estimated Pollutant Removal at Castroville, 3 cfs capacity

Pollutant	Average Conc.	Average Annual Flow	Average Pollutant Load	Diverted Flow	Diverted Pollutant Load
	(mg/L)	(AFY)	(lb/yr)	(AFY)	(lb/yr)
Ammonia as N, Unionized	0.010	10,696	836	1,536	120
Ammonia as NH3	0.03	10,696	17,613	1,536	2,529
Chloride	876.41	10,696	3,073,036	1,536	441,304
Chlorophyll a, water column	0.037	10,696	464	1,536	67
Chlorpyrifos	0.0111	10,696	45	1,536	6
Diazinon	0.20	10,696	2,881	1,536	414
Dissolved Solids, Total	2,024.71	10,696	18,535,614	1,536	2,661,808
Nitrate as N	28.59	10,696	375,317	1,536	53,897
OrthoPhosphate as P	0.43	10,696	18,658	1,536	2,679
Suspended Solids, Total	133.85	10,696	2,005,805	1,536	288,044

4.3 Salinity in the Tembladero Slough

The Tembladero Slough and Old Salinas River channel are tidally influenced, with a well-defined halocline (higher salinity at the bottom of the channel[15]). The tidal effects are dampened by the tide (flap) gates on the Old Salinas River at Potrero Road, but brackish water still passes through the gates. The upstream migration of the saline layer is controlled, in part, by freshwater inflows that provide dilution at low flows and which push the salt water downstream at higher flows. The estuary typically sees seasonal increases in salinity, with peak levels occurring in late

[15] Central Coast Watershed Studies Program, 2010 and 2014 reports on Spatial and Temporal Variations on Streamflow and Water Quality in the Tembladero Slough

summer before the on-set of winter rains. Students in the Central Coast Watershed Studies Program at CSUMB studied salinity in the Tembladero Slough on several days in November 2010 and again in November 2014. Calendar year 2010 was a wet year, and also the first year that the Salinas River Diversion Facility (SRDF) was in operation. Releases from San Antonio and Nacimiento Reservoirs were increased for rediversion at the SRDF, and while the facility was operating a minimum of 2 cfs was released to the Salinas Lagoon, which is tributary to the Old Salinas River Channel. In 2010, the lagoon opened to the ocean on December 25 (after the 2010 sampling period was completed), and stayed open until September 21, 2011. Conversely, the 2014 sampling period came at the end of an extended drought, with record low rainfall during the period 2012-2014. The Salinas River Lagoon was last open to the ocean on January 27, 2013. The SRDF was not operated during the summer of 2014, so there were no upstream reservoir releases augmenting flows into the lagoon and the Old Salinas River.

The 2010 study found salinities at the lower end of the Tembladero Slough ranging from 1 to 15 parts per thousand (ppt). In 2014, salinities at that location ranged from 1 to 20 ppt. Seawater has salinity of about 35 ppt, so while there was a definite increase in salinity due to the prolonged drought, the Slough remained a brackish estuary. There were rainfall events during both the 2010 and 2014 sampling periods, and the post-rainfall sampling showed similar low salinities (under 1 ppt) in both years. The 2014 study extended the water sampling upstream into the Reclamation Ditch, and found that increased salinity extended as far upstream as Haro Road in Castroville, and that the halocline ended downstream of the town (salinity levels were uniform across the depth of the channel).

The Proposed Project will divert up to 80% of the available flows from the Reclamation Ditch/Tembladero Slough in the summer months (June to October), which may result in increased salinity near the water surface, and/or longer periods of salinity accumulation in the Tembladero Slough before seasonal flushing by winter runoff. Diversions from the Reclamation Ditch and Tembladero Slough would be most needed by the Project during dry years when irrigation demands are highest. Due to the tidal influence, water levels in the Slough would not be noticeably affected by the project, so wetland species would not see a loss of wetted habitat, only an increase in the duration of periods of higher salinity.

Section 5 - Hydrology Considerations

The California Environmental Quality Act (CEQA) requires that effects of the Proposed Project on surface water hydrology be analyzed to identify impacts in the following areas:

a. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?

The diversion of flows from the Reclamation Ditch and Tembladero Slough may reduce the amount of sediment carried into the Old Salinas River and Moss Landing Harbor, but this reduction will be small. When diverting summer flows, the channel velocities and suspended sediment loads are low. Erosion and sediment transport occur during peak flows during and after rainfall events. These diversions may not be required to operate during wet winter months when storm runoff typically occurs. In that case, the conveyance of sediment from the Reclamation Ditch/Tembladero Slough into the Old Salinas River will be no greater than under the current condition.

The channel around the inlet structure for the diversion pump station would be lined with concrete to prevent local scour and erosion. The construction of the diversion structures and pipelines will require open-cut excavation, which will require the use of erosion and sediment controls to prevent the migration of sediments into the river. The Castroville diversion structure may require a temporary cofferdam to facilitate construction of the inlet structure.

b. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?

The proposed project components would increase impervious areas by a small amount (less than 1000 square feet each) at the Davis Road and Castroville sites. The Project would not substantially alter the existing drainage patterns of any of the proposed project sites.

c. Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The Project would add pump stations along the Reclamation Ditch at Davis Road and along the Tembladero Slough in Castroville. Up to 1,000 sq-ft of impervious surface may be added at each site, and runoff from the new hardscape would be directed to the existing drainage channels. The soils at these sites are Type C (runoff coefficient >80), so the increase in runoff will be small and within the available existing drainage system conveyance capacity. No impact is expected under this criterion.

d. Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?

The proposed diversion pump stations at Davis Road and Castroville will include inlet structures in the channel bottom. These inlets must include a screen to exclude fish and trash, and must be configured to not alter the conveyance capacity of the Reclamation Ditch / Tembladero Slough.

Structures on the channel bank would be located within a 100-year flood hazard area, but will not impede or reduce flood flows because they are relatively small (less than 100 square feet) and would be located at sites that currently contain other above-ground structures of much larger size and profile, most notably the roadway bridge abutments immediately upstream.

Appendix A: Figures

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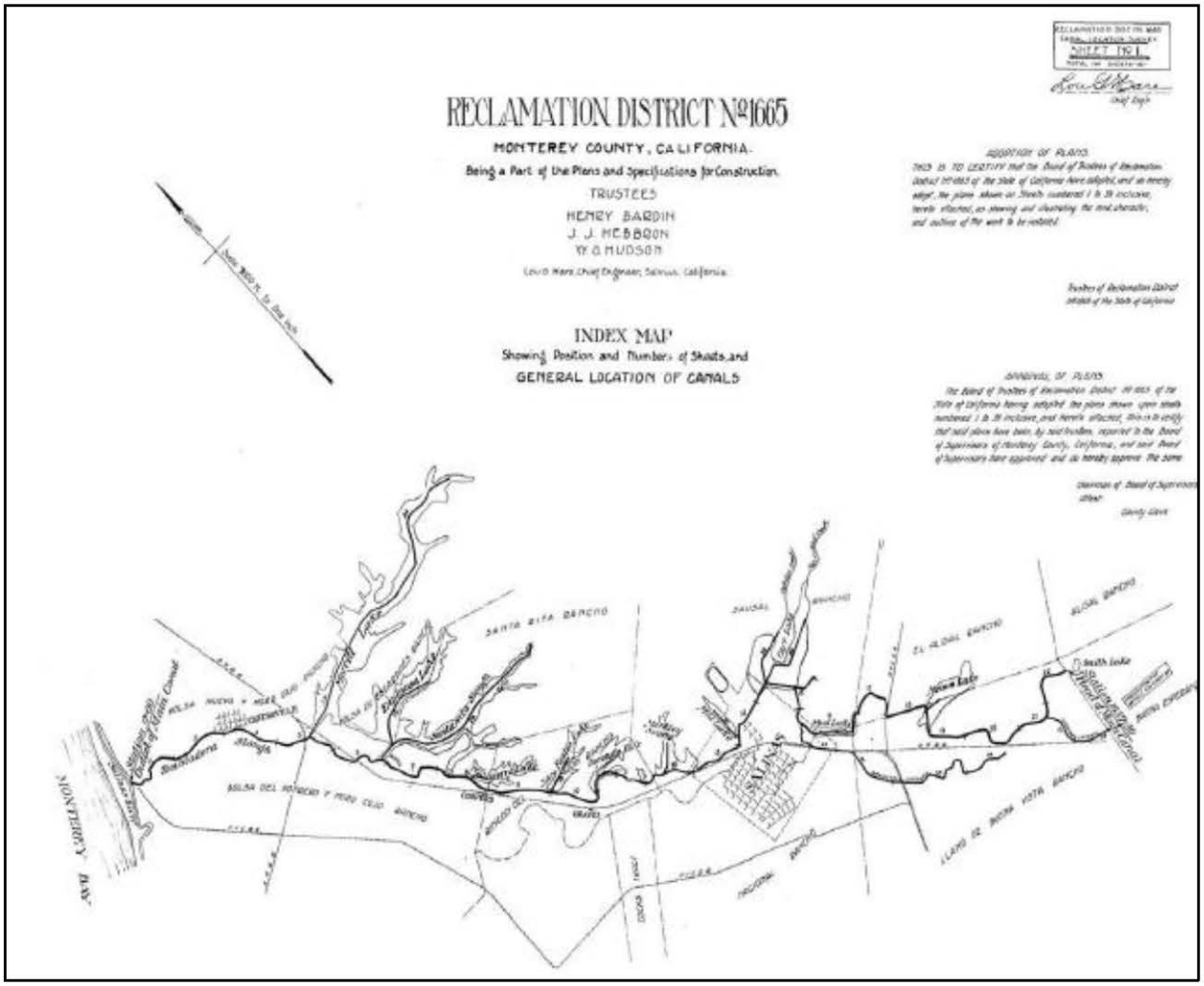


Figure A-1: Reclamation District No. 1665

Source: Reclamation Ditch Watershed Assessment and Management Strategy, The Watershed Institute, CSUMB, 2004

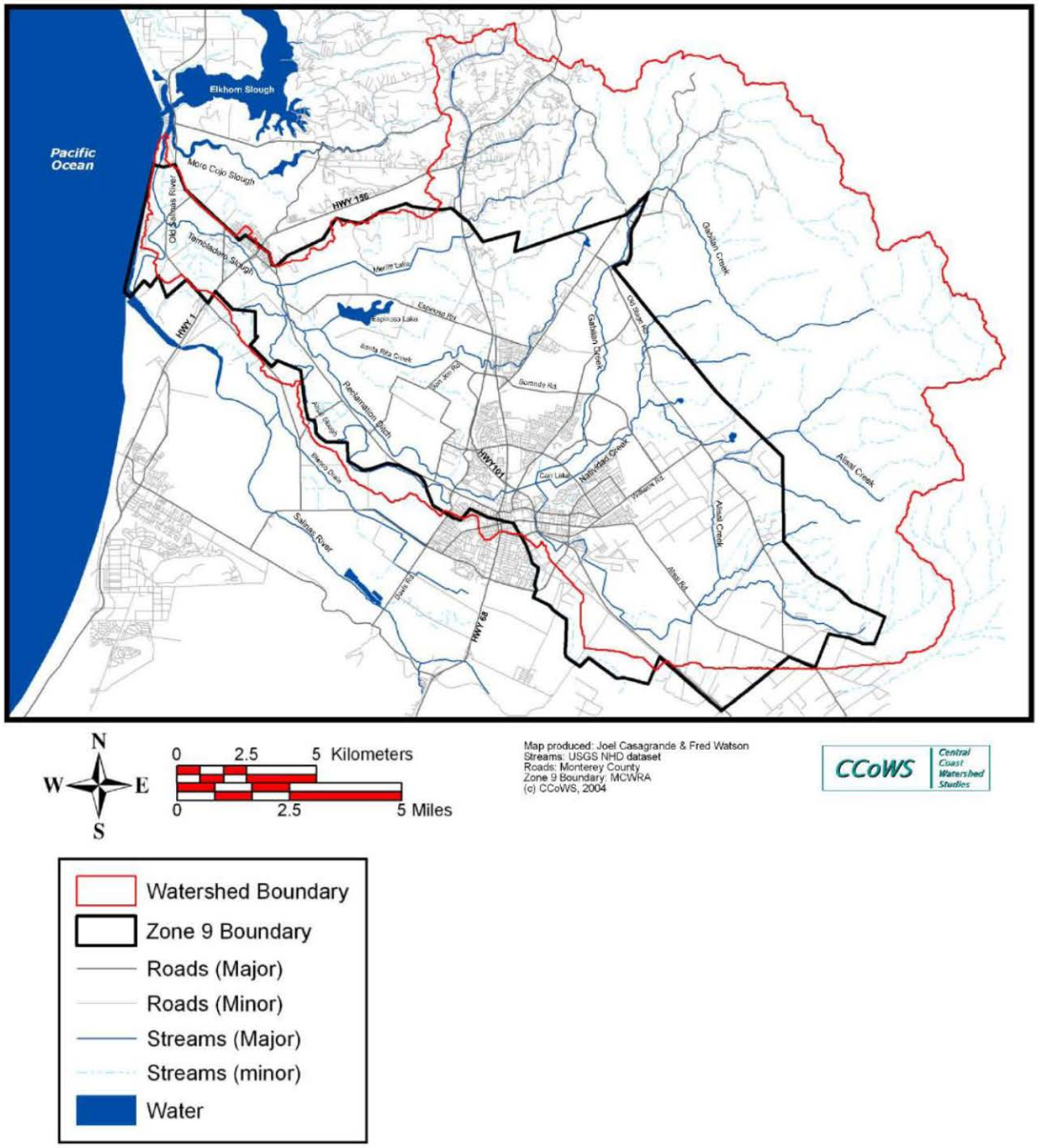


Figure A-2: Reclamation Ditch Watershed and Zone 9 Boundary

Source: Reclamation Ditch Watershed Assessment and Management Strategy, The Watershed Institute, CSUMB, 2004

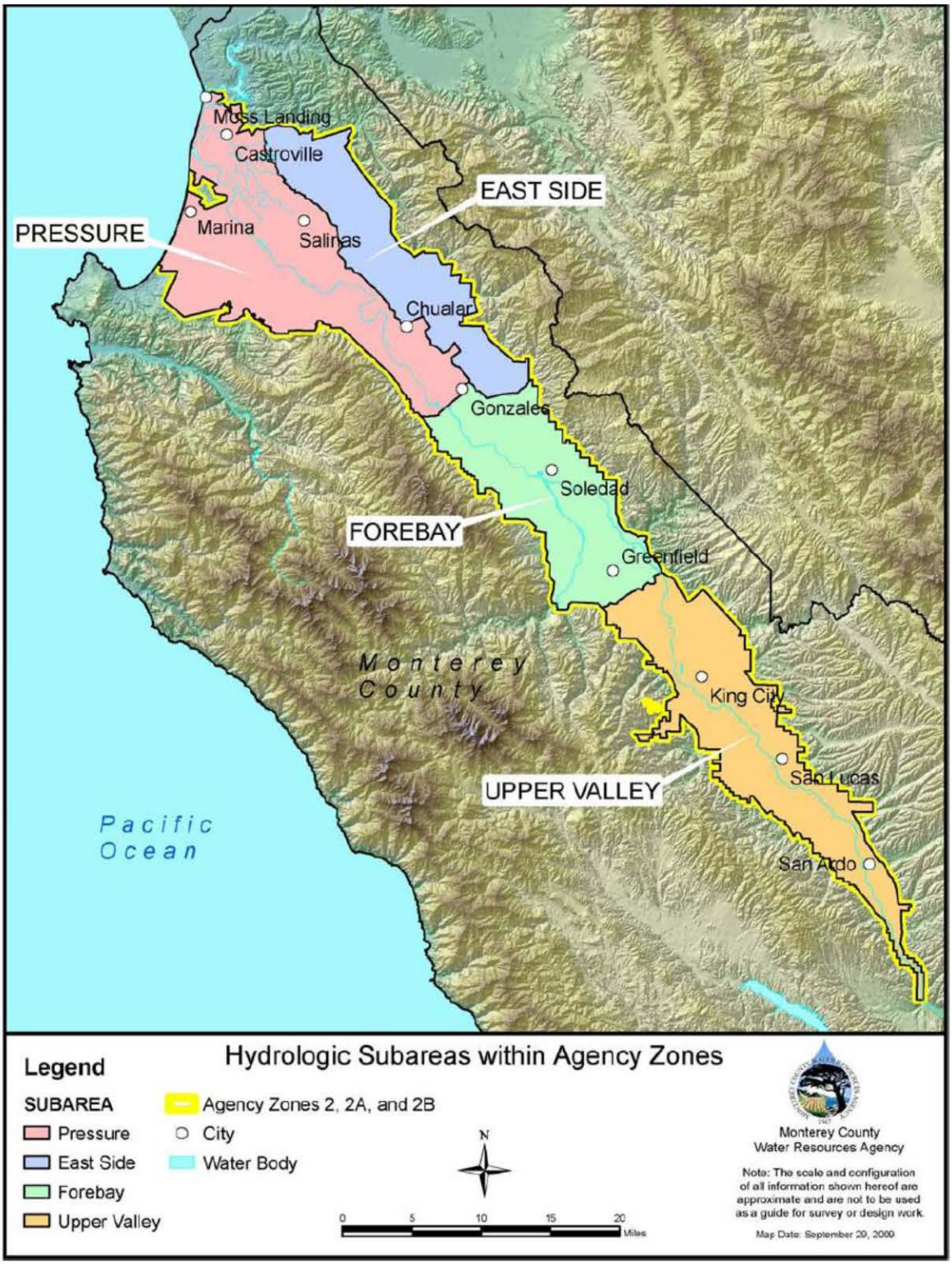


Figure A-3: Salinas Valley Groundwater Basin, Hydrologic Subareas

Source: MCWRA Annual Groundwater Report

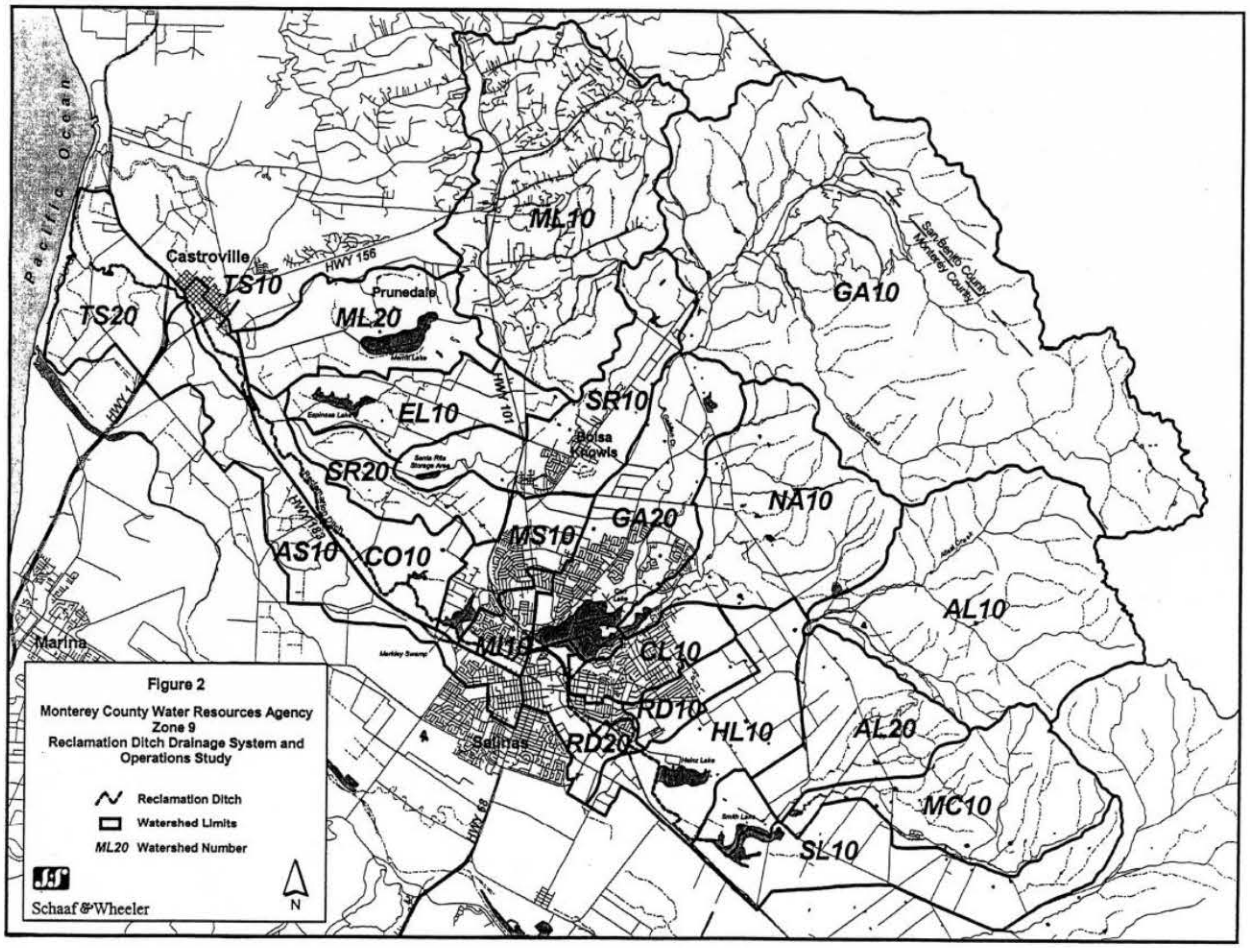


Figure A-4: Reclamation Ditch Sub-Watersheds and Areas Table

Areas Table on following page

Source: Zone 9 and Reclamation Ditch Operations Study, Schaaf & Wheeler, 1999

Figure A-4 (Continued)

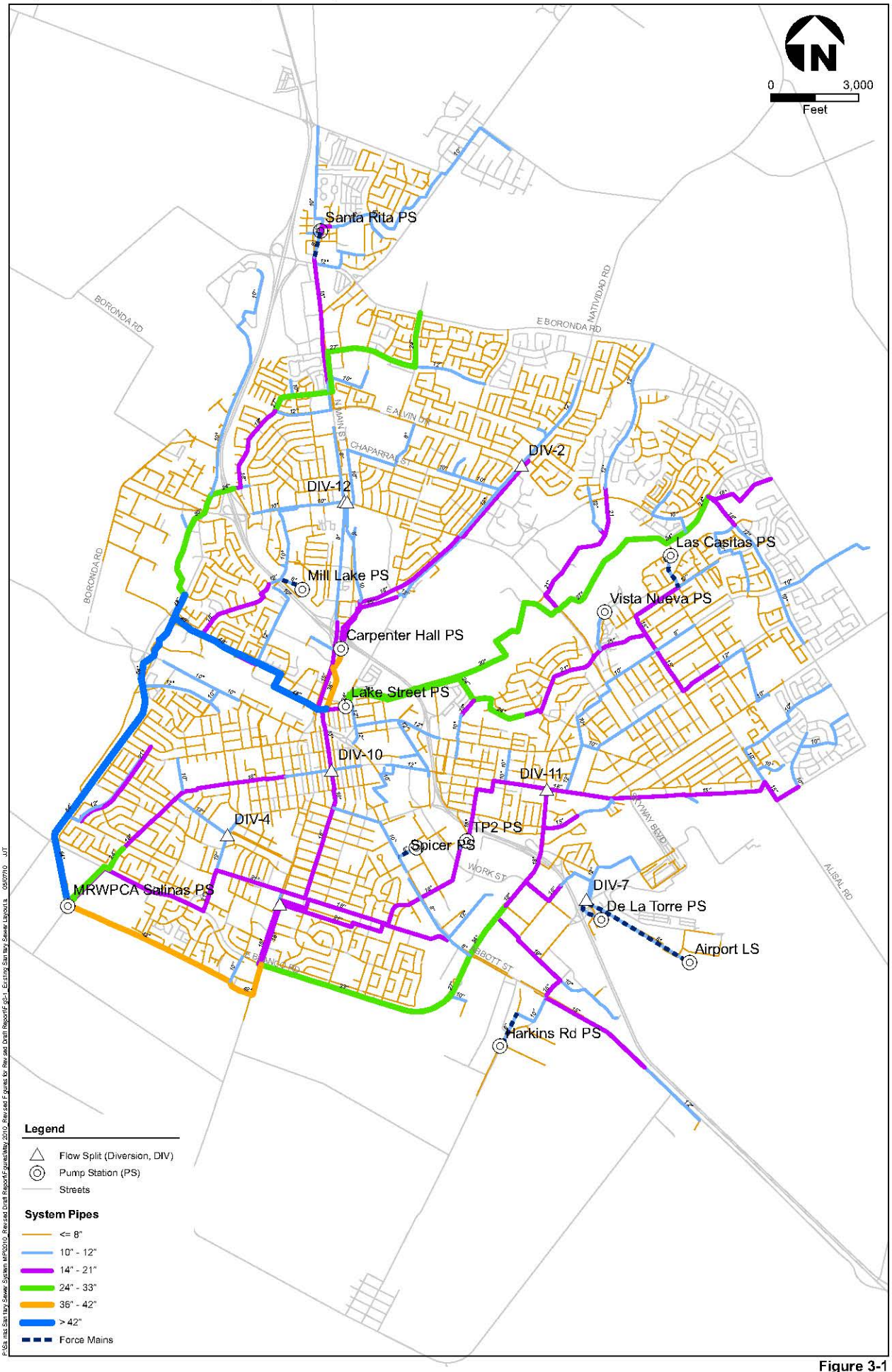
BASIN	AREA sq-mi	USGS Gage San Jon Road		Diversion Point 1 Davis Road		Diversion Point 2 Castroville PS	
AL10	14.4	GA10	36.7	GA10	36.7	AL10	14.4
AL20	5.45	GA20	7.9	GA20	7.9	AL20	5.45
AS10	5.94	MI10	1.26	MI10	1.26	AS10	5.94
CL10	2.39	RD20	2.17	RD20	2.17	CL10	2.39
CO10	3.98	RD10	1.57	RD10	1.57	CO10	3.98
EL10	4.35	CL10	2.39	CL10	2.39	EL10	4.35
GA10	36.7	NA10	9.82	NA10	9.82	GA10	36.7
GA20	7.9	AL10	14.4	AL10	14.4	GA20	7.9
HL10	5.79	AL20	5.45	AL20	5.45	HL10	5.79
MC10	7.27	HL10	5.79	HL10	5.79	MC10	7.27
MI10	1.26	MC10	7.27	MC10	7.27	MI10	1.26
ML10	16.87	SL10	7.76	SL10	7.76	ML10	16.87
ML20	5.62	CO10	3.98			ML20	5.62
MS10	2.9	MS10	2.9			MS10	2.9
NA10	9.82					NA10	9.82
RD10	1.57					RD10	1.57
RD20	2.17					RD20	2.17
SL10	7.76					SL10	7.76
SR10	6.73					SR10	6.73
SR20	3.03					SR20	3.03
TS10	0.841					TS10	0.841
TS20	4.23						
TOTAL	156.971	TOTAL	109.360	TOTAL	102.480	TOTAL	152.741

Source: Annex B-3 of Reclamation Ditch Zone 9 System Operations Study

Scaling Factors:

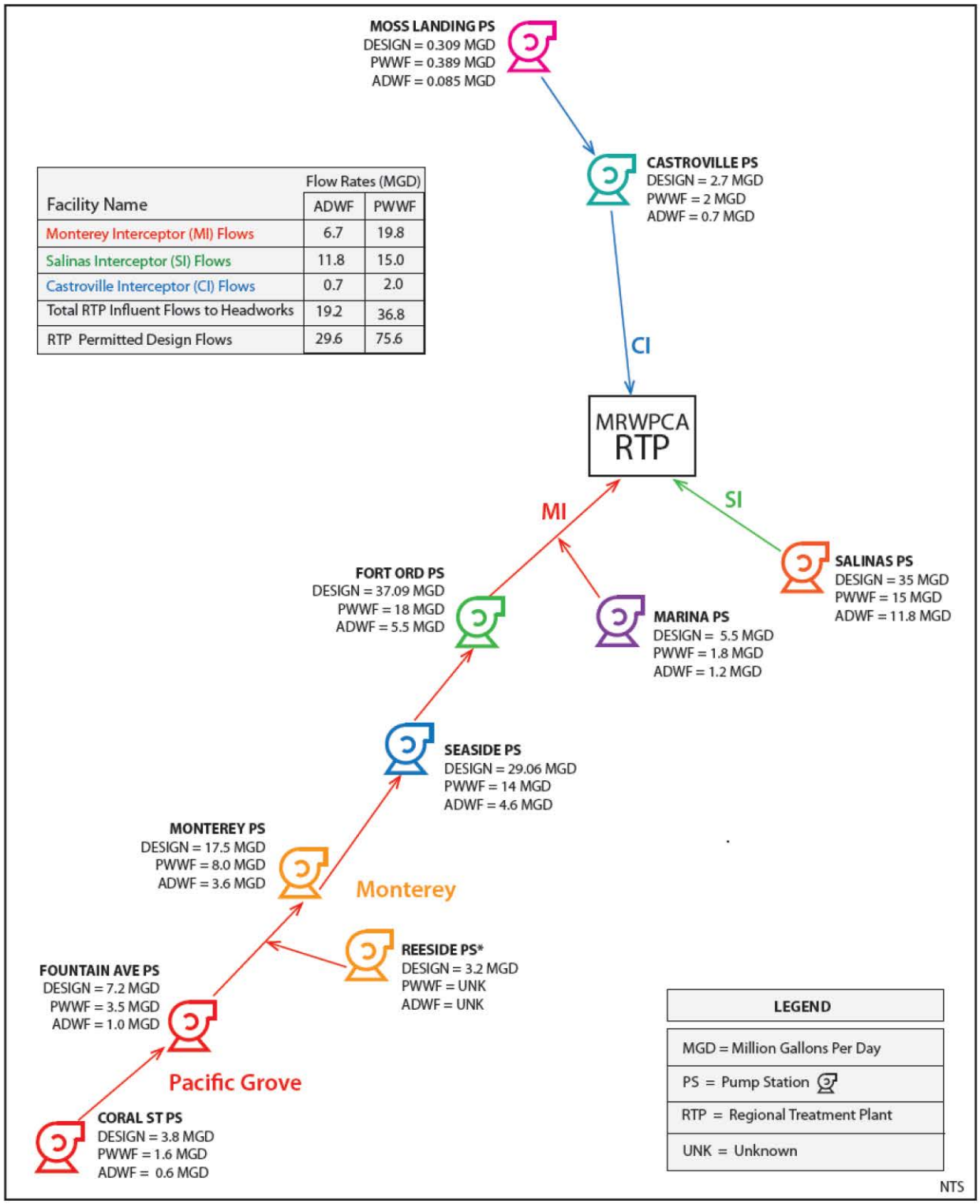
USGS Gage to Davis Rd:	0.94
USGS Gage to Castroville PS:	1.40
USGS Gage to Full Basin:	1.44

Figure A-5: Salinas Sanitary Sewer System (CDM, 2004)



CDM

Figure 3-1
Existing Sanitary Sewer System Layout
Salinas Sewer System Master Plan



Facility Name	Flow Rates (MGD) ADWF	PWWF
Monterey Interceptor (MI) Flows	6.7	19.8
Salinas Interceptor (SI) Flows	11.8	15.0
Castroville Interceptor (CI) Flows	0.7	2.0
Total RTP Influent Flows to Headworks	19.2	36.8
RTP Permitted Design Flows	29.6	75.6

Figure A-6: MRWPCA Interceptor System Schematic

Source: Brezack and Associates Planners, September 2013

Figure A-7: FEMA FIRMette, Davis Road Pump Station

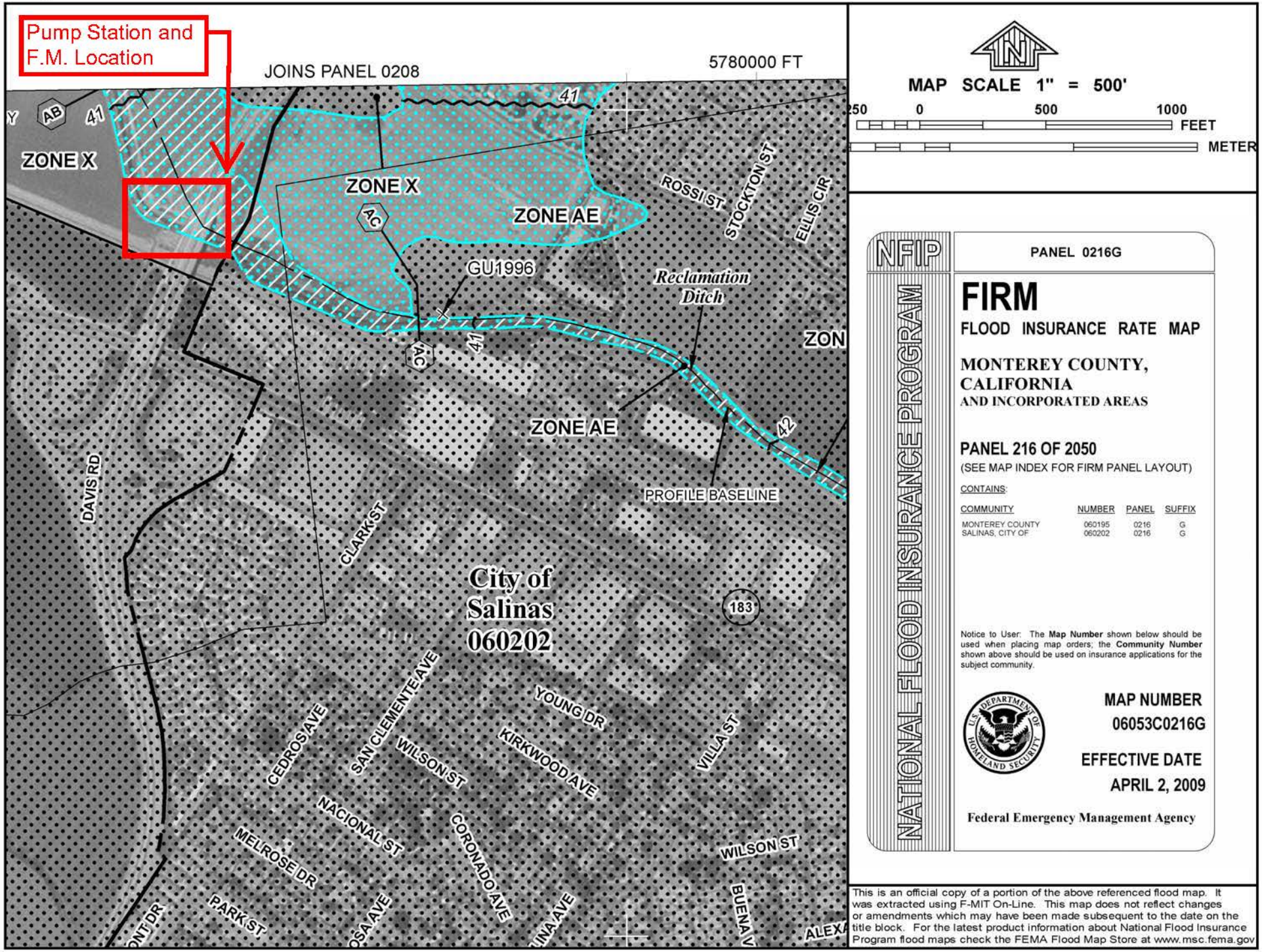


Figure A-8: FEMA FIRMette, Castroville Pump Station

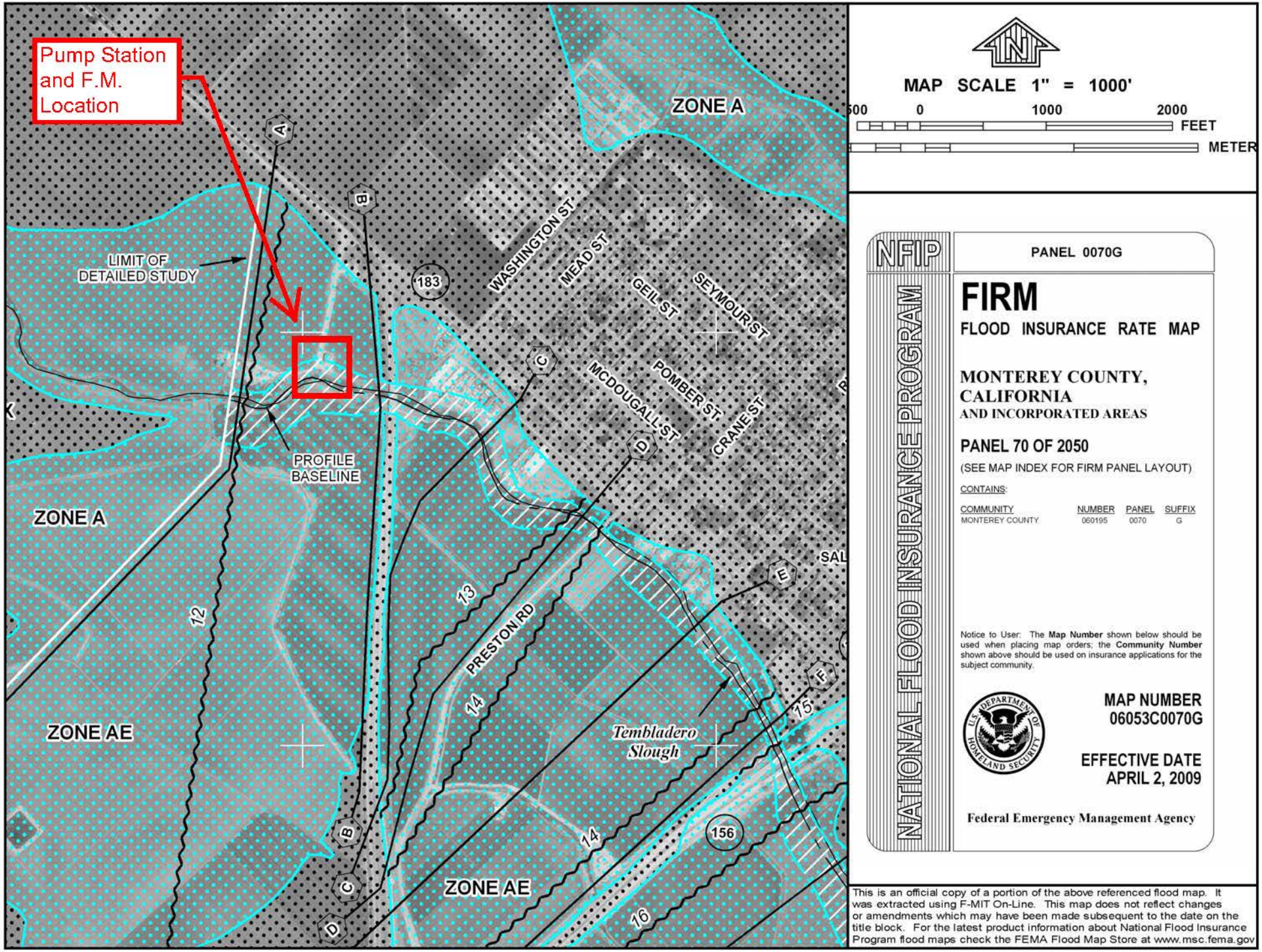


Figure A-8 (Continued)

Definitions of FEMA Flood Zones

Flood zones are geographic areas that FEMA has defined according to varying levels of flood risk and type of flooding. These zones are depicted on the published Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map (FHBM).

Special Flood Hazard Areas – High Risk

Special Flood Hazard Areas represent the area subject to inundation by 1-percent-annual chance flood. Structures located within the SFHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Federal floodplain management regulations and mandatory flood insurance purchase requirements apply in these zones.

ZONE	DESCRIPTION
A	Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.
AE, A1-A30	Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are shown within these zones. (Zone AE is used on new and revised maps in place of Zones A1–A30.)
AH	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are 1–3 feet. BFEs derived from detailed hydraulic analyses are shown in this zone.
AO	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are 1–3 feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone.
AR	Areas that result from the decertification of a previously accredited flood protection system that is determined to be in the process of being restored to provide base flood protection.
A99	Areas subject to inundation by the 1-percent-annual-chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system. These are areas of special flood hazard where enough progress has been made on the construction of a protection system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes. Zone A99 may be used only when the flood protection system has reached specified statutory progress toward completion. No BFEs or flood depths are shown.

Figure A-8 (Continued)

Coastal High Hazard Areas – High Risk

Coastal High Hazard Areas (CHHA) represent the area subject to inundation by 1-percent-annual chance flood, extending from offshore to the inland limit of a primary front al dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. Structures located within the CHHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Federal floodplain management regulations and mandatory purchase requirements apply in these zones.

ZONE	DESCRIPTION
V	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards associated with storm-induced waves. Because detailed coastal analyses have not been performed, no BFEs or flood depths are shown.
VE, V1-V30	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. BFEs derived from detailed hydraulic coastal analyses are shown within these zones. (Zone VE is used on new and revised maps in place of Zones V1–V30.)

Moderate and Minimal Risk Areas

Areas of moderate or minimal hazard are studied based upon the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Local stormwater drainage systems are not normally considered in a community's flood insurance study. The failure of a local drainage system can create areas of high flood risk within these zones. Flood insurance is available in participating communities, but is not required by regulation in these zones. Nearly 25-percent of all flood claims filed are for structures located within these zones.

ZONE	DESCRIPTION
B, X (shaded)	Moderate risk areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by a levee. No BFEs or base flood depths are shown within these zones. (Zone X (shaded) is used on new and revised maps in place of Zone B.)
C, X (unshaded)	Minimal risk areas outside the 1-percent and .2-percent-annual-chance floodplains. No BFEs or base flood depths are shown within these zones. (Zone X (unshaded) is used on new and revised maps in place of Zone C.)

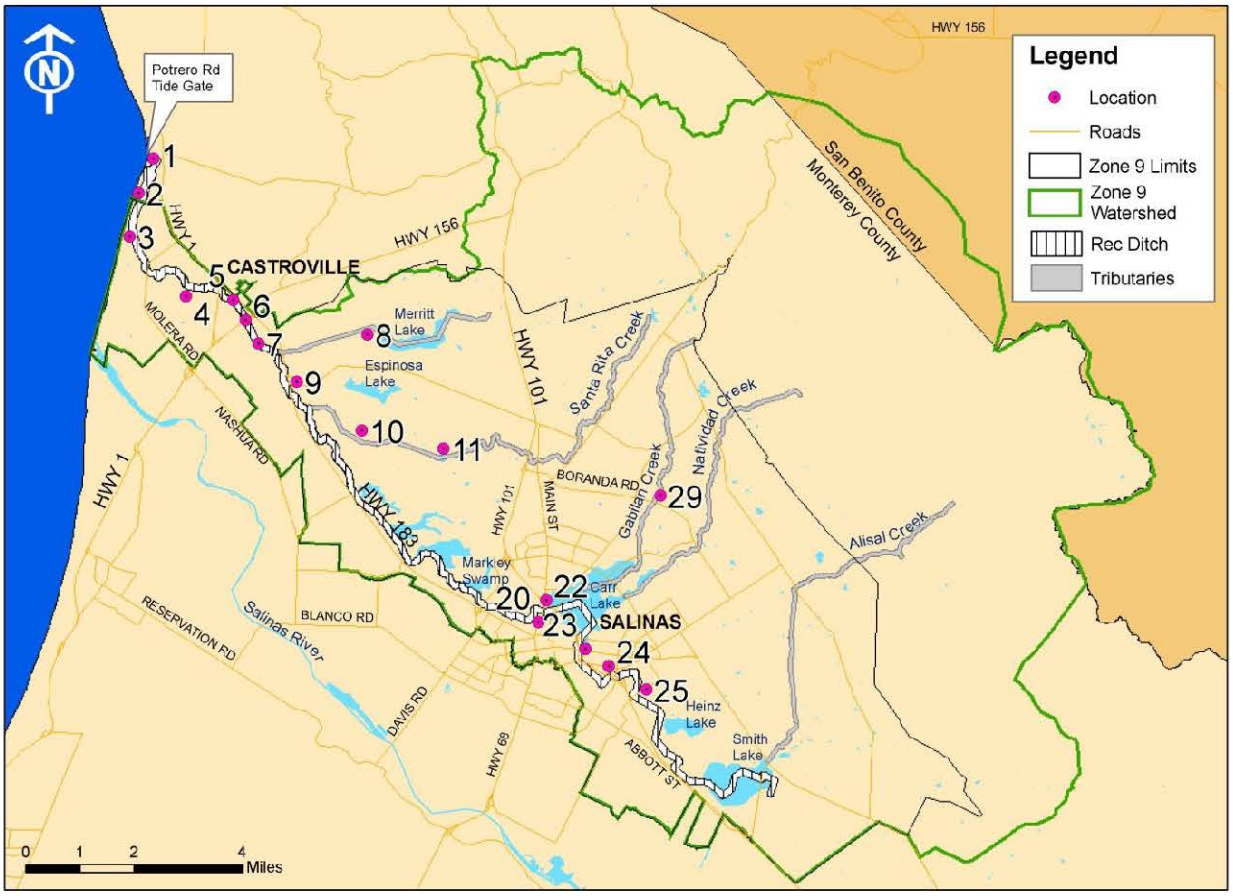
Undetermined Risk Areas

ZONE	DESCRIPTION
D	Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

#	Site ID	Site Name
1	306MOR	Moro Cojo Slough @ Highway 1
2	309OLD	Old Salinas River @ Monterey Dunes Way
3	309TEH	Tembladero Slough @ Haro
4	309MER	Merrit Ditch u/s of 183
5	309ESP	Espinosa Slough u/s of Alisal Slough
6	309ASB	Alisal Slough @ White Barn
7	309BLA	Lower Salinas River/Blanco?
8	309JON	Lower Salinas River
9	309GAB	Gabilan Creek @ Independence Road and East Boranda Road
10	309NAT	Natividad Creek?
11	309ALG	Alisal Creek?
12	309SSP	Salinas River @ El Toro Creek
13	309QUI	Quail Creek
14	309SAC	Salinas River @ Chualar bridge on River Road
15	309CRR	Chualar Creek
36	309GRN	Salinas River @ Elm Rd in Greenfield
37	309SAG	Salinas River @ Gonzales River Rd Bridge

Figure A-9: CCAMP/CMP Water Sampling Sites

Source: Central Coast Region Conditional Waiver Cooperative Monitoring Program, 5 Year Evaluation Report, Larry Walker & Associates, 2010


Legend
Location
Roads
Zone 9 Limits
Zone 9 Watershed
Rec Ditch
Tributaries
Potrero Rd Tide Gate
CASTROVILLE
SALINAS
HWY 1
HWY 156
HWY 101
HWY 183
HWY 68
MOLERA RD
NASHUA RD
BLANCO RD
RESERVATION RD
DAVIS RD
ABBOTT ST
BORANDA RD
MAIN ST
Merritt Lake
Espinosa Lake
Markley Swamp
Carr Lake
Heinz Lake
Smith Lake
Santa Rita Creek
Natividad Creek
Gabilan Creek
Alisal Creek
Salinas River
San Benito County
Monterey County
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3
4
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0 1 2 4 Miles

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Appendix B: Tables

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Table B-1: 2010 California 303(d) Listing

Listed for:	Ammonia (Unionized)	Chlordane	Chloride	Chlorophyll-a	Chlorpyrifos	Copper	DDD (Dichlorodiphenyldichloroethane)	Diazinon	Dieldrin	Electrical Conductivity	Enterococcus	Escherichia coli (E. coli)	Fecal Coliform	Low Dissolved Oxygen	Nickel	Nitrate	Nutrients	Pathogens	PCBs (Polychlorinated biphenyls)	Pesticides	pH	Priority Organics	Sediment Toxicity	Sedimentation/Siltation	Sodium	Temperature, water	Total Coliform	Total Dissolved Solids	Toxaphene	Turbidity	Unknown Toxicity
Water Body																															
Alisal Creek (Monterey County)				X									X			X									X						
Alisal Slough (Monterey County)														X		X							X								X
Blanco Drain					X			X						X		X				X										X	
Espinosa Lake					X			X																							
Espinosa Slough	X							X								X				X	X	X	X							X	X
Gabilan Creek	X												X			X					X		X							X	X
Merrit Ditch	X													X		X							X							X	X
Moss Landing Harbor					X			X						X	X			X		X	X		X	X							
Natividad Creek	X											X		X		X					X		X			X				X	X
Old Salinas River				X	X			X				X	X	X		X					X		X							X	X
Old Salinas River Estuary																	X			X											
Salinas Reclamation Canal	**X**				**X**	**X**		**X**				**X**	**X**	**X**		**X**				**X**	**X**	**X**	**X**							**X**	**X**
Salinas River (lower, estuary to near Gonzales Rd crossing, watersheds 30910 and 30920)		X	X		X		X	X	X	X	X	X	X			X			X	X	X				X			X	X	X	X
Salinas River Lagoon (North)																	X			X											
Santa Rita Creek (Monterey County)	X											X	X	X		X									X					X	
Tembladero Slough				X	X			X			X	X	X			X	X			X	X		X				X			X	X

Table B-2: Reclamation Ditch - Scaled Flows at Davis Road and at Castroville Pump Station (Tembladero Slough)

Average flow at Davis Rd. (CFS)

Rec Ditch CFS	Month												
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Grand Total**
2002						1.07	1.20	1.66	1.86	1.57	7.58	31.94	6.74
2003	11.41	5.35	5.65	8.45	2.41	1.85	1.21	0.87	1.45	0.77	2.74	22.74	5.43
2004	16.09	36.12	6.02	3.02	2.59	3.36	2.76	2.90	2.25	13.94	1.92	28.29	9.88
2005	43.90	31.60	55.20	15.46	7.01	5.43	5.20	3.72	2.98	2.84	3.00	16.61	16.05
2006	28.44	4.07	46.57	63.64	8.07	4.87	4.64	3.74	3.16	2.10	6.60	12.52	15.75
2007	4.40	16.76	4.53	5.97	4.39	3.40	3.34	3.50	3.21	3.87	2.42	5.80	5.05
2008	34.27	26.54	2.45	3.03	2.31	1.89	1.84	2.07	1.64	1.60	4.32	14.31	7.98
2009	7.56	36.14	16.59	3.16	3.45	1.19	2.51	2.87	1.87	12.82	0.82	7.11	7.84
2010	34.38	27.26	40.61	27.21	5.25	3.69	3.67	3.00	1.98	2.70	11.34	22.34	15.23
2011	18.43	30.57	70.99	8.86	4.88	4.30	3.48	2.72	2.14	7.30	7.21	1.17	13.45
2012	9.62	3.16	16.74	15.99	2.23	2.93	2.19	3.38	1.35	1.47	9.14	42.87	9.31
2013	14.31	3.40	2.51	1.95	1.43	1.37	1.46	1.53	1.01	0.90	1.32	1.29	2.71
2014	1.31	12.52	9.91	4.31	1.16	1.15	1.25						4.42
Grand Total	**18.68**	**19.48**	**23.15**	**13.42**	**3.76**	**2.81**	**2.67**	**2.66**	**2.07**	**4.32**	**4.87**	**17.25**	**9.47**
Average	18.7	19.5	23.1	13.4	3.8	2.8	2.7	2.7	2.1	4.3	4.9	17.2	9.2
Minimum	1.3	3.2	2.5	1.9	1.2	1.1	1.2	0.9	1.0	0.8	0.8	1.2	2.7
Maximum	43.9	36.1	71.0	63.6	8.1	5.4	5.2	3.7	3.2	13.9	11.3	42.9	16.1

Scaled flow at Castroville (CFS)

Tembladero CFS	Month												
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Grand Total**
2002						1.22	1.28	1.51	1.61	1.46	9.66	45.65	8.98
2003	15.54	7.15	7.79	10.80	3.06	1.61	1.29	1.09	1.40	0.99	3.19	32.21	7.21
2004	22.83	52.03	7.89	3.49	3.26	2.61	2.06	2.17	1.80	18.72	2.09	41.29	13.26
2005	62.95	45.18	79.72	20.13	7.60	5.12	4.78	2.88	2.26	2.30	2.92	23.14	21.54
2006	40.19	5.15	66.61	92.11	9.24	4.29	3.95	2.74	2.45	1.78	8.05	17.19	21.22
2007	5.85	23.59	5.59	7.41	4.47	2.42	2.44	2.57	2.91	4.41	2.62	7.90	5.89
2008	48.41	37.68	3.32	3.60	3.05	1.62	1.67	1.71	1.50	1.71	5.17	19.77	10.70
2009	10.53	51.64	23.24	3.61	4.01	1.27	1.96	2.56	1.66	18.15	1.04	9.27	10.50
2010	49.60	39.09	57.75	38.12	6.00	2.81	2.78	2.22	1.67	2.55	15.37	31.75	20.73
2011	26.48	44.14	104.16	10.72	5.58	3.53	2.55	2.04	1.75	9.43	8.82	1.67	18.33
2012	13.78	4.27	23.61	22.51	2.94	2.49	1.77	2.68	1.36	1.54	12.40	61.65	12.66
2013	20.22	4.62	3.45	2.69	2.11	1.37	1.41	1.45	1.16	1.09	1.75	1.82	3.61
2014	1.88	17.46	13.90	5.75	1.73	1.26	1.30						6.05
Grand Total	**26.52**	**27.70**	**33.09**	**18.41**	**4.42**	**2.43**	**2.25**	**2.13**	**1.79**	**5.35**	**6.09**	**24.44**	**12.69**
Average	26.5	27.7	33.1	18.4	4.4	2.4	2.2	2.1	1.8	5.3	6.1	24.4	12.4
Minimum	1.9	4.3	3.3	2.7	1.7	1.2	1.3	1.1	1.2	1.0	1.0	1.7	3.6
Maximum	63.0	52.0	104.2	92.1	9.2	5.1	4.8	2.9	2.9	18.7	15.4	61.7	21.5

USGS Gage at San Jon Rd (CFS)

Avg Flow at Gage	Month												
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Grand Total**
2002						1.14	1.28	1.77	1.98	1.68	8.09	34.08	7.19
2003	12.18	5.71	6.03	9.02	2.57	1.98	1.29	0.93	1.54	0.82	2.92	24.27	5.79
2004	17.17	38.55	6.42	3.23	2.76	3.59	2.95	3.09	2.40	14.87	2.05	30.19	10.54
2005	46.85	33.73	58.91	16.50	7.48	5.79	5.55	3.97	3.18	3.03	3.20	17.72	17.13
2006	30.35	4.34	49.70	67.92	8.61	5.20	4.95	3.99	3.37	2.24	7.04	13.36	16.81
2007	4.70	17.89	4.84	6.37	4.69	3.63	3.57	3.74	3.42	4.14	2.58	6.19	5.39
2008	36.57	28.33	2.62	3.23	2.46	2.02	1.96	2.21	1.75	1.71	4.61	15.27	8.51
2009	8.06	38.57	17.70	3.37	3.68	1.27	2.67	3.06	2.00	13.69	0.88	7.59	8.37
2010	36.69	29.10	43.34	29.04	5.60	3.94	3.91	3.21	2.11	2.88	12.10	23.84	16.26
2011	19.67	32.63	75.77	9.46	5.21	4.59	3.72	2.91	2.28	7.79	7.70	1.24	14.36
2012	10.27	3.37	17.86	17.07	2.38	3.13	2.34	3.61	1.44	1.57	9.76	45.75	9.94
2013	15.27	3.62	2.68	2.08	1.52	1.47	1.56	1.63	1.08	0.96	1.41	1.38	2.90
2014	1.40	13.37	10.57	4.60	1.23	1.23	1.33						4.72
Grand Total	**19.93**	**20.79**	**24.70**	**14.32**	**4.02**	**3.00**	**2.85**	**2.84**	**2.21**	**4.61**	**5.20**	**18.41**	**10.11**
Average	19.9	20.8	24.7	14.3	4.0	3.0	2.9	2.8	2.2	4.6	5.2	18.4	9.8
Minimum	1.4	3.4	2.6	2.1	1.2	1.1	1.3	0.9	1.1	0.8	0.9	1.2	2.9
Maximum	46.8	38.6	75.8	67.9	8.6	5.8	5.5	4.0	3.4	14.9	12.1	45.8	17.1

Table B-3: Reclamation Ditch - Scaled Flows at Davis Road and at Castroville Pump Station (Tembladero Slough)

Scaled flow at Davis Rd. (AF/mo)

Davis Rd	Month												
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Grand Total**
2002						63.5	73.7	101.9	110.6	96.5	451.1	1,963.7	2,861.0
2003	701.5	297.3	347.6	502.9	147.9	110.2	74.5	53.7	86.0	47.4	162.9	1,398.4	3,930.4
2004	989.3	2,077.6	370.0	179.9	159.3	200.2	169.7	178.2	133.8	857.0	114.3	1,739.6	7,168.9
2005	2,699.1	1,755.2	3,393.8	920.1	430.8	322.8	319.7	228.8	177.1	174.5	178.6	1,021.0	11,621.6
2006	1,748.5	226.0	2,863.4	3,786.9	496.2	289.9	285.5	229.7	187.9	129.0	392.7	769.6	11,405.3
2007	270.6	930.7	278.6	355.2	270.0	202.6	205.6	215.4	190.9	238.2	144.0	356.8	3,658.5
2008	2,106.9	1,526.8	150.9	180.3	141.8	112.4	112.9	127.1	97.4	98.3	257.3	879.9	5,792.0
2009	464.6	2,007.1	1,020.0	188.1	212.1	71.0	154.1	176.2	111.5	788.5	48.8	437.1	5,678.9
2010	2,114.1	1,514.1	2,497.1	1,619.0	322.8	219.9	225.4	184.7	117.6	166.2	674.9	1,373.6	11,029.4
2011	1,133.2	1,697.8	4,365.3	527.4	300.1	256.1	214.1	167.5	127.1	448.8	429.2	71.6	9,738.3
2012	591.8	181.5	1,029.2	951.7	137.0	174.3	134.7	207.8	80.1	90.2	543.9	2,636.1	6,758.5
2013	880.0	188.6	154.4	115.8	87.6	81.7	90.0	94.0	60.0	55.5	78.4	79.3	1,965.3
2014	80.6	695.6	609.1	256.5	71.1	68.6	76.8						1,858.4
Grand Total	**13,780.2**	**13,098.3**	**17,079.5**	**9,583.8**	**2,776.9**	**2,173.2**	**2,136.6**	**1,965.1**	**1,480.1**	**3,190.2**	**3,476.2**	**12,726.8**	**83,466.8**
Average	1,148.4	1,091.5	1,423.3	798.6	231.4	167.2	164.4	163.8	123.3	265.9	289.7	1,060.6	6,420.5
Minimum	80.6	181.5	150.9	115.8	71.1	63.5	73.7	53.7	60.0	47.4	48.8	71.6	1,858.4
Maximum	2,699.1	2,077.6	4,365.3	3,786.9	496.2	322.8	319.7	229.7	190.9	857.0	674.9	2,636.1	11,621.6

Scaled flow at Castroville (AF/mo)

Castroville	Month												
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Grand Total**
2002						72.4	78.9	92.8	95.7	90.1	574.7	2,807.0	3,811.5
2003	955.8	397.3	478.7	642.8	188.1	95.5	79.2	66.8	83.6	60.8	190.0	1,980.7	5,219.3
2004	1,403.9	2,992.6	485.3	207.9	200.7	155.3	126.9	133.7	107.2	1,150.8	124.6	2,538.8	9,627.6
2005	3,870.9	2,509.4	4,901.9	1,198.1	467.6	304.4	293.8	177.1	134.6	141.7	173.5	1,422.9	15,595.9
2006	2,471.0	285.8	4,095.6	5,481.0	568.3	255.3	242.7	168.6	145.7	109.6	479.1	1,057.2	15,359.9
2007	359.5	1,310.3	343.9	441.0	275.1	143.9	150.2	157.7	173.1	271.4	155.7	485.6	4,267.5
2008	2,976.8	2,167.2	204.0	214.0	187.3	96.6	102.4	105.2	89.2	105.4	307.4	1,215.3	7,770.9
2009	647.2	2,868.0	1,429.0	214.7	246.8	75.6	120.3	157.2	98.5	1,116.0	61.9	570.0	7,605.2
2010	3,049.6	2,171.0	3,551.1	2,268.4	368.8	167.5	171.0	136.7	99.2	156.8	914.4	1,952.2	15,006.6
2011	1,627.9	2,451.6	6,404.4	638.0	342.8	210.1	156.8	125.2	103.9	579.9	525.1	102.8	13,268.6
2012	847.1	245.6	1,451.4	1,339.4	180.6	148.2	109.0	164.6	80.6	94.5	737.8	3,790.9	9,189.7
2013	1,243.1	256.3	212.0	160.0	129.8	81.4	86.9	88.9	68.9	67.1	104.0	111.7	2,610.2
2014	115.8	969.9	854.8	342.3	106.3	75.0	80.2						2,544.3
Grand Total	**19,568.6**	**18,625.0**	**24,412.2**	**13,147.7**	**3,262.2**	**1,881.2**	**1,798.2**	**1,574.4**	**1,280.2**	**3,944.0**	**4,348.2**	**18,035.2**	**111,877.1**
Average	1,630.7	1,552.1	2,034.4	1,095.6	271.8	144.7	138.3	131.2	106.7	328.7	362.4	1,502.9	8,605.9
Minimum	115.8	245.6	204.0	160.0	106.3	72.4	78.9	66.8	68.9	60.8	61.9	102.8	2,544.3
Maximum	3,870.9	2,992.6	6,404.4	5,481.0	568.3	304.4	293.8	177.1	173.1	1,150.8	914.4	3,790.9	15,595.9

USGS Gage at San Jon Rd (AF/mo)

Flow at Gage	Month												
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Grand Total**
2002						67.8	78.7	108.7	118.0	103.0	481.4	2,095.7	3,053.4
2003	748.7	317.3	371.0	536.7	157.9	117.6	79.5	57.4	91.8	50.6	173.8	1,492.4	4,194.7
2004	1,055.8	2,217.3	394.9	192.0	170.0	213.6	181.1	190.2	142.8	914.6	122.0	1,856.6	7,650.9
2005	2,880.6	1,873.2	3,622.0	982.0	459.8	344.5	341.2	244.2	189.0	186.2	190.6	1,089.7	12,403.0
2006	1,866.0	241.2	3,055.9	4,041.5	529.6	309.4	304.7	245.2	200.5	137.7	419.1	821.4	12,172.2
2007	288.8	993.3	297.3	379.0	288.2	216.2	219.4	229.9	203.7	254.3	153.6	380.7	3,904.5
2008	2,248.6	1,629.4	161.1	192.4	151.3	120.0	120.5	135.7	103.9	104.9	274.6	939.1	6,181.5
2009	495.8	2,142.0	1,088.5	200.7	226.3	75.8	164.4	188.0	119.0	841.5	52.1	466.5	6,060.8
2010	2,256.2	1,615.9	2,665.0	1,727.8	344.5	234.6	240.6	197.2	125.6	177.3	720.3	1,466.0	11,771.0
2011	1,209.4	1,811.9	4,658.8	562.9	320.3	273.3	228.5	178.7	135.7	479.0	458.1	76.5	10,393.1
2012	631.5	193.7	1,098.4	1,015.7	146.2	186.0	143.8	221.8	85.5	96.3	580.5	2,813.4	7,212.9
2013	939.2	201.3	164.8	123.6	93.5	87.2	96.0	100.4	64.0	59.2	83.7	84.7	2,097.5
2014	86.1	742.3	650.1	273.7	75.9	73.2	82.0						1,983.4
Grand Total	**14,706.7**	**13,978.9**	**18,227.8**	**10,228.2**	**2,963.6**	**2,319.3**	**2,280.3**	**2,097.2**	**1,579.6**	**3,404.7**	**3,709.9**	**13,582.5**	**89,078.7**
Average	1,225.6	1,164.9	1,519.0	852.3	247.0	178.4	175.4	174.8	131.6	283.7	309.2	1,131.9	6,852.2
Minimum	86.1	193.7	161.1	123.6	75.9	67.8	78.7	57.4	64.0	50.6	52.1	76.5	1,983.4
Maximum	2,880.6	2,217.3	4,658.8	4,041.5	529.6	344.5	341.2	245.2	203.7	914.6	720.3	2,813.4	12,403.0

Table B-4, Average Monthly Yields, Reclamation Ditch at Davis Road

Reclamation Ditch at Davis Rd													
ac-ft	January	February	March	April	May	June	July	August	September	October	November	December	Total
Bypass 1 cfs, Max Diversion 1 cfs	46.4	41.9	51.8	57.2	55.2	46.3	47.8	50.4	41.5	32.7	30.5	39.5	541.2
Bypass 1 cfs, Max Diversion 2 cfs	81.5	72.5	90.4	103.7	94.9	78.3	79.9	83.3	56.9	46.9	47.5	70.3	906.2
Bypass 1 cfs, Max Diversion 2.9 cfs	108.8	95.9	118.0	133.0	118.3	97.6	97.9	97.3	60.6	54.6	58.4	94.3	1134.7
Bypass 1 cfs, Max Diversion 2.99 cfs	111.3	98.1	120.6	135.5	120.2	99.0	99.1	97.9	60.8	55.3	59.4	96.6	1153.8
Bypass 1 cfs, Max Diversion 3 cfs	111.6	98.4	120.9	135.7	120.4	99.2	99.2	98.0	60.8	55.4	59.5	96.8	1155.9
Bypass 1 cfs, Max Diversion 4 cfs	139.0	121.7	147.7	160.2	136.0	108.9	107.0	101.3	62.0	62.6	69.7	121.5	1337.5
Bypass 1 cfs, Max Diversion 5 cfs	163.9	143.7	172.2	181.8	144.8	112.7	109.2	102.1	62.4	68.2	78.1	144.8	1484.0
Bypass 1 cfs, Max Diversion 6 cfs	186.9	164.4	195.0	201.4	149.3	114.2	110.1	102.3	62.6	73.0	85.6	165.9	1610.6
Bypass 1 cfs, Max Diversion 7 cfs	208.5	184.4	216.5	219.1	152.5	114.8	110.4	102.5	62.8	77.1	92.6	185.8	1645.1
Bypass 1 cfs, Max Diversion 8 cfs	229.0	203.5	237.0	234.6	155.1	115.3	110.5	102.7	62.9	81.1	99.0	205.1	1747.4
Bypass 2 cfs, Max Diversion 2.99 cfs	92.4	79.7	95.6	102.8	80.6	62.5	59.1	50.9	20.5	29.9	39.1	81.7	794.7
Bypass 2 cfs, Max Diversion 6 cfs	162.1	142.6	164.6	161.9	97.3	68.5	62.6	52.1	21.2	44.4	62.1	146.3	1185.7
Bypass 0.7 cfs, Max Diversion 2 cfs	89.0	80.2	98.1	109.5	103.1	86.8	89.7	93.0	71.3	59.0	57.1	77.6	1014.3
Bypass 0.7 cfs, Max Diversion 2.99 cfs	120.4	107.0	130.5	145.1	132.4	111.5	113.3	113.5	77.6	68.5	70.5	105.3	1295.6
Bypass 0.7 cfs, Max Diversion 6 cfs	198.0	174.8	206.9	214.0	167.1	131.7	128.7	120.6	80.1	87.3	97.9	176.2	1783.2

Notes:
Assumed 1 cfs must be bypassed for environmental flows. 0.7 cfs bypass shown for comparison
Available PDWF capacity in Salinas gravity sewer estimated at 6 cfs. Assumes limiting pipe segment slope at 0.0003.
Does not account for future growth in Salinas. Per 2004 Salinas WWMP, this pipeline will approach full capacity at build-out.
Minimum flow in Reclamation Ditch occurs in September. Summer months carry irrigation return flows.

Table B-5, Average Monthly Yields, Tembladero Slough at Castroville

Tembladero Slough at Castroville													
ac-ft	January	February	March	April	May	June	July	August	September	October	November	December	Total
Bypass 1 cfs, Max Diversion 2.2 cfs	106.0	96.4	116.6	126.1	122.7	105.2	109.2	113.0	95.3	78.4	73.2	92.3	1234.5
Bypass 1 cfs, Max Diversion 2.5 cfs	117.0	106.2	129.1	141.5	136.0	115.5	119.7	124.2	101.5	83.5	78.9	102.1	1355.1
Bypass 1 cfs, Max Diversion 2.9 cfs	131.1	118.4	144.5	160.4	151.9	128.3	132.7	137.6	107.5	89.0	85.5	114.6	1501.7
Bypass 1 cfs, Max Diversion 2.99 cfs	134.2	121.0	147.8	164.3	155.3	131.1	135.4	140.4	108.6	90.1	86.9	117.2	1532.5
Bypass 1 cfs, Max Diversion 3 cfs	134.6	121.3	148.2	164.8	155.6	131.4	135.7	140.7	108.8	90.2	87.1	117.5	1535.9
Bypass 1 cfs, Max Diversion 3.5 cfs	151.1	135.4	165.7	185.1	172.6	145.8	149.8	154.1	113.2	95.5	94.4	131.7	1694.4
Bypass 0.7 cfs, Max Diversion 2.2 cfs	112.8	102.6	121.9	128.0	127.0	112.1	116.5	119.1	105.3	89.3	82.9	100.1	1317.5

Notes:
2.2 cfs = 1.2 MGD, which is the available excess PWWF capacity at the MRWPCA Castroville Pump Station
Available excess PDWF is 2.0 MGD = 3.1 cfs.
Flow at Castroville scaled from the Reclamation Ditch gage at San Jon Road.

Table B-6, Average Monthly Yields, Reclamation Ditch at Davis Road and Tembladero Slough at Castroville

Divert at both Davis Road and Castroville													
ac-ft	January	February	March	April	May	June	July	August	September	October	November	December	Total
Bypass 1 cfs, Max Diversion 2 cfs	166.7	148.7	181.9	202.7	187.3	158.0	162.0	164.5	115.8	99.9	101.1	145.4	1834.1
Bypass 1 cfs, Max Diversion 2.9 cfs	218.6	193.1	233.1	253.0	224.4	186.1	186.2	179.3	120.2	114.4	120.7	191.3	2220.5
Bypass 1 cfs, Max Diversion 2.99 cfs	223.5	197.3	237.9	257.4	226.9	187.7	187.4	179.8	120.4	115.6	122.5	195.7	2252.0
Bypass 1 cfs, Max Diversion 3 cfs	224.0	197.7	238.4	257.8	227.2	187.8	187.6	179.9	120.4	115.7	122.7	196.2	2255.5
Bypass 2 cfs, Max Diversion 3 cfs	194.9	169.8	205.3	221.3	178.8	138.8	133.4	123.9	67.4	75.7	89.8	171.4	1770.5
Bypass 1 cfs, Div 6 cfs RD, 2.99 cfs TS	297.2	262.5	310.7	321.1	251.2	198.4	194.0	182.1	121.5	132.0	147.6	264.2	2562.3
Bypass 2 cfs, Div 6 cfs RD, 2.99 cfs TS	263.7	231.9	273.6	279.6	194.1	144.0	136.2	124.8	68.0	89.8	112.4	235.2	2049.6
Seasonal Bypass, Div 2.99 both sites	223.1	197.0	237.5	256.8	225.9	187.7	187.4	179.8	120.4	115.6	122.5	196.2	2249.9
Seasonal Bypass, Div 6 cfs RD, 2.99 cfs TS	292.8	259.9	306.6	316.0	242.5	198.6	194.1	182.1	121.5	132.2	147.7	260.7	2654.8

Notes:

Assume the same diversion target at Davis Rd (Rec Ditch) and Castroville (Tembladero Slough), except where noted

Seasonal Bypass Targets: 0.69 cfs at Davis Rd (JUN-NOV), 2 cfs at Davis Rd (DEC-MAY), 1 cfs at Castroville (JAN-DEC)

Table B-7: In-Stream Flows Comparison

Reclamation Ditch at Davis Road
In-Stream Flows Comparrison

Target Diversion: 6 cfs
By-Pass First: 1 cfs

Table A: In-stream flow without diversion

Flow (AF/month)	Month												
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Grand Total**
2002						63.5	73.7	101.9	110.6	96.5	451.1	1,963.7	2,861.0
2003	701.5	297.3	347.6	502.9	147.9	110.2	74.5	53.7	86.0	47.4	162.9	1,398.4	3,930.4
2004	989.3	2,077.6	370.0	179.9	159.3	200.2	169.7	178.2	133.8	857.0	114.3	1,739.6	7,168.9
2005	2,699.1	1,755.2	3,393.8	920.1	430.8	322.8	319.7	228.8	177.1	174.5	178.6	1,021.0	11,621.6
2006	1,748.5	226.0	2,863.4	3,786.9	496.2	289.9	285.5	229.7	187.9	129.0	392.7	769.6	11,405.3
2007	270.6	930.7	278.6	355.2	270.0	202.6	205.6	215.4	190.9	238.2	144.0	356.8	3,658.5
2008	2,106.9	1,526.8	150.9	180.3	141.8	112.4	112.9	127.1	97.4	98.3	257.3	879.9	5,792.0
2009	464.6	2,007.1	1,020.0	188.1	212.1	71.0	154.1	176.2	111.5	788.5	48.8	437.1	5,678.9
2010	2,114.1	1,514.1	2,497.1	1,619.0	322.8	219.9	225.4	184.7	117.6	166.2	674.9	1,373.6	11,029.4
2011	1,133.2	1,697.8	4,365.3	527.4	300.1	256.1	214.1	167.5	127.1	448.8	429.2	71.6	9,738.3
2012	591.8	181.5	1,029.2	951.7	137.0	174.3	134.7	207.8	80.1	90.2	543.9	2,636.1	6,758.5
2013	880.0	188.6	154.4	115.8	87.6	81.7	90.0	94.0	60.0	55.5	78.4	73.8	1,959.8
Grand Total	**13,699.6**	**12,402.7**	**16,470.3**	**9,327.3**	**2,705.7**	**2,104.6**	**2,059.8**	**1,965.1**	**1,480.1**	**3,190.2**	**3,476.2**	**12,721.3**	**81,602.8**

Table B: In-stream flow after diversion

Flow (AF/Month)	Month												
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Grand Total**
2002						56.5	60.3	61.2	59.5	60.6	333.6	1,709.9	2,341.7
2003	520.8	208.0	256.1	285.2	61.9	59.5	59.1	50.5	58.4	33.6	94.9	1,175.7	2,863.8
2004	834.2	1,853.9	229.5	59.5	61.5	59.5	61.5	61.5	59.5	672.5	62.7	1,616.9	5,632.7
2005	2,386.0	1,524.2	3,067.6	582.0	148.1	74.4	65.9	61.5	59.5	61.5	80.9	818.1	8,929.7
2006	1,473.2	116.1	2,499.6	3,441.7	220.8	59.7	61.5	61.5	59.5	61.5	263.3	582.7	8,901.1
2007	151.0	758.7	127.3	181.9	71.8	59.5	61.5	61.5	86.5	143.9	90.5	246.4	2,040.4
2008	1,787.8	1,292.0	71.8	61.4	61.5	59.5	61.2	61.5	59.5	63.6	168.1	679.8	4,427.7
2009	362.5	1,748.2	828.2	59.5	71.3	54.5	61.5	71.8	59.4	701.5	45.5	279.9	4,343.6
2010	1,891.5	1,333.5	2,170.2	1,349.0	127.7	59.5	61.5	61.5	59.5	73.7	534.5	1,167.4	8,889.5
2011	989.7	1,513.3	4,123.2	260.3	117.1	64.2	61.5	61.5	59.5	335.3	276.0	52.2	7,913.8
2012	515.0	118.5	849.9	771.5	61.5	67.9	61.5	61.5	58.7	58.0	444.5	2,344.3	5,412.7
2013	732.6	127.8	102.0	60.3	60.6	59.3	61.5	61.5	49.5	49.1	54.2	57.2	1,475.6
Grand Total	**11,644.2**	**10,594.2**	**14,325.4**	**7,112.4**	**1,063.8**	**734.1**	**738.5**	**736.9**	**729.0**	**2,314.8**	**2,448.7**	**10,730.3**	**63,172.1**
% Reduction	15%	15%	13%	24%	61%	65%	64%	63%	51%	27%	30%	16%	23%

Flows from USGS Gage 11152650, Reclamation Ditch at San Jon Road
Scaled to basin size at Davis Road (93.7%)
Assumes diversion structure will include low-flow bypass channel to prevent captureing 100% of daily flow.

Table B-8: In-Stream Flows Comparison

Reclamation Ditch at Davis Road
In-Stream Flows Comparrison

Target Diversion: 6 cfs
By-Pass First: 2 cfs

Table A: In-stream flow without diversion

Flow (AF/month)	Month												
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Grand Total**
2002						63.5	73.7	101.9	110.6	96.5	451.1	1,963.7	2,861.0
2003	701.5	297.3	347.6	502.9	147.9	110.2	74.5	53.7	86.0	47.4	162.9	1,398.4	3,930.4
2004	989.3	2,077.6	370.0	179.9	159.3	200.2	169.7	178.2	133.8	857.0	114.3	1,739.6	7,168.9
2005	2,699.1	1,755.2	3,393.8	920.1	430.8	322.8	319.7	228.8	177.1	174.5	178.6	1,021.0	11,621.6
2006	1,748.5	226.0	2,863.4	3,786.9	496.2	289.9	285.5	229.7	187.9	129.0	392.7	769.6	11,405.3
2007	270.6	930.7	278.6	355.2	270.0	202.6	205.6	215.4	190.9	238.2	144.0	356.8	3,658.5
2008	2,106.9	1,526.8	150.9	180.3	141.8	112.4	112.9	127.1	97.4	98.3	257.3	879.9	5,792.0
2009	464.6	2,007.1	1,020.0	188.1	212.1	71.0	154.1	176.2	111.5	788.5	48.8	437.1	5,678.9
2010	2,114.1	1,514.1	2,497.1	1,619.0	322.8	219.9	225.4	184.7	117.6	166.2	674.9	1,373.6	11,029.4
2011	1,133.2	1,697.8	4,365.3	527.4	300.1	256.1	214.1	167.5	127.1	448.8	429.2	71.6	9,738.3
2012	591.8	181.5	1,029.2	951.7	137.0	174.3	134.7	207.8	80.1	90.2	543.9	2,636.1	6,758.5
2013	880.0	188.6	154.4	115.8	87.6	81.7	90.0	94.0	60.0	55.5	78.4	73.8	1,959.8
Grand Total	**13,699.6**	**12,402.7**	**16,470.3**	**9,327.3**	**2,705.7**	**2,104.6**	**2,059.8**	**1,965.1**	**1,480.1**	**3,190.2**	**3,476.2**	**12,721.3**	**81,602.8**

Table B: In-stream flow after diversion

Flow (AF/Month)	Month												
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Grand Total**
2002						63.5	73.7	99.0	107.3	91.9	370.5	1,726.5	2,532.4
2003	549.4	230.9	281.9	322.2	107.0	107.7	74.5	53.7	85.6	35.5	109.2	1,199.4	3,157.1
2004	859.5	1,866.2	257.5	119.0	122.0	119.0	122.7	122.0	115.1	707.2	78.7	1,625.5	6,114.3
2005	2,403.9	1,549.6	3,085.0	603.3	201.8	131.0	124.0	123.0	119.0	122.7	127.6	834.7	9,425.6
2006	1,505.7	152.1	2,501.6	3,452.6	273.0	119.0	123.0	123.0	117.3	113.3	303.2	609.8	9,393.6
2007	196.0	784.7	179.1	230.0	131.3	119.0	123.0	123.0	142.0	178.1	115.0	274.3	2,595.5
2008	1,809.4	1,318.2	123.4	119.0	117.3	107.1	100.6	111.3	90.4	77.9	192.9	705.7	4,873.3
2009	390.4	1,756.9	874.3	118.0	129.4	71.0	115.0	127.1	98.4	712.8	48.8	307.3	4,749.4
2010	1,902.8	1,357.4	2,196.6	1,378.8	183.2	119.0	123.0	122.4	106.1	120.0	553.4	1,191.5	9,354.1
2011	1,008.3	1,539.2	4,152.7	296.0	172.0	121.7	123.0	122.7	110.6	366.9	310.6	67.4	8,391.1
2012	524.8	134.1	883.4	809.4	112.2	123.1	117.0	119.3	75.8	75.9	465.1	2,363.0	5,803.2
2013	766.2	145.2	123.8	98.0	86.5	81.4	89.7	93.2	57.7	54.8	56.0	61.2	1,713.7
Grand Total	**11,916.4**	**10,834.6**	**14,659.3**	**7,546.2**	**1,635.6**	**1,282.6**	**1,309.2**	**1,339.6**	**1,225.3**	**2,656.9**	**2,731.2**	**10,966.4**	**68,103.3**
% Reduction	13%	13%	11%	19%	40%	39%	36%	32%	17%	17%	21%	14%	17%

Flows from USGS Gage 11152650, Reclamation Ditch at San Jon Road
Scaled to basin size at Davis Road (93.7%)
Assumes diversion structure will include low-flow bypass channel to prevent captureing 100% of daily flow.

Table B-9: Water Rights Database GIS Capture, PODs near Salinas

Application ID	No.	Permit ID	License ID	DB ID	Water Right Type	Water Right Type ID	Status	Holder Name	Date	Face Amt	County	Watershed	Source
A013225	1	11043	0	3413	Appropriative	84	Permitted	MONTEREY COUNTY WATER RESOURCES AGENCY	7/11/1949	168,538.0	Monterey	SALINAS, SALINA	SALINAS RIVER
A016124	2	10137	7543	4833	Appropriative	84	Licensed	MONTEREY COUNTY WATER RESOURCES AGENCY	11/4/1954	350,000.0	Monterey, San L	SALINAS, SALINA	NACIMIENTO RIVER, Salinas River
A016761	2	12261	12624	5163	Appropriative	84	Licensed	MONTEREY COUNTY WATER RESOURCES AGENCY	12/2/1955	220,000.0	Monterey	SALINAS, SALINA	SAN ANTONIO RIVER, Salinas River
A021587	1	15371	10722	8216	Appropriative	84	Licensed	GABILAN CATTLE COMPANY	1/3/1964	11.2	Monterey	SALINAS, SALINA	SWAMP CREEK, UNST
A021587	2	15371	10722	8216	Appropriative	84	Licensed	GABILAN CATTLE COMPANY	1/3/1964	11.2	Monterey	SALINAS, SALINA	SWAMP CREEK, UNST
A021587	3	15371	10722	8216	Appropriative	84	Licensed	GABILAN CATTLE COMPANY	1/3/1964	11.2	Monterey	SALINAS, SALINA	SWAMP CREEK, UNST
A021588	2	15372	10699	8217	Appropriative	84	Licensed	GABILAN CATTLE COMPANY	1/3/1964	31.4	Monterey	SALINAS, SALINA	SWAMP CREEK, UNST
A021589	1	15373	10709	8218	Appropriative	84	Licensed	GABILAN CATTLE COMPANY	1/3/1964	2.1	Monterey	SALINAS	GABILAN CREEK
A021590	1	15374	10686	8219	Appropriative	84	Licensed	GABILAN CATTLE COMPANY	1/3/1964	1.7	Monterey	SALINAS	GABILAN CREEK
A022489	1	15237	10978	8726	Appropriative	84	Licensed	TERRY M BENGARD	6/9/1966	42.0	Monterey	SALINAS	HARTNELL CREEK
A022706	1	15445	10023	8849	Appropriative	84	Licensed	ROBERT SWANSON	2/20/1967	8.7	Monterey	SALINAS, SALINA	BARN CANYON CREEK, HOUSE CANYON CREEK
A022706	2	15445	10023	8849	Appropriative	84	Licensed	ROBERT SWANSON	2/20/1967	8.7	Monterey	SALINAS, SALINA	BARN CANYON CREEK, HOUSE CANYON CREEK
A024074	1	16780	11056	9737	Appropriative	84	Licensed	GABILAN CATTLE COMPANY	5/23/1972	59.4	Monterey	SALINAS, SALINA	SWAMP CREEK, UNST
A024075	1	16781	10929	9738	Appropriative	84	Licensed	GABILAN CATTLE COMPANY	5/23/1972	7.3	Monterey	SALINAS, SALINA	SWAMP CREEK
A024075	2	16781	10929	9738	Appropriative	84	Licensed	GABILAN CATTLE COMPANY	5/23/1972	7.3	Monterey	SALINAS, SALINA	SWAMP CREEK
A024075	3	16781	10929	9738	Appropriative	84	Licensed	GABILAN CATTLE COMPANY	5/23/1972	7.3	Monterey	SALINAS, SALINA	SWAMP CREEK
A030532	2	21089	0	14037	Appropriative	84	Permitted	MONTEREY COUNTY WATER RESOURCES AGENCY	3/25/1996	27,900.0	Monterey, San L	SALINAS, SALINA	NACIMIENTO RIVER, Salinas River
A031310	1	0	0	14453	Appropriative	84	Pending	CLIFFORD G SILACCI	3/26/2002	34.7	Monterey	SALINAS, SALINA	ALISAL CREEK, DUNN CANYON, UNST
A031310	2	0	0	14453	Appropriative	84	Pending	CLIFFORD G SILACCI	3/26/2002	34.7	Monterey	SALINAS, SALINA	ALISAL CREEK, DUNN CANYON, UNST
A031310	3	0	0	14453	Appropriative	84	Pending	CLIFFORD G SILACCI	3/26/2002	34.7	Monterey	SALINAS, SALINA	ALISAL CREEK, DUNN CANYON, UNST
A031310	4	0	0	14453	Appropriative	84	Pending	CLIFFORD G SILACCI	3/26/2002	34.7	Monterey	SALINAS, SALINA	ALISAL CREEK, DUNN CANYON, UNST
A031310	5	0	0	14453	Appropriative	84	Pending	CLIFFORD G SILACCI	3/26/2002	34.7	Monterey	SALINAS, SALINA	ALISAL CREEK, DUNN CANYON, UNST
A031310	6	0	0	14453	Appropriative	84	Pending	CLIFFORD G SILACCI	3/26/2002	34.7	Monterey	SALINAS, SALINA	ALISAL CREEK, DUNN CANYON, UNST
A031400	1	0	0	14494	Appropriative	84	Pending	TERRY M BENGARD	3/10/2003	48.0	Monterey	SALINAS, SALINA	ALISAL CREEK
A031400	2	0	0	14494	Appropriative	84	Pending	TERRY M BENGARD	3/10/2003	48.0	Monterey	SALINAS, SALINA	ALISAL CREEK
A031402	2	0	0	14496	Appropriative	84	Pending	CLIFFORD G SILACCI	3/19/2003	104.2	Monterey	SALINAS, SALINA	ALISAL SLOUGH, UNST
A031402	3	0	0	14496	Appropriative	84	Pending	CLIFFORD G SILACCI	3/19/2003	104.2	Monterey	SALINAS, SALINA	ALISAL SLOUGH, UNST
A031402	4	0	0	14496	Appropriative	84	Pending	CLIFFORD G SILACCI	3/19/2003	104.2	Monterey	SALINAS, SALINA	ALISAL SLOUGH, UNST
C002415	1	0	2415	17004	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002416	1	0	2416	17005	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002417	1	0	2417	17006	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002418	1	0	2418	17007	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002419	1	0	2419	17008	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002420	1	0	2420	17009	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002421	1	0	2421	17010	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002422	1	0	2422	17011	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002423	1	0	2423	17012	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002425	1	0	2425	17014	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002426	1	0	2426	17015	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002427	1	0	2427	17016	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002428	1	0	2428	17017	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002429	1	0	2429	17018	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002430	1	0	2430	17019	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002431	1	0	2431	17020	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002432	1	0	2432	17021	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002433	1	0	2433	17022	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
C002434	1	0	2434	17023	Stockpond	85	Certified	CLIFFORD G SILACCI	1/3/1978	-	Monterey	SALINAS	UNST
S001895	1	0	0	29154	Statement of Div and Use	92	Claimed	EDWARD A PORTER	1/1/1975	-	Monterey	SALINAS	GABILAN CREEK
S002860	1	0	0	29959	Statement of Div and Use	92	Claimed	ROLLING HILLS RANCHOS WATER ASSOCIATION	1/1/1975	-	Monterey	SALINAS	UNSP

Application ID	No.	Permit ID	License ID	DB ID	Water Right Type	Water Right Type ID	Status	Holder Name	Date	Face Amt	County	Watershed	Source
S009251	1	0	0	32660	Statement of Div and Use	92	Claimed	PETE SILACCI	4/26/1977	-	Monterey	SALINAS	ALISAL CREEK
S014817	1	0	0	37657	Statement of Div and Use	92	Inactive	STEPHEN JENSEN	7/5/2000	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014826	1	0	0	37666	Statement of Div and Use	92	Claimed	ELMER N JENSEN & ELSIE R JENSEN LIVING TRUST	5/28/1997	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014867	1	0	0	37707	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014868	1	0	0	37708	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014869	1	0	0	37709	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014870	1	0	0	37710	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014872	1	0	0	37712	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014873	1	0	0	37713	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014874	1	0	0	37714	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014875	1	0	0	37715	Statement of Div and Use	92	Inactive	TANIMURA & ANTLE INC	6/28/2013	-	Monterey	SALINAS	GROUNDWATER USE
S014876	1	0	0	37716	Statement of Div and Use	92	Inactive	TANIMURA & ANTLE INC	6/28/2013	-	Monterey	SALINAS	GROUNDWATER USE
S014877	1	0	0	37717	Statement of Div and Use	92	Inactive	TANIMURA & ANTLE INC	6/28/2013	-	Monterey	SALINAS	GROUNDWATER USE
S014878	1	0	0	37718	Statement of Div and Use	92	Claimed	T. Yuki Farms, LPII	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014879	1	0	0	37719	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014880	1	0	0	37720	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014881	1	0	0	37721	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014882	1	0	0	37722	Statement of Div and Use	92	Claimed	Robert Tanimura 1980 IrrevocableTrust; et al	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014883	1	0	0	37723	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014884	1	0	0	37724	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	5/30/2013	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014885	1	0	0	37725	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014886	1	0	0	37726	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014887	1	0	0	37727	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014888	1	0	0	37728	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014889	1	0	0	37729	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014890	1	0	0	37730	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014892	1	0	0	37732	Statement of Div and Use	92	Claimed	Tanimura & Antle Partnership; et al	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014893	1	0	0	37733	Statement of Div and Use	92	Claimed	Tanimura & Antle Partnership; et al	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014894	1	0	0	37734	Statement of Div and Use	92	Claimed	Tanimura & Antle Partnership; et al	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014895	1	0	0	37735	Statement of Div and Use	92	Claimed	Tanimura & Antle Partnership; et al	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S014896	1	0	0	37736	Statement of Div and Use	92	Claimed	Tanimura & Antle Partnership; et al	1/22/1998	-	Monterey	SALINAS	SALINAS RIVER UNDERFLOW
S015877	1	0	0	38601	Statement of Div and Use	92	Claimed	TERRY M BENGARD	7/6/2005	-	Monterey	SALINAS	ALISAL CREEK
S016592	1	0	0	51867	Statement of Div and Use	92	Claimed	TANIMURA LAND COMPANY LLC	7/6/2010	192.4	Monterey	SALINAS	Salinas River Underflow
S018218	1	0	0	52422	Statement of Div and Use	92	Claimed	TERRY M BENGARD	7/6/2010	150.0	Monterey	SALINAS	Alisal Creek
S018221	1	0	0	52424	Statement of Div and Use	92	Claimed	TERRY M BENGARD	7/6/2010	120.0	Monterey	SALINAS	Hartnell Creek
S020341	1	0	0	51426	Statement of Div and Use	92	Inactive	PETE SILACCI	8/7/2012	1,500.0	Monterey	SALINAS	Alisal Creek
S021637	1	0	0	53889	Statement of Div and Use	92	Claimed	PORTER FAMILY PARTNERSHIP, LP	7/6/2010	136,339.0	Monterey	SALINAS	Salinas River Underflow
S021638	1	0	0	53890	Statement of Div and Use	92	Claimed	PORTER FAMILY PARTNERSHIP, LP	7/6/2010	107,448.0	Monterey	SALINAS	Salinas River Underflow
S021639	1	0	0	53891	Statement of Div and Use	92	Claimed	M.B.T. FAMILY PARTNERSHIP	7/6/2010	202,417.0	Monterey	SALINAS	Salinas River Underflow
S021641	1	0	0	53893	Statement of Div and Use	92	Claimed	THE HARDY FAMILY TRUST, ET AL.	7/6/2010	262.5	Monterey	SALINAS	Salinas River Underflow
S021642	1	0	0	53900	Statement of Div and Use	92	Claimed	THE HARDY FAMILY TRUST, ET AL.	7/6/2010	333.8	Monterey	SALINAS	Salinas River Underflow
S023945	1	0	0		Statement of Div and Use	92	Claimed	TANIMURA & ANTLE	7/2/2013	-	Monterey	SALINAS	Salinas Valley Basin
S023947	1	0	0		Statement of Div and Use	92	Claimed	TANIMURA & ANTLE	7/2/2013	-	Monterey	SALINAS	Salinas Valley Basin

Table B-10: Surface Water Rights and Claims in the Reclamation Ditch Basin

Water Right ID	Source	Direct Diversion Rate (cfs)	Direct Diversion Season	Face Value Direct Diversion Amount Oct. 1-Mar. 31 (af)	Face Value Storage Amount (af)	Storage Season	Reported Use 2011 (Diverted)	Reported Use 2012 (Diverted)	Purpose of Use Code**
A021587	Swamp Creek, trib to Gabilan Creek			11.2	11.2	01NOV-30APR	4.5	8.5	S, R
A021588	Swamp Creek, trib to Gabilan Creek			31.4	31.4	01NOV-30APR	9.25	15	S, R
A021589	Alisal Slough (map location Gabilan Creek)			2.1		01NOV-30APR	1.5	2	S
A021590	Alisal Slough (map location Gabilan Creek)			1.7		01NOV-30APR	0.8	1.7	S
A022489	Hartnell Creek, trib to Alisal Creek	10	15NOV-15MAR	42		15NOV-15MAR	5	0	I, S, R
A022706	Barn Canyon Creek, trib to Natividad Creek			8.7	8.7	01DEC-01MAY			S, R
A024074	Swamp Creek, trib to Gabilan Creek			59.4	59.4	01NOV-30APR	1.1	28	I, S, R
A024075	Swamp Creek, trib to Gabilan Creek			7.3	7.3	01NOV-30APR	1.5	5.5	S, R
A031310	Dunn Canyon Creek, trib to Alisal Creek			34.7					Pending
A031400	Alisal Creek			48.0					Pending
A031402	Alisal Creek			104.2					Pending
S001895	Gabilan Creek			0.1			0		S
S009251/ S020341	Alisal Creek			1500.0			1500		I, S
S015877	Alisal Creek	Note		34.2			0	0	I, S
S018218	Alisal Creek			150.0			0	0.0	I, S
S018221	Hartnell Creek			120.0			5	0.0	I, S
Totals				2155	118		1528.65	60.7	

Blank fields indicate no data/ no report

**B-Mining, C-Milling, D-Domestic, E-Fire Protection, G-Dust Control, H-Fish Culture, I-Irrigation, J-Industrial, K-Incidental Power, L-Heat Protection, M-Municipal, N-Frost Protection, P-Power, R-Recreational, S-Stockwatering, T-Snow Making, W-Fish and Wildlife Protection and/or Enhancement, Z-Other.

Value of S015877 is based on sum of reported monthly use.

Table B-11: Identified Uses of Inland Surface Waters, Lower Salinas Hydrologic Unit (Extract from CC RWQCB 2011 Basin Plan)

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
SALINAS HYDROLOGIC UNIT																						
Moro Cojo Slough					X	X	X	X	X	X		X	X	X	X				X			X
Old Salinas River Estuary						X	X	X	X	X	X	X	X	X	X				X			X
Tembldero Slough						X	X	X		X		X		X	X				X			X
Espinosa Lake						X	X	X		X									X			
Espinosa Slough						X	X	X		X									X			
Salinas Reclamation Canal						X	X	X		X									X			
Gabilan Creek	X	X			X	X	X	X		X		X							X			
Alisal Creek	X	X			X	X	X	X	X	X		X							X			
Blanco Drain						X	X	X		X									X			
Salinas River Refuge Lagoon (South)						X	X	X	X	X	X		X	X					X			X
Marina Pond #1					X	X	X	X	X			X	X	X					X			
Marina Pond #2					X	X	X	X	X				X	X					X			
Marina Pond #3					X	X	X	X	X				X	X					X			
Marina Pond #4/5					X	X	X	X	X				X	X					X			
Marina Pond #6					X	X	X	X	X				X	X					X			
Marina Pond #7					X	X	X	X	X			X	X	X					X			
Laguna Grande/Roberts Lake	X					X	X	X	X	X									X			
Del Monte Lake	X					X	X	X		X									X			
El Estero Lake	X				X	X	X	X	X	X		X							X			
Salinas River Lagoon (North)						X	X	X	X	X	X	X	X	X	X				X			X
Salinas River, dnstr of Spreckels Gage	X	X					X	X	X	X	X					X			X			

Use Codes

Municipal and Domestic Supply (MUN)
Agricultural Supply (AGR)
Industrial Process Supply (PRO)
Industrial Service Supply (IND)
Ground Water Recharge (GWR)
Water Contact Recreation (REC1)
Non-Contact Water Recreation (REC2)
Wildlife Habitat (WILD)
Cold Fresh Water Habitat (COLD)
Warm Fresh Water Habitat (WARM)
Migration of Aquatic Organisms (MIGR)
Spawning, Reproduction, and/or Early Development (SPWN)
Preservation of Biological Habitats of Special Significance (BIOL)
Rare, Threatened, or Endangered Species (RARE)
Estuarine Habitat (EST)
Freshwater Replenishment (FRESH)
Navigation (NAV)
Hydropower Generation (POW)
Commercial and Sport Fishing (COMM)
Aquaculture (AQUA)
Inland Saline Water Habitat (SAL)
Shellfish Harvesting (SHELL)
Marine Habitat (MAR)
Areas of Special Biological Significance (ASBS)

Table B-12: Stream Water Quality, Reclamation Ditch Watershed
Note: Location above or below indicates multiple sampling locations

Stream	Location	Analyte Name	No. Samples	Units	Mean	Min	Max
Reclamation Ditch	below Carr Lake	Ammonia as N, Unionized	81	mg/L	0.029	0.0004	0.25
Reclamation Ditch	below Carr Lake	Ammonia as NH3	111	mg/L	0.61	0.00	6.00
Reclamation Ditch	below Carr Lake	Chloride	29	mg/L	106.41	8.90	200.00
Reclamation Ditch	below Carr Lake	Chlorophyll a, water column	95	mg/L	0.016	0.00015	0.15
Reclamation Ditch	below Carr Lake	Chlorpyrifos	41	mg/L	0.0016	0.000045	0.055
Reclamation Ditch	below Carr Lake	Coliform, Fecal	29	MPN/100 ml	17,954.00	110.00	160,001.00
Reclamation Ditch	below Carr Lake	Coliform, Total	29	MPN/100 ml	53,966.00	1,600.00	160,001.00
Reclamation Ditch	below Carr Lake	Diazinon	46	mg/L	0.10	0.000086	3.16
Reclamation Ditch	below Carr Lake	Dissolved Solids, Total	101	mg/L	641.83	14.90	1,080.00
Reclamation Ditch	below Carr Lake	Nitrate as N	216	mg/L	13.00	0.00	69.10
Reclamation Ditch	below Carr Lake	OrthoPhosphate as P	214	mg/L	0.65	0.00	12.90
Reclamation Ditch	below Carr Lake	Oxygen, Dissolved	94	mg/L	0.93	0.00	6.58
Reclamation Ditch	below Carr Lake	Suspended Solids, Total	29	mg/L	69.46	5.00	385.00
Reclamation Ditch	below Carr Lake	Turbidity	119	NTU	141.51	2.90	1,454.00
Tembladero Slough	below Hwy 183	Ammonia as N, Unionized	157	mg/L	0.010	0.0004	0.074
Tembladero Slough	below Hwy 183	Ammonia as NH3	2	mg/L	0.030	0.00	0.060
Tembladero Slough	below Hwy 183	Chloride	111	mg/L	876.41	42.00	9,600.00
Tembladero Slough	below Hwy 183	Chlorophyll a, water column	169	mg/L	0.037	0.00039	0.66
Tembladero Slough	below Hwy 183	Chlorpyrifos	9	mg/L	0.011	0.00005	0.070
Tembladero Slough	below Hwy 183	Coliform, Fecal	111	MPN/100 ml	2,310.14	30.00	54,000.00
Tembladero Slough	below Hwy 183	Coliform, Total	111	MPN/100 ml	29,306.78	240.00	240,001.00
Tembladero Slough	below Hwy 183	Diazinon	7	mg/L	0.20	0.00029	0.52
Tembladero Slough	below Hwy 183	Dissolved Solids, Total	178	mg/L	2,024.71	276.00	18,000.00
Tembladero Slough	below Hwy 183	Nitrate as N	180	mg/L	28.59	0.002	107.00
Tembladero Slough	below Hwy 183	OrthoPhosphate as P	180	mg/L	0.43	0.00	1.20
Tembladero Slough	below Hwy 183	Oxygen, Dissolved	172	mg/L	0.60	0.00	8.98
Tembladero Slough	below Hwy 183	Suspended Solids, Total	116	mg/L	133.85	21.00	1,600.00
Tembladero Slough	below Hwy 183	Turbidity	175	NTU	211.18	8.90	2,663.00
Old Salinas River	above Potrero Rd	Ammonia as N, Unionized	96	mg/L	0.0075	0.0002	0.027
Old Salinas River	above Potrero Rd	Ammonia as NH3	22	mg/L	0.24	0.00	1.17
Old Salinas River	above Potrero Rd	Chloride	109	mg/L	2,504.48	79.00	17,000.00
Old Salinas River	above Potrero Rd	Chlorophyll a, water column	134	mg/L	0.029	0.00045	0.24
Old Salinas River	above Potrero Rd	Chlorpyrifos	33	mg/L	0.00022	0.000044	0.0010
Old Salinas River	above Potrero Rd	Coliform, Fecal	106	MPN/100 ml	3,222.87	23.00	92,000.00
Old Salinas River	above Potrero Rd	Coliform, Total	106	MPN/100 ml	19,573.45	260.00	240,000.00
Old Salinas River	above Potrero Rd	Diazinon	31	mg/L	0.011	0.00	0.21
Old Salinas River	above Potrero Rd	Dissolved Solids, Total	116	mg/L	5,964.12	193.00	59,000.00
Old Salinas River	above Potrero Rd	Nitrate as N	138	mg/L	19.50	0.00	64.00
Old Salinas River	above Potrero Rd	OrthoPhosphate as P	138	mg/L	0.42	0.00	2.40
Old Salinas River	above Potrero Rd	Oxygen, Dissolved	138	mg/L	1.02	0.00	18.03
Old Salinas River	above Potrero Rd	Suspended Solids, Total	114	mg/L	113.33	5.00	578.00
Old Salinas River	above Potrero Rd	Turbidity	158	NTU	183.41	0.10	4,869.00

Table B-12: Stream Water Quality, Reclamation Ditch Watershed
Note: Location above or below indicates multiple sampling locations

Stream	Location	Analyte Name	No. Samples	Units	Mean	Min	Max
Tributary Streams							
Alisal Creek	above Carr Lake	Ammonia as N, Unionized	11	mg/L	0.041	0.001	0.19
Alisal Creek	above Carr Lake	Chloride	6	mg/L	110.00	95.00	128.00
Alisal Creek	above Carr Lake	Chlorophyll a, water column	17	mg/L	0.040	0.00021	0.33
Alisal Creek	above Carr Lake	Coliform, Fecal	6	MPN/100 ml	5,267.00	2.00	17,000.00
Alisal Creek	above Carr Lake	Coliform, Total	6	MPN/100 ml	20,000.00	2.00	50,000.00
Alisal Creek	above Carr Lake	Dissolved Solids, Total	17	mg/L	623.95	185.00	940.00
Alisal Creek	above Carr Lake	Nitrate as N	17	mg/L	25.08	6.07	44.90
Alisal Creek	above Carr Lake	OrthoPhosphate as P	17	mg/L	0.75	0.30	1.39
Alisal Creek	above Carr Lake	Oxygen, Dissolved	16	mg/L	0.089	0.00	1.27
Alisal Creek	above Carr Lake	Suspended Solids, Total	6	mg/L	160.83	66.00	356.00
Alisal Creek	above Carr Lake	Turbidity	17	NTU	861.45	44.00	3,000.00
Alisal Slough	White Barn	Ammonia as N, Unionized	53	mg/L	0.011	0.0008	0.044
Alisal Slough	White Barn	Chlorophyll a, water column	54	mg/L	0.0023	0.00001	0.035
Alisal Slough	White Barn	Chlorpyrifos	5	mg/L	0.001	0.001	0.001
Alisal Slough	White Barn	Diazinon	5	mg/L	0.11	0.002	0.20
Alisal Slough	White Barn	Dissolved Solids, Total	60	mg/L	1,957.80	535.00	3,150.00
Alisal Slough	White Barn	Nitrate as N	60	mg/L	43.03	0.002	109.00
Alisal Slough	White Barn	OrthoPhosphate as P	60	mg/L	0.44	0.0075	0.88
Alisal Slough	White Barn	Oxygen, Dissolved	55	mg/L	0.16	0.00	1.97
Alisal Slough	White Barn	Turbidity	56	NTU	87.80	2.30	715.00
Espinosa Slough	above Recl. Ditch	Ammonia as N, Unionized	54	mg/L	0.017	0.0007	0.21
Espinosa Slough	above Recl. Ditch	Chlorophyll a, water column	54	mg/L	0.011	0.00	0.13
Espinosa Slough	above Recl. Ditch	Chlorpyrifos	5	mg/L	0.014	0.001	0.068
Espinosa Slough	above Recl. Ditch	Diazinon	5	mg/L	0.86	0.16	1.96
Espinosa Slough	above Recl. Ditch	Dissolved Solids, Total	60	mg/L	1,253.90	333.00	2,170.00
Espinosa Slough	above Recl. Ditch	Nitrate as N	60	mg/L	34.96	0.009	103.00
Espinosa Slough	above Recl. Ditch	OrthoPhosphate as P	60	mg/L	0.40	0.0075	1.30
Espinosa Slough	above Recl. Ditch	Oxygen, Dissolved	55	mg/L	0.99	0.00	8.85
Espinosa Slough	above Recl. Ditch	Turbidity	55	NTU	321.70	0.10	1,819.00
Gabilan Creek	above Carr Lake	Ammonia as N, Unionized	19	mg/L	0.033	0.0001	0.27
Gabilan Creek	above Carr Lake	Ammonia as NH3	94	mg/L	0.049	0.00	0.43
Gabilan Creek	above Carr Lake	Chloride	13	mg/L	56.43	6.60	180.00
Gabilan Creek	above Carr Lake	Chlorophyll a, water column	27	mg/L	0.0069	0.00072	0.050
Gabilan Creek	above Carr Lake	Coliform, Fecal	13	MPN/100 ml	2,524.00	70.00	17,000.00
Gabilan Creek	above Carr Lake	Coliform, Total	13	MPN/100 ml	37,131.00	1,100.00	160,000.00
Gabilan Creek	above Carr Lake	Dissolved Solids, Total	27	mg/L	451.20	96.90	930.00
Gabilan Creek	above Carr Lake	Nitrate as N	120	mg/L	5.96	0.00	78.40
Gabilan Creek	above Carr Lake	OrthoPhosphate as P	121	mg/L	0.37	0.00	2.30
Gabilan Creek	above Carr Lake	Oxygen, Dissolved	27	mg/L	0.25	0.00	2.06
Gabilan Creek	above Carr Lake	Suspended Solids, Total	13	mg/L	669.46	12.00	2,010.00
Gabilan Creek	above Carr Lake	Turbidity	27	NTU	1,002.90	3.00	3,000.00

Table B-12: Stream Water Quality, Reclamation Ditch Watershed
Note: Location above or below indicates multiple sampling locations

Stream	Location	Analyte Name	No. Samples	Units	Mean	Min	Max
Merritt Ditch	Hwy 183	Ammonia as N, Unionized	54	mg/L	0.026	0.0002	0.32
Merritt Ditch	Hwy 183	Chlorophyll a, water column	54	mg/L	0.0055	0.00017	0.036
Merritt Ditch	Hwy 183	Chlorpyrifos	5	mg/L	0.001	0.001	0.0010
Merritt Ditch	Hwy 183	Diazinon	5	mg/L	0.084	0.026	0.19
Merritt Ditch	Hwy 183	Dissolved Solids, Total	60	mg/L	1,271.70	429.00	2,060.00
Merritt Ditch	Hwy 183	Nitrate as N	60	mg/L	21.76	0.002	64.80
Merritt Ditch	Hwy 183	OrthoPhosphate as P	60	mg/L	0.24	0.0075	1.67
Merritt Ditch	Hwy 183	Oxygen, Dissolved	55	mg/L	0.59	0.00	6.54
Merritt Ditch	Hwy 183	Turbidity	54	NTU	216.30	5.60	1,650.00
Natividad Creek	above Carr Lake	Ammonia as N, Unionized	46	mg/L	0.043	0.0001	0.89
Natividad Creek	above Carr Lake	Ammonia as NH3	2	mg/L	7.40	6.50	8.30
Natividad Creek	above Carr Lake	Chlorophyll a, water column	46	mg/L	0.0030	0.00	0.032
Natividad Creek	above Carr Lake	Chlorpyrifos	4	mg/L	0.04	0.001	0.16
Natividad Creek	above Carr Lake	Diazinon	4	mg/L	0.97	0.018	3.55
Natividad Creek	above Carr Lake	Dissolved Solids, Total	51	mg/L	754.00	220.00	1,430.00
Natividad Creek	above Carr Lake	Nitrate as N	52	mg/L	32.13	0.014	150.00
Natividad Creek	above Carr Lake	OrthoPhosphate as P	55	mg/L	0.66	0.0075	3.96
Natividad Creek	above Carr Lake	Oxygen, Dissolved	47	mg/L	0.56	0.00	5.61
Natividad Creek	above Carr Lake	Turbidity	48	NTU	460.80	12.50	3,000.00
Santa Rita Creek	above Hwy 101	Ammonia as N, Unionized	14	mg/L	0.026	0.000	0.278
Santa Rita Creek	above Hwy 101	Chloride	14	mg/L	89.93	18.00	170.00
Santa Rita Creek	above Hwy 101	Chlorophyll a, water column	14	mg/L	0.021	0.007	0.047
Santa Rita Creek	above Hwy 101	Coliform, Fecal	14	MPN/100 ml	1,171.00	70.00	5,000.00
Santa Rita Creek	above Hwy 101	Coliform, Total	14	MPN/100 ml	45,086.00	2,200.00	160,001.00
Santa Rita Creek	above Hwy 101	Dissolved Solids, Total	14	mg/L	516.40	290.00	800.00
Santa Rita Creek	above Hwy 101	Nitrate as N	14	mg/L	8.63	0.05	64.00
Santa Rita Creek	above Hwy 101	OrthoPhosphate as P	14	mg/L	0.52	0.20	1.40
Santa Rita Creek	above Hwy 101	Oxygen, Dissolved	14	mg/L	1.02	0.00	3.79
Santa Rita Creek	above Hwy 101	Suspended Solids, Total	14	mg/L	131.98	8.20	610.00
Santa Rita Creek	above Hwy 101	Turbidity	14	NTU	362.00	11.80	1,266.00

Highlighted cells exceed TMDL / standards. See table B-13.
Min value of 0.00 = Not Detected.

Table B-13: Total Maximum Daily Loads

Analyte Name	Units	Standard	Reference
Ammonia as N, Unionized	mg/L	0.025	Board Order R3-2013-0008
Ammonia as NH3	mg/L	0.025	CCAMP Proposed
Chloride	mg/L	150	Basin Plan
Chlorophyll a, water column	mg/L	0.015	Board Order R3-2013-0008
Chlorpyrifos	mg/L	CMC 0.00025 CCC 0.00015	Board Decision 2011
Coliform, Fecal	MPN/100 ml	400	Basin Plan, Water Body Contact
Coliform, Total	MPN/100 ml	10,000	US EPA
Diazinon	mg/L	CMC 0.00016 CCC 0.00010	CC RWQCB Decision 2011
Dissolved Solids, Total	mg/L	1000	CCAMP Proposed
Nitrate as N (all streams with MUN use)	mg/L	10	Board Order R3-2013-0008
Nitrate as N (Salinas River)	mg/L	1.4 (dry season) 8.0 (wet season)	Board Order R3-2013-0008
Nitrate as N (Rec. Ditch, Tembladero, Blanco Drain, Alisal Slough, Espinosa Slough, Merritt Ditch, Santa Rita Creek)	mg/L	6.4 (dry season) 8.0 (wet season)	Board Order R3-2013-0008
Nitrate as N (OSR)	mg/L	3.1 (dry season) 8.0 (wet season)	Board Order R3-2013-0008
OrthoPhosphate as P (Salinas River)	mg/L	0.07 (dry season) 0.30 (wet season)	Board Order R3-2013-0008
Orthophosphate as P (Rec. Ditch, Tembladero, Blanco Drain, Alisal Slough, Espinosa Slough, Merritt Ditch, Santa Rita Creek)	mg/L	0.13 (dry season) 0.30 (wet season)	Board Order R3-2013-0008
Oxygen, Dissolved	mg/L	>7.0 and <13.0 (Cold) >5.0 and <13.0 (Warm)	Board Order R3-2013-0008
Suspended Solids, Total	mg/L	500	CCAMP Proposed
Turbidity	NTU	10	CCAMP Proposed

CMC = Criterion Maximum Concentration (1-hr average)
CCC = Criterion Continuous Concentration (96-hour average)
Order R3-2013-0008: Lower Salinas River Watershed Nutrient TMDL
Seasonal targets for nitrate and orthophosphate

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Appendix C: Conceptual Diversion Facility

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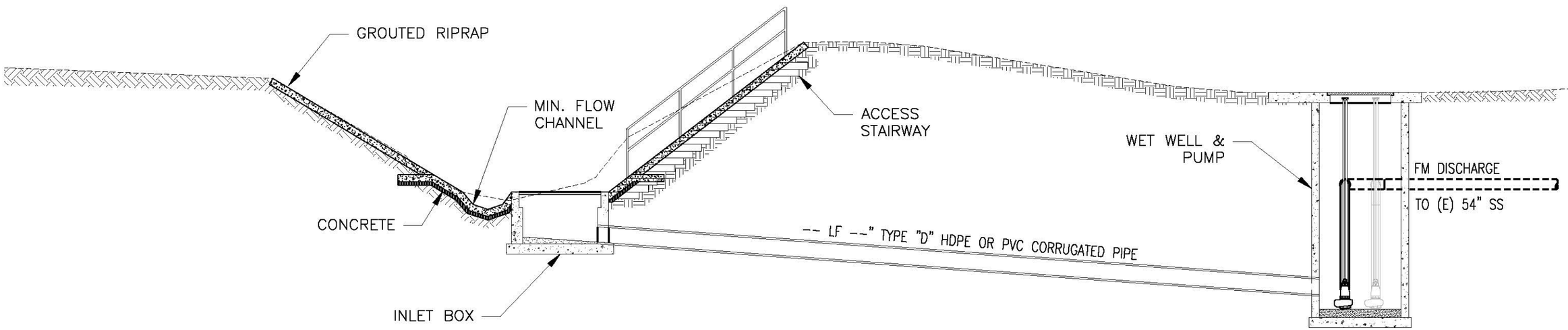
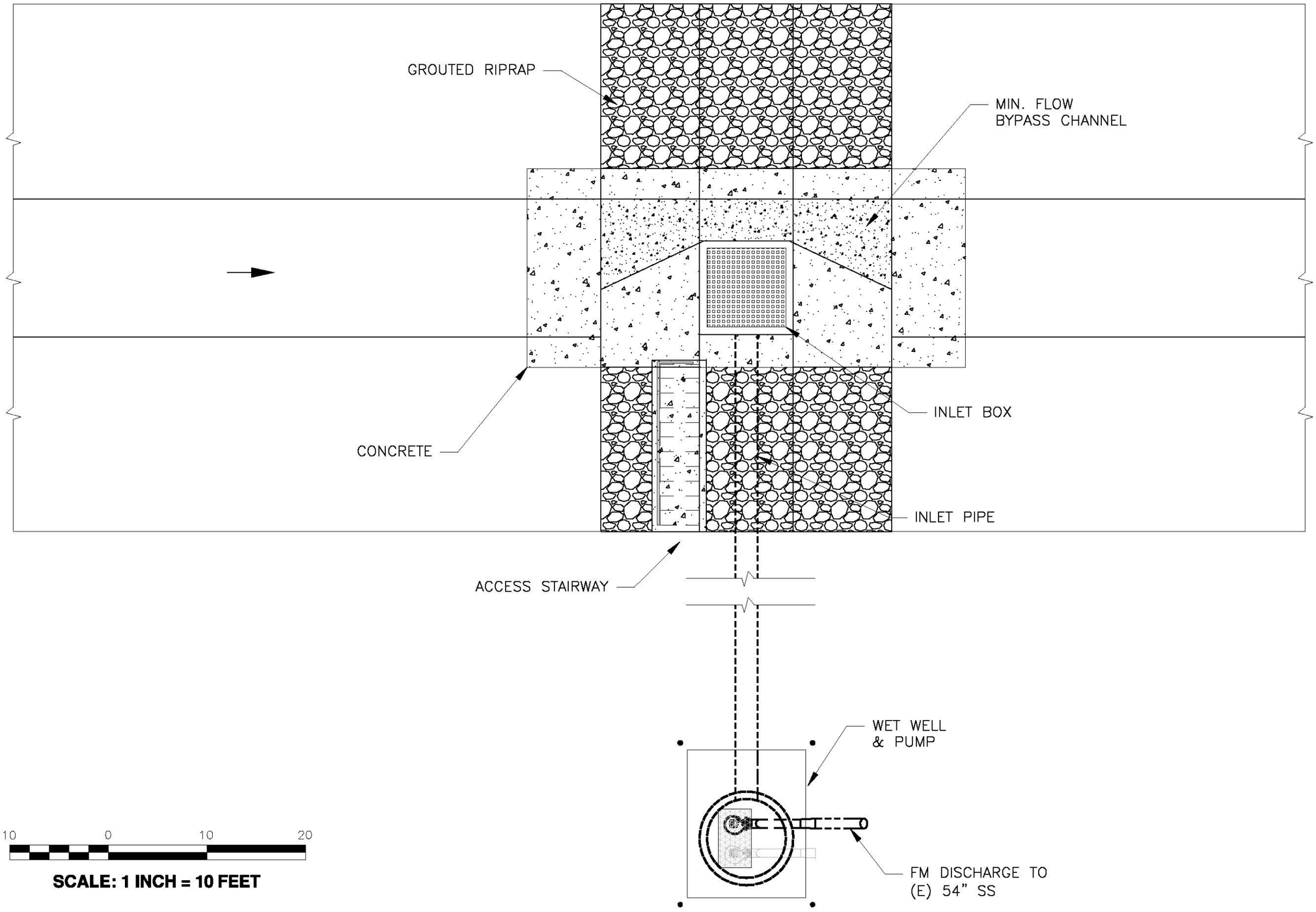
Figure 1



SCALE: 1 INCH = 10 FEET

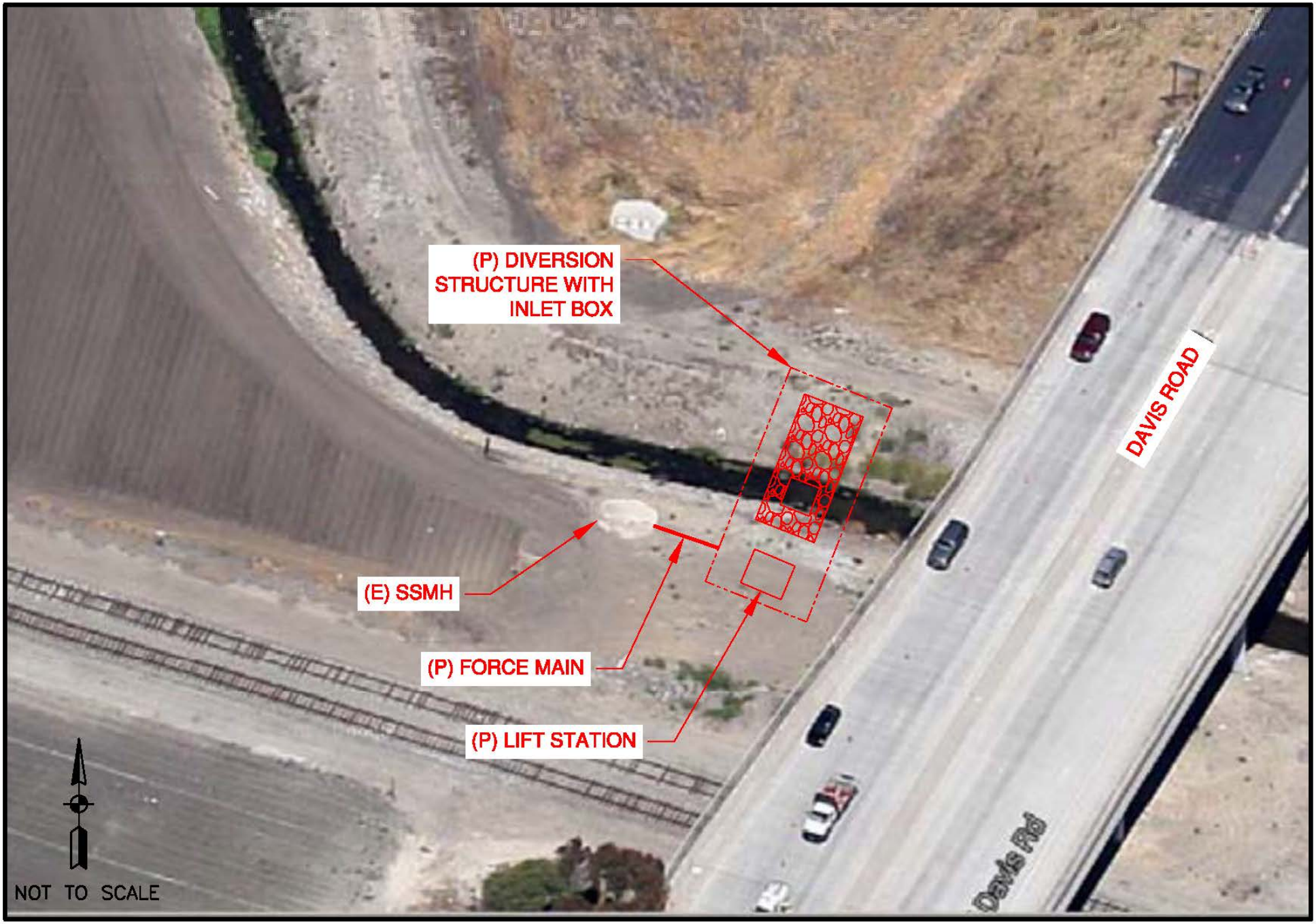
Schaaf & Wheeler

Figure 2



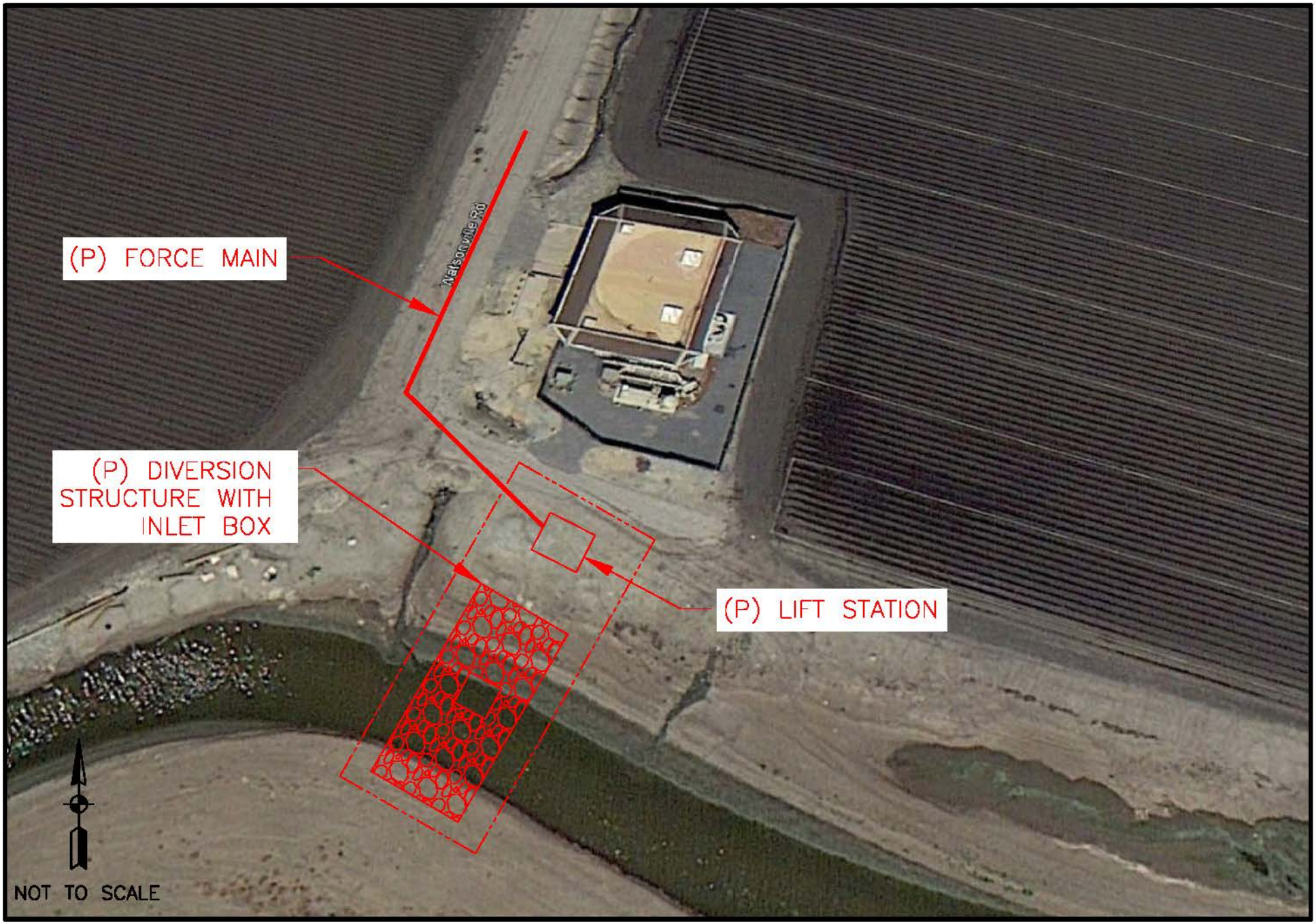
Schaaf & Wheeler

Davis Road Location



Schaaf & Wheeler

Castroville Location



Schaaf & Wheeler

Table C-1: **Reclamation Ditch Diversion Pump Station, Davis Rd, Option 1**

System Head Calculations

Sizing
Target Q = 6 cfs = 2700 gpm
Use a single 6 cfs pump

Number of Pumps in Parallel	**1**
Pump Discharge Diameter (inches)	**12**
Length of Pump Discharge (feet)	**25**
Discharge Hazen-Williams Coefficient (C)	**130**
Force Main Diameter in PS#2 (inches)	**16**
Force Main Length in PS#2 (feet)	**0**
Force Main Diameter from PS#2 to MH (inches)	**16**
Force Main Length from PS#2 to MH (feet)	**100**
Force Main Hazen-Williams Coefficient (C)	**120**
Outfall Elevation (feet)	**20.00**
Wetwell Pumping Level (feet)	**5.00**
Static Lift (feet)	15.00

Fitting	K Value
45 Elbow	0.2
90 Elbow	0.3
22.5 Elbow	0.075
11.25 Elbow	0
GV	0.3
CV	2.5
Reducer	0.03
FR Elbow	0.3
Tee branch	0.75

PS1 Flow - gpm

Pump Discharge Piping												Force Main in PS					Force Main from PS to MH								
				Minor Losses																					
Flow (gpm)	Velocity (fps)	Velocity Head (ft)	Friction Loss (ft)	K:	Flare Elbow **0** (ft)	Suction Elbow **0** (ft)	Discharge Elbows **0.8** (ft)	Tee Branch **0** (ft)	Gate Valve **0.3** (ft)	Check Valve **2.5** (ft)	Total Minor Losses (ft)	Flow (gpm)	Velocity (fps)	Velocity Head (ft)	Friction Loss (ft)	**0.0** Minor Losses (ft)	Flow (gpm)	Velocity (fps)	Velocity Head (ft)	Friction Loss (ft)	**0.3** Minor Losses (ft)	Total Loss (ft)	TDH (ft)	Pump Flow (gpm)	HP at 75% eff. HP
0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	15.00	**0**	**0**
100	0.28	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	100	0.16	0.00	0.00	0.00	100	0.16	0.00	0.00	0.00	0.01	15.01	**100**	**1**
200	0.57	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.01	0.02	200	0.32	0.00	0.00	0.00	200	0.32	0.00	0.00	0.00	0.03	15.03	**200**	**1**
300	0.85	0.01	0.01		0.00	0.00	0.01	0.00	0.00	0.03	0.04	300	0.48	0.00	0.00	0.00	300	0.48	0.00	0.01	0.00	0.06	15.06	**300**	**2**
400	1.13	0.02	0.01		0.00	0.00	0.02	0.00	0.01	0.05	0.07	400	0.64	0.01	0.00	0.00	400	0.64	0.01	0.01	0.00	0.10	15.10	**400**	**2**
500	1.42	0.03	0.02		0.00	0.00	0.02	0.00	0.01	0.08	0.11	500	0.80	0.01	0.00	0.00	500	0.80	0.01	0.02	0.00	0.15	15.15	**500**	**3**
600	1.70	0.04	0.02		0.00	0.00	0.04	0.00	0.01	0.11	0.16	600	0.96	0.01	0.00	0.00	600	0.96	0.01	0.03	0.00	0.22	15.22	**600**	**3**
700	1.99	0.06	0.03		0.00	0.00	0.05	0.00	0.02	0.15	0.22	700	1.12	0.02	0.00	0.00	700	1.12	0.02	0.04	0.01	0.30	15.30	**700**	**4**
800	2.27	0.08	0.04		0.00	0.00	0.06	0.00	0.02	0.20	0.29	800	1.28	0.03	0.00	0.00	800	1.28	0.03	0.05	0.01	0.39	15.39	**800**	**4**
900	2.55	0.10	0.05		0.00	0.00	0.08	0.00	0.03	0.25	0.36	900	1.44	0.03	0.00	0.00	900	1.44	0.03	0.06	0.01	0.49	15.49	**900**	**5**
1,000	2.84	0.12	0.06		0.00	0.00	0.10	0.00	0.04	0.31	0.45	1,000	1.60	0.04	0.00	0.00	1,000	1.60	0.04	0.07	0.01	0.60	15.60	**1,000**	**5**
1,100	3.12	0.15	0.08		0.00	0.00	0.12	0.00	0.05	0.38	0.54	1,100	1.76	0.05	0.00	0.00	1,100	1.76	0.05	0.09	0.01	0.72	15.72	**1,100**	**6**
1,200	3.40	0.18	0.09		0.00	0.00	0.14	0.00	0.05	0.45	0.65	1,200	1.91	0.06	0.00	0.00	1,200	1.91	0.06	0.10	0.02	0.86	15.86	**1,200**	**6**
1,300	3.69	0.21	0.10		0.00	0.00	0.17	0.00	0.06	0.53	0.76	1,300	2.07	0.07	0.00	0.00	1,300	2.07	0.07	0.12	0.02	1.00	16.00	**1,300**	**7**
1,400	3.97	0.24	0.12		0.00	0.00	0.20	0.00	0.07	0.61	0.88	1,400	2.23	0.08	0.00	0.00	1,400	2.23	0.08	0.14	0.02	1.16	16.16	**1,400**	**8**
1,500	4.26	0.28	0.14		0.00	0.00	0.22	0.00	0.08	0.70	1.01	1,500	2.39	0.09	0.00	0.00	1,500	2.39	0.09	0.15	0.03	1.33	16.33	**1,500**	**8**
1,600	4.54	0.32	0.15		0.00	0.00	0.26	0.00	0.10	0.80	1.15	1,600	2.55	0.10	0.00	0.00	1,600	2.55	0.10	0.17	0.03	1.51	16.51	**1,600**	**9**
1,700	4.82	0.36	0.17		0.00	0.00	0.29	0.00	0.11	0.90	1.30	1,700	2.71	0.11	0.00	0.00	1,700	2.71	0.11	0.19	0.03	1.70	16.70	**1,700**	**10**
1,800	5.11	0.40	0.19		0.00	0.00	0.32	0.00	0.12	1.01	1.46	1,800	2.87	0.13	0.00	0.00	1,800	2.87	0.13	0.22	0.04	1.90	16.90	**1,800**	**10**
1,900	5.39	0.45	0.21		0.00	0.00	0.36	0.00	0.14	1.13	1.62	1,900	3.03	0.14	0.00	0.00	1,900	3.03	0.14	0.24	0.04	2.12	17.12	**1,900**	**11**
2,000	5.67	0.50	0.23		0.00	0.00	0.40	0.00	0.15	1.25	1.80	2,000	3.19	0.16	0.00	0.00	2,000	3.19	0.16	0.26	0.05	2.34	17.34	**2,000**	**12**
2,100	5.96	0.55	0.25		0.00	0.00	0.44	0.00	0.17	1.38	1.98	2,100	3.35	0.17	0.00	0.00	2,100	3.35	0.17	0.29	0.05	2.58	17.58	**2,100**	**12**
2,200	6.24	0.60	0.27		0.00	0.00	0.48	0.00	0.18	1.51	2.18	2,200	3.51	0.19	0.00	0.00	2,200	3.51	0.19	0.31	0.06	2.82	17.82	**2,200**	**13**
2,300	6.53	0.66	0.30		0.00	0.00	0.53	0.00	0.20	1.65	2.38	2,300	3.67	0.21	0.00	0.00	2,300	3.67	0.21	0.34	0.06	3.08	18.08	**2,300**	**14**
2,400	6.81	0.72	0.32		0.00	0.00	0.58	0.00	0.22	1.80	2.59	2,400	3.83	0.23	0.00	0.00	2,400	3.83	0.23	0.37	0.07	3.35	18.35	**2,400**	**15**
2,500	7.09	0.78	0.35		0.00	0.00	0.62	0.00	0.23	1.95	2.81	2,500	3.99	0.25	0.00	0.00	2,500	3.99	0.25	0.40	0.07	3.63	18.63	**2,500**	**16**
2,600	7.38	0.84	0.37		0.00	0.00	0.68	0.00	0.25	2.11	3.04	2,600	4.15	0.27	0.00	0.00	2,600	4.15	0.27	0.43	0.08	3.92	18.92	**2,600**	**17**
2,700	7.66	0.91	0.40		0.00	0.00	0.73	0.00	0.27	2.28	3.28	2,700	4.31	0.29	0.00	0.00	2,700	4.31	0.29	0.46	0.09	4.23	19.23	**2,700**	**17**
2,800	7.94	0.98	0.43		0.00	0.00	0.78	0.00	0.29	2.45	3.53	2,800	4.47	0.31	0.00	0.00	2,800	4.47	0.31	0.49	0.09	4.54	19.54	**2,800**	**18**
2,900	8.23	1.05	0.46		0.00	0.00	0.84	0.00	0.32	2.63	3.78	2,900	4.63	0.33	0.00	0.00	2,900	4.63	0.33	0.52	0.10	4.86	19.86	**2,900**	**19**
3,000	8.51	1.12	0.49		0.00	0.00	0.90	0.00	0.34	2.81	4.05	3,000	4.79	0.36	0.00	0.00	3,000	4.79	0.36	0.56	0.11	5.20	20.20	**3,000**	**20**
3,100	8.79	1.20	0.52		0.00	0.00	0.96	0.00	0.36	3.00	4.32	3,100	4.95	0.38	0.00	0.00	3,100	4.95	0.38	0.59	0.11	5.55	20.55	**3,100**	**21**
3,200	9.08	1.28	0.55		0.00	0.00	1.02	0.00	0.38	3.20	4.61	3,200	5.11	0.40	0.00	0.00	3,200	5.11	0.40	0.63	0.12	5.91	20.91	**3,200**	**23**
3,300	9.36	1.36	0.58		0.00	0.00	1.09	0.00	0.41	3.40	4.90	3,300	5.27	0.43	0.00	0.00	3,300	5.27	0.43	0.66	0.13	6.27	21.27	**3,300**	**24**
3,400	9.65	1.44	0.61		0.00	0.00	1.16	0.00	0.43	3.61	5.20	3,400	5.43	0.46	0.00	0.00	3,400	5.43	0.46	0.70	0.14	6.65	21.65	**3,400**	**25**
3,500	9.93	1.53	0.65		0.00	0.00	1.22	0.00	0.46	3.83	5.51	3,500	5.59	0.48	0.00	0.00	3,500	5.59	0.48	0.74	0.15	7.05	22.05	**3,500**	**26**
3,600	10.21	1.62	0.68		0.00	0.00	1.30	0.00	0.49	4.05	5.83	3,600	5.74	0.51	0.00	0.00	3,600	5.74	0.51	0.78	0.15	7.45	22.45	**3,600**	**27**
3,700	10.50	1.71	0.72		0.00	0.00	1.37	0.00	0.51	4.28	6.16	3,700	5.90	0.54	0.00	0.00	3,700	5.90	0.54	0.82	0.16	7.86	22.86	**3,700**	**28**
3,800	10.78	1.80	0.75		0.00	0.00	1.44	0.00	0.54	4.51	6.50	3,800	6.06	0.57	0.00	0.00	3,800	6.06	0.57	0.86	0.17	8.29	23.29	**3,800**	**30**
3,900	11.06	1.90	0.79		0.00	0.00	1.52	0.00	0.57	4.75	6.84	3,900	6.22	0.60	0.00	0.00	3,900	6.22	0.60	0.91	0.18	8.72	23.72	**3,900**	**31**
4,000	11.35	2.00	0.83		0.00	0.00	1.60	0.00	0.60	5.00	7.20	4,000	6.38	0.63	0.00	0.00	4,000	6.38	0.63	0.95	0.19	9.17	24.17	**4,000**	**33**

Table C-2: **Reclamation Ditch Diversion Pump Station, Davis Rd, Option 2**

System Head Calculations

Sizing
Target Q = 6 cfs = 2700 gpm
Install two each 3 cfs pumps (plus spare)
Q = 1350 cfs

Number of Pumps in Parallel	**1**
Pump Discharge Diameter (inches)	**10**
Length of Pump Discharge (feet)	**25**
Discharge Hazen-Williams Coefficient (C)	**130**
Force Main Diameter in PS#2 (inches)	**12**
Force Main Length in PS#2 (feet)	**0**
Force Main Diameter from PS#2 to MH (inches)	**12**
Force Main Length from PS#2 to MH (feet)	**100**
Force Main Hazen-Williams Coefficient (C)	**120**
Outfall Elevation (feet)	**20.00**
Wetwell Pumping Level (feet)	**5.00**
Static Lift (feet)	15.00

Fitting	K Value
45 Elbow	0.2
90 Elbow	0.3
22.5 Elbow	0.075
11.25 Elbow	0
GV	0.3
CV	2.5
Reducer	0.03
FR Elbow	0.3
Tee branch	0.75

PS1 Flow - gpm

Pump Discharge Piping												Force Main in PS					Force Main from PS to MH								
				Minor Losses																					
Flow (gpm)	Velocity (fps)	Velocity Head (ft)	Friction Loss (ft)	K:	Flare Elbow **0** (ft)	Suction Elbow **0** (ft)	Discharge Elbows **0.8** (ft)	Tee Branch **0** (ft)	Gate Valve **0.3** (ft)	Check Valve **2.5** (ft)	Total Minor Losses (ft)	Flow (gpm)	Velocity (fps)	Velocity Head (ft)	Friction Loss (ft)	**0.0** Minor Losses (ft)	Flow (gpm)	Velocity (fps)	Velocity Head (ft)	Friction Loss (ft)	**0.3** Minor Losses (ft)	Total Loss (ft)	TDH (ft)	Pump Flow (gpm)	HP at 75% eff. HP
0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	15.00	**0**	**0**
100	0.41	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.01	0.01	100	0.28	0.00	0.00	0.00	100	0.28	0.00	0.00	0.00	0.02	15.02	**100**	**1**
200	0.82	0.01	0.01		0.00	0.00	0.01	0.00	0.00	0.03	0.04	200	0.57	0.00	0.00	0.00	200	0.57	0.00	0.02	0.00	0.06	15.06	**200**	**1**
300	1.23	0.02	0.02		0.00	0.00	0.02	0.00	0.01	0.06	0.08	300	0.85	0.01	0.00	0.00	300	0.85	0.01	0.03	0.00	0.14	15.14	**300**	**2**
400	1.63	0.04	0.03		0.00	0.00	0.03	0.00	0.01	0.10	0.15	400	1.13	0.02	0.00	0.00	400	1.13	0.02	0.05	0.01	0.24	15.24	**400**	**2**
500	2.04	0.06	0.04		0.00	0.00	0.05	0.00	0.02	0.16	0.23	500	1.42	0.03	0.00	0.00	500	1.42	0.03	0.08	0.01	0.37	15.37	**500**	**3**
600	2.45	0.09	0.06		0.00	0.00	0.07	0.00	0.03	0.23	0.34	600	1.70	0.04	0.00	0.00	600	1.70	0.04	0.12	0.01	0.52	15.52	**600**	**3**
700	2.86	0.13	0.08		0.00	0.00	0.10	0.00	0.04	0.32	0.46	700	1.99	0.06	0.00	0.00	700	1.99	0.06	0.15	0.02	0.71	15.71	**700**	**4**
800	3.27	0.17	0.10		0.00	0.00	0.13	0.00	0.05	0.41	0.60	800	2.27	0.08	0.00	0.00	800	2.27	0.08	0.20	0.02	0.92	15.92	**800**	**4**
900	3.68	0.21	0.13		0.00	0.00	0.17	0.00	0.06	0.52	0.76	900	2.55	0.10	0.00	0.00	900	2.55	0.10	0.24	0.03	1.16	16.16	**900**	**5**
1,000	4.09	0.26	0.15		0.00	0.00	0.21	0.00	0.08	0.65	0.93	1,000	2.84	0.12	0.00	0.00	1,000	2.84	0.12	0.30	0.04	1.42	16.42	**1,000**	**6**
1,100	4.49	0.31	0.18		0.00	0.00	0.25	0.00	0.09	0.78	1.13	1,100	3.12	0.15	0.00	0.00	1,100	3.12	0.15	0.35	0.05	1.71	16.71	**1,100**	**6**
1,200	4.90	0.37	0.22		0.00	0.00	0.30	0.00	0.11	0.93	1.34	1,200	3.40	0.18	0.00	0.00	1,200	3.40	0.18	0.41	0.05	2.03	17.03	**1,200**	**7**
1,300	5.31	0.44	0.25		0.00	0.00	0.35	0.00	0.13	1.09	1.58	1,300	3.69	0.21	0.00	0.00	1,300	3.69	0.21	0.48	0.06	2.37	17.37	**1,300**	**8**
1,400	5.72	0.51	0.29		0.00	0.00	0.41	0.00	0.15	1.27	1.83	1,400	3.97	0.24	0.00	0.00	1,400	3.97	0.24	0.55	0.07	2.74	17.74	**1,400**	**8**
1,500	6.13	0.58	0.33		0.00	0.00	0.47	0.00	0.17	1.46	2.10	1,500	4.26	0.28	0.00	0.00	1,500	4.26	0.28	0.63	0.08	3.14	18.14	**1,500**	**9**
1,600	6.54	0.66	0.37		0.00	0.00	0.53	0.00	0.20	1.66	2.39	1,600	4.54	0.32	0.00	0.00	1,600	4.54	0.32	0.71	0.10	3.56	18.56	**1,600**	**10**
1,700	6.94	0.75	0.41		0.00	0.00	0.60	0.00	0.22	1.87	2.70	1,700	4.82	0.36	0.00	0.00	1,700	4.82	0.36	0.79	0.11	4.01	19.01	**1,700**	**11**
1,800	7.35	0.84	0.46		0.00	0.00	0.67	0.00	0.25	2.10	3.02	1,800	5.11	0.40	0.00	0.00	1,800	5.11	0.40	0.88	0.12	4.48	19.48	**1,800**	**12**
1,900	7.76	0.94	0.51		0.00	0.00	0.75	0.00	0.28	2.34	3.37	1,900	5.39	0.45	0.00	0.00	1,900	5.39	0.45	0.97	0.14	4.98	19.98	**1,900**	**13**
2,000	8.17	1.04	0.56		0.00	0.00	0.83	0.00	0.31	2.59	3.73	2,000	5.67	0.50	0.00	0.00	2,000	5.67	0.50	1.07	0.15	5.51	20.51	**2,000**	**14**
2,100	8.58	1.14	0.61		0.00	0.00	0.91	0.00	0.34	2.86	4.11	2,100	5.96	0.55	0.00	0.00	2,100	5.96	0.55	1.17	0.17	6.06	21.06	**2,100**	**15**
2,200	8.99	1.25	0.67		0.00	0.00	1.00	0.00	0.38	3.14	4.52	2,200	6.24	0.60	0.00	0.00	2,200	6.24	0.60	1.27	0.18	6.64	21.64	**2,200**	**16**
2,300	9.40	1.37	0.72		0.00	0.00	1.10	0.00	0.41	3.43	4.94	2,300	6.53	0.66	0.00	0.00	2,300	6.53	0.66	1.38	0.20	7.24	22.24	**2,300**	**17**
2,400	9.80	1.49	0.78		0.00	0.00	1.19	0.00	0.45	3.73	5.37	2,400	6.81	0.72	0.00	0.00	2,400	6.81	0.72	1.49	0.22	7.87	22.87	**2,400**	**18**
2,500	10.21	1.62	0.84		0.00	0.00	1.30	0.00	0.49	4.05	5.83	2,500	7.09	0.78	0.00	0.00	2,500	7.09	0.78	1.61	0.23	8.52	23.52	**2,500**	**20**
2,600	10.62	1.75	0.91		0.00	0.00	1.40	0.00	0.53	4.38	6.31	2,600	7.38	0.84	0.00	0.00	2,600	7.38	0.84	1.73	0.25	9.20	24.20	**2,600**	**21**
2,700	11.03	1.89	0.97		0.00	0.00	1.51	0.00	0.57	4.72	6.80	2,700	7.66	0.91	0.00	0.00	2,700	7.66	0.91	1.86	0.27	9.91	24.91	**2,700**	**23**
2,800	11.44	2.03	1.04		0.00	0.00	1.63	0.00	0.61	5.08	7.31	2,800	7.94	0.98	0.00	0.00	2,800	7.94	0.98	1.99	0.29	10.64	25.64	**2,800**	**24**
2,900	11.85	2.18	1.11		0.00	0.00	1.74	0.00	0.65	5.45	7.85	2,900	8.23	1.05	0.00	0.00	2,900	8.23	1.05	2.12	0.32	11.39	26.39	**2,900**	**26**
3,000	12.26	2.33	1.18		0.00	0.00	1.87	0.00	0.70	5.83	8.40	3,000	8.51	1.12	0.00	0.00	3,000	8.51	1.12	2.26	0.34	12.18	27.18	**3,000**	**27**
3,100	12.66	2.49	1.26		0.00	0.00	1.99	0.00	0.75	6.23	8.97	3,100	8.79	1.20	0.00	0.00	3,100	8.79	1.20	2.40	0.36	12.98	27.98	**3,100**	**29**
3,200	13.07	2.65	1.33		0.00	0.00	2.12	0.00	0.80	6.63	9.55	3,200	9.08	1.28	0.00	0.00	3,200	9.08	1.28	2.55	0.38	13.82	28.82	**3,200**	**31**
3,300	13.48	2.82	1.41		0.00	0.00	2.26	0.00	0.85	7.06	10.16	3,300	9.36	1.36	0.00	0.00	3,300	9.36	1.36	2.69	0.41	14.67	29.67	**3,300**	**33**
3,400	13.89	3.00	1.49		0.00	0.00	2.40	0.00	0.90	7.49	10.78	3,400	9.65	1.44	0.00	0.00	3,400	9.65	1.44	2.85	0.43	15.56	30.56	**3,400**	**35**
3,500	14.30	3.17	1.57		0.00	0.00	2.54	0.00	0.95	7.94	11.43	3,500	9.93	1.53	0.00	0.00	3,500	9.93	1.53	3.00	0.46	16.46	31.46	**3,500**	**37**
3,600	14.71	3.36	1.66		0.00	0.00	2.69	0.00	1.01	8.40	12.09	3,600	10.21	1.62	0.00	0.00	3,600	10.21	1.62	3.17	0.49	17.40	32.40	**3,600**	**39**
3,700	15.12	3.55	1.74		0.00	0.00	2.84	0.00	1.06	8.87	12.77	3,700	10.50	1.71	0.00	0.00	3,700	10.50	1.71	3.33	0.51	18.36	33.36	**3,700**	**42**
3,800	15.52	3.74	1.83		0.00	0.00	2.99	0.00	1.12	9.36	13.47	3,800	10.78	1.80	0.00	0.00	3,800	10.78	1.80	3.50	0.54	19.34	34.34	**3,800**	**44**
3,900	15.93	3.94	1.92		0.00	0.00	3.15	0.00	1.18	9.85	14.19	3,900	11.06	1.90	0.00	0.00	3,900	11.06	1.90	3.67	0.57	20.35	35.35	**3,900**	**46**
4,000	16.34	4.15	2.01		0.00	0.00	3.32	0.00	1.24	10.37	14.93	4,000	11.35	2.00	0.00	0.00	4,000	11.35	2.00	3.85	0.60	21.39	36.39	**4,000**	**49**

Table C-3: **Reclamation Ditch Diversion Pump Station, Castroville**

System Head Calculations

Sizing
Target Q = 3 cfs = 1350 gpm

Number of Pumps in Parallel	**1**
Pump Discharge Diameter (inches)	**10**
Length of Pump Discharge (feet)	**25**
Discharge Hazen-Williams Coefficient (C)	**130**
Force Main Diameter in PS#2 (inches)	**12**
Force Main Length in PS#2 (feet)	**0**
Force Main Diameter from PS#2 to MH (inches)	**12**
Force Main Length from PS#2 to MH (feet)	**300**
Force Main Hazen-Williams Coefficient (C)	**120**
Outfall Elevation (feet)	**5.00**
Wetwell Pumping Level (feet)	**-13.00**
Static Lift (feet)	18.00

Fitting	K Value
45 Elbow	0.2
90 Elbow	0.3
22.5 Elbow	0.075
11.25 Elbow	0
GV	0.3
CV	2.5
Reducer	0.03
FR Elbow	0.3
Tee branch	0.75

PS1 Flow - gpm

Pump Discharge Piping												Force Main in PS					Force Main from PS to MH								
				Minor Losses																					
Flow (gpm)	Velocity (fps)	Velocity Head (ft)	Friction Loss (ft)	K:	Flare Elbow **0** (ft)	Suction Elbow **0** (ft)	Discharge Elbows **0.8** (ft)	Tee Branch **0** (ft)	Gate Valve **0.3** (ft)	Check Valve **2.5** (ft)	Total Minor Losses (ft)	Flow (gpm)	Velocity (fps)	Velocity Head (ft)	Friction Loss (ft)	**0.0** Minor Losses (ft)	Flow (gpm)	Velocity (fps)	Velocity Head (ft)	Friction Loss (ft)	**0.3** Minor Losses (ft)	Total Loss (ft)	TDH (ft)	Pump Flow (gpm)	HP at 75% eff. HP
0	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	18.00	**0**	**0**
100	0.41	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.01	0.01	100	0.28	0.00	0.00	0.00	100	0.28	0.00	0.01	0.00	0.02	18.02	**100**	**1**
200	0.82	0.01	0.01		0.00	0.00	0.01	0.00	0.00	0.03	0.04	200	0.57	0.00	0.00	0.00	200	0.57	0.00	0.05	0.00	0.09	18.09	**200**	**1**
300	1.23	0.02	0.02		0.00	0.00	0.02	0.00	0.01	0.06	0.08	300	0.85	0.01	0.00	0.00	300	0.85	0.01	0.10	0.00	0.20	18.20	**300**	**2**
400	1.63	0.04	0.03		0.00	0.00	0.03	0.00	0.01	0.10	0.15	400	1.13	0.02	0.00	0.00	400	1.13	0.02	0.16	0.01	0.35	18.35	**400**	**2**
500	2.04	0.06	0.04		0.00	0.00	0.05	0.00	0.02	0.16	0.23	500	1.42	0.03	0.00	0.00	500	1.42	0.03	0.25	0.01	0.53	18.53	**500**	**3**
600	2.45	0.09	0.06		0.00	0.00	0.07	0.00	0.03	0.23	0.34	600	1.70	0.04	0.00	0.00	600	1.70	0.04	0.35	0.01	0.75	18.75	**600**	**4**
700	2.86	0.13	0.08		0.00	0.00	0.10	0.00	0.04	0.32	0.46	700	1.99	0.06	0.00	0.00	700	1.99	0.06	0.46	0.02	1.01	19.01	**700**	**4**
800	3.27	0.17	0.10		0.00	0.00	0.13	0.00	0.05	0.41	0.60	800	2.27	0.08	0.00	0.00	800	2.27	0.08	0.59	0.02	1.31	19.31	**800**	**5**
900	3.68	0.21	0.13		0.00	0.00	0.17	0.00	0.06	0.52	0.76	900	2.55	0.10	0.00	0.00	900	2.55	0.10	0.73	0.03	1.64	19.64	**900**	**6**
1,000	4.09	0.26	0.15		0.00	0.00	0.21	0.00	0.08	0.65	0.93	1,000	2.84	0.12	0.00	0.00	1,000	2.84	0.12	0.89	0.04	2.01	20.01	**1,000**	**7**
1,100	4.49	0.31	0.18		0.00	0.00	0.25	0.00	0.09	0.78	1.13	1,100	3.12	0.15	0.00	0.00	1,100	3.12	0.15	1.06	0.05	2.42	20.42	**1,100**	**8**
1,200	4.90	0.37	0.22		0.00	0.00	0.30	0.00	0.11	0.93	1.34	1,200	3.40	0.18	0.00	0.00	1,200	3.40	0.18	1.24	0.05	2.86	20.86	**1,200**	**8**
1,300	5.31	0.44	0.25		0.00	0.00	0.35	0.00	0.13	1.09	1.58	1,300	3.69	0.21	0.00	0.00	1,300	3.69	0.21	1.44	0.06	3.33	21.33	**1,300**	**9**
1,400	5.72	0.51	0.29		0.00	0.00	0.41	0.00	0.15	1.27	1.83	1,400	3.97	0.24	0.00	0.00	1,400	3.97	0.24	1.65	0.07	3.85	21.85	**1,400**	**10**
1,500	6.13	0.58	0.33		0.00	0.00	0.47	0.00	0.17	1.46	2.10	1,500	4.26	0.28	0.00	0.00	1,500	4.26	0.28	1.88	0.08	4.39	22.39	**1,500**	**11**
1,600	6.54	0.66	0.37		0.00	0.00	0.53	0.00	0.20	1.66	2.39	1,600	4.54	0.32	0.00	0.00	1,600	4.54	0.32	2.12	0.10	4.97	22.97	**1,600**	**12**
1,700	6.94	0.75	0.41		0.00	0.00	0.60	0.00	0.22	1.87	2.70	1,700	4.82	0.36	0.00	0.00	1,700	4.82	0.36	2.37	0.11	5.59	23.59	**1,700**	**14**
1,800	7.35	0.84	0.46		0.00	0.00	0.67	0.00	0.25	2.10	3.02	1,800	5.11	0.40	0.00	0.00	1,800	5.11	0.40	2.63	0.12	6.24	24.24	**1,800**	**15**
1,900	7.76	0.94	0.51		0.00	0.00	0.75	0.00	0.28	2.34	3.37	1,900	5.39	0.45	0.00	0.00	1,900	5.39	0.45	2.91	0.14	6.92	24.92	**1,900**	**16**
2,000	8.17	1.04	0.56		0.00	0.00	0.83	0.00	0.31	2.59	3.73	2,000	5.67	0.50	0.00	0.00	2,000	5.67	0.50	3.20	0.15	7.64	25.64	**2,000**	**17**
2,100	8.58	1.14	0.61		0.00	0.00	0.91	0.00	0.34	2.86	4.11	2,100	5.96	0.55	0.00	0.00	2,100	5.96	0.55	3.50	0.17	8.39	26.39	**2,100**	**19**
2,200	8.99	1.25	0.67		0.00	0.00	1.00	0.00	0.38	3.14	4.52	2,200	6.24	0.60	0.00	0.00	2,200	6.24	0.60	3.82	0.18	9.18	27.18	**2,200**	**20**
2,300	9.40	1.37	0.72		0.00	0.00	1.10	0.00	0.41	3.43	4.94	2,300	6.53	0.66	0.00	0.00	2,300	6.53	0.66	4.15	0.20	10.00	28.00	**2,300**	**22**
2,400	9.80	1.49	0.78		0.00	0.00	1.19	0.00	0.45	3.73	5.37	2,400	6.81	0.72	0.00	0.00	2,400	6.81	0.72	4.48	0.22	10.86	28.86	**2,400**	**23**
2,500	10.21	1.62	0.84		0.00	0.00	1.30	0.00	0.49	4.05	5.83	2,500	7.09	0.78	0.00	0.00	2,500	7.09	0.78	4.84	0.23	11.75	29.75	**2,500**	**25**
2,600	10.62	1.75	0.91		0.00	0.00	1.40	0.00	0.53	4.38	6.31	2,600	7.38	0.84	0.00	0.00	2,600	7.38	0.84	5.20	0.25	12.67	30.67	**2,600**	**27**
2,700	11.03	1.89	0.97		0.00	0.00	1.51	0.00	0.57	4.72	6.80	2,700	7.66	0.91	0.00	0.00	2,700	7.66	0.91	5.58	0.27	13.62	31.62	**2,700**	**29**
2,800	11.44	2.03	1.04		0.00	0.00	1.63	0.00	0.61	5.08	7.31	2,800	7.94	0.98	0.00	0.00	2,800	7.94	0.98	5.96	0.29	14.61	32.61	**2,800**	**31**
2,900	11.85	2.18	1.11		0.00	0.00	1.74	0.00	0.65	5.45	7.85	2,900	8.23	1.05	0.00	0.00	2,900	8.23	1.05	6.36	0.32	15.64	33.64	**2,900**	**33**
3,000	12.26	2.33	1.18		0.00	0.00	1.87	0.00	0.70	5.83	8.40	3,000	8.51	1.12	0.00	0.00	3,000	8.51	1.12	6.78	0.34	16.69	34.69	**3,000**	**35**
3,100	12.66	2.49	1.26		0.00	0.00	1.99	0.00	0.75	6.23	8.97	3,100	8.79	1.20	0.00	0.00	3,100	8.79	1.20	7.20	0.36	17.78	35.78	**3,100**	**37**
3,200	13.07	2.65	1.33		0.00	0.00	2.12	0.00	0.80	6.63	9.55	3,200	9.08	1.28	0.00	0.00	3,200	9.08	1.28	7.64	0.38	18.91	36.91	**3,200**	**40**
3,300	13.48	2.82	1.41		0.00	0.00	2.26	0.00	0.85	7.06	10.16	3,300	9.36	1.36	0.00	0.00	3,300	9.36	1.36	8.08	0.41	20.06	38.06	**3,300**	**42**
3,400	13.89	3.00	1.49		0.00	0.00	2.40	0.00	0.90	7.49	10.78	3,400	9.65	1.44	0.00	0.00	3,400	9.65	1.44	8.54	0.43	21.25	39.25	**3,400**	**45**
3,500	14.30	3.17	1.57		0.00	0.00	2.54	0.00	0.95	7.94	11.43	3,500	9.93	1.53	0.00	0.00	3,500	9.93	1.53	9.01	0.46	22.47	40.47	**3,500**	**48**
3,600	14.71	3.36	1.66		0.00	0.00	2.69	0.00	1.01	8.40	12.09	3,600	10.21	1.62	0.00	0.00	3,600	10.21	1.62	9.50	0.49	23.73	41.73	**3,600**	**51**
3,700	15.12	3.55	1.74		0.00	0.00	2.84	0.00	1.06	8.87	12.77	3,700	10.50	1.71	0.00	0.00	3,700	10.50	1.71	9.99	0.51	25.02	43.02	**3,700**	**54**
3,800	15.52	3.74	1.83		0.00	0.00	2.99	0.00	1.12	9.36	13.47	3,800	10.78	1.80	0.00	0.00	3,800	10.78	1.80	10.49	0.54	26.34	44.34	**3,800**	**57**
3,900	15.93	3.94	1.92		0.00	0.00	3.15	0.00	1.18	9.85	14.19	3,900	11.06	1.90	0.00	0.00	3,900	11.06	1.90	11.01	0.57	27.69	45.69	**3,900**	**60**
4,000	16.34	4.15	2.01		0.00	0.00	3.32	0.00	1.24	10.37	14.93	4,000	11.35	2.00	0.00	0.00	4,000	11.35	2.00	11.54	0.60	29.08	47.08	**4,000**	**63**

Table C-4: Estimated Cost of Construction of the Reclamation Ditch Diversion Structure
Davis Road - Option 1
Preliminary Design Cost Estimate

31-Mar-14
By: Josh Tabije

Item of Work	Unit	Unit Cost	Quantity	Subtotal
Mobilization / Demobilization				
~ 5% of of project cost. This cost includes permits, fees, temporary structures, equipment rental and various misc. items				***$17,000***
Clearing and Demolition				
Demolition of Existing Facilities	LS	$10,000	1	$10,000
(By Department of Water Resources)				***$10,000***
Structures				
96" Precast Manhole	EA	$30,000	1	$30,000
Cast-In-Place Concrete	CY	$1,000	40	$40,000
Concrete Dowel Inserts	EA	$300	30	$9,000
Wetwell Inlet Pipe	LF	$300	80	$24,000
				$79,000
Miscellaneous Exterior Site Work				
Excavation	CY	$140	180	$25,200
Site Shoring	SF	$3	1200	$3,600
Concrete Channel Lining	CY	$410	20	$8,200
Concrete Seal Slab	CY	$340	4	$1,360
Concrete Stairs	CY	$420	4	$1,680
Grouted RipRap	CY	$160	38	$6,080
				$46,120
Pump Station/Channel Ammenities				
17 hp Pump	EA	$34,000	2	$68,000
Pump Installation	LS	$12,000	1	$12,000
Pump Discharge Pipe	LF	$200	50	$10,000
Aluminum Pump Access Hatch	EA	$17,900	1	$17,900
Fiberglass Railing	LS	$12,000	1	$12,000
				$119,900
Site Piping				
16-Inch C900 PVC with Trench and Backfill	LF	$100	100	$10,000
				$10,000
Electrical Equipment				
Electrical Equipment (Including Installation)	LS	$60,000	1	$60,000
Electrical Conduit Run	LF	$100	100	$10,000
				$70,000
ESTIMATED CONSTRUCTION COST				**$352,020**
INSPECTION AND TESTING (15%)				**$53,000**
CONSTRUCTION CONTINGENCY (20%)				**$70,000**
ESTIMATED TOTAL CONSTRUCTION COST				**$475,000**

This estimate of construction cost is a professional opinion, based upon the engineer's experience with the design and construction of similar projects. It is prepared only as a guide and is subject to change. Schaaf & Wheeler and its subconsultants make no warranty, whether expressed or implied, that the actual costs will not vary from these estimated costs, and assumes no liability for such variances. This estimate specifically excludes any costs associated with designing for handling and disposal of hazardous wastes and contaminated materials. Costs associated with land, right-of-way, or easement purchase are not included in this estimate.

Table C-5: Estimated Cost of Construction of the Reclamation Ditch Diversion Structure
Davis Road - Option 2
Preliminary Design Cost Estimate

31-Mar-14
By: Josh Tabije

Item of Work	Unit	Unit Cost	Quantity	Subtotal
Mobilization / Demobilization				
~ 5% of of project cost. This cost includes permits, fees, temporary structures, equipment rental and various misc. items				***$17,000***
Clearing and Demolition				
Demolition of Existing Facilities	LS	$10,000	1	$10,000
(By Department of Water Resources)				***$10,000***
Structures				
96" Precast Manhole	EA	$30,000	1	$30,000
Cast-In-Place Concrete	CY	$1,000	40	$40,000
Concrete Dowel Inserts	EA	$300	30	$9,000
Wetwell Inlet Pipe	LF	$300	80	$24,000
				$79,000
Miscellaneous Exterior Site Work				
Excavation	CY	$140	180	$25,200
Site Shoring	SF	$3	1200	$3,600
Concrete Channel Lining	CY	$410	20	$8,200
Concrete Seal Slab	CY	$340	4	$1,360
Concrete Stairs	CY	$420	4	$1,680
Grouted RipRap	CY	$160	38	$6,080
				$46,120
Pump Station/Channel Ammenities				
8 hp Pump	EA	$16,000	3	$48,000
Pump Installation	LS	$12,000	1	$12,000
Pump Discharge Pipe	LF	$200	50	$10,000
Aluminum Pump Access Hatch	EA	$17,900	1	$17,900
Fiberglass Railing	LS	$12,000	1	$12,000
				$99,900
Site Piping				
12-Inch C900 PVC with Trench and Backfill	LF	$80	300	$24,000
				$24,000
Electrical Equipment				
Electrical Equipment (Including Installation)	LS	$60,000	1	$60,000
Electrical Conduit Run	LF	$100	100	$10,000
				$70,000
ESTIMATED CONSTRUCTION COST				**$346,020**
INSPECTION AND TESTING (15%)				**$52,000**
CONSTRUCTION CONTINGENCY (20%)				**$69,000**
ESTIMATED TOTAL CONSTRUCTION COST				**$467,000**

This estimate of construction cost is a professional opinion, based upon the engineer's experience with the design and construction of similar projects. It is prepared only as a guide and is subject to change. Schaaf & Wheeler and its subconsultants make no warranty, whether expressed or implied, that the actual costs will not vary from these estimated costs, and assumes no liability for such variances. This estimate specifically excludes any costs associated with designing for handling and disposal of hazardous wastes and contaminated materials. Costs associated with land, right-of-way, or easement purchase are not included in this estimate.

Table C-6: Estimated Cost of Construction of the Reclamation Ditch Diversion Structure
Castroville Pump Station
Preliminary Design Cost Estimate

31-Mar-14
By: Josh Tabije

Item of Work	Unit	Unit Cost	Quantity	Subtotal
Mobilization / Demobilization				
~ 5% of of project cost. This cost includes permits, fees, temporary structures, equipment rental and various misc. items				***$16,000***
Site Preparation				
Site Preparation	LS	$10,000	1	$10,000
(By Department of Water Resources)				***$10,000***
Structures				
96" Precast Manhole	EA	$30,000	1	$30,000
Cast-In-Place Concrete	CY	$1,000	40	$40,000
Concrete Dowel Inserts	EA	$300	30	$9,000
Wetwell Inlet Pipe	LF	$300	80	$24,000
				$79,000
Miscellaneous Exterior Site Work				
Excavation	CY	$140	180	$25,200
Site Shoring	SF	$3	1200	$3,600
Concrete Channel Lining	CY	$410	20	$8,200
Concrete Seal Slab	CY	$340	4	$1,360
Concrete Stairs	CY	$420	4	$1,680
Grouted RipRap	CY	$160	38	$6,080
				$46,120
Pump Station/Channel Ammenities				
10 hp Pump	EA	$20,000	2	$40,000
Pump Installation	LS	$12,000	1	$12,000
Pump Discharge Pipe	LF	$200	50	$10,000
Aluminum Pump Access Hatch	EA	$17,900	1	$17,900
Fiberglass Railing	LS	$12,000	1	$12,000
				$91,900
Site Piping				
10-Inch C900 PVC with Trench and Backfill	LF	$60	300	$18,000
				$18,000
Electrical Equipment				
Electrical Equipment (Including Installation)	LS	$60,000	1	$60,000
Electrical Conduit Run	LF	$100	100	$10,000
				$70,000
ESTIMATED CONSTRUCTION COST				**$331,020**
INSPECTION AND TESTING (15%)				**$50,000**
CONSTRUCTION CONTINGENCY (20%)				**$66,000**
ESTIMATED TOTAL CONSTRUCTION COST				**$447,000**

This estimate of construction cost is a professional opinion, based upon the engineer's experience with the design and construction of similar projects. It is prepared only as a guide and is subject to change. Schaaf & Wheeler and its subconsultants make no warranty, whether expressed or implied, that the actual costs will not vary from these estimated costs, and assumes no liability for such variances. This estimate specifically excludes any costs associated with designing for handling and disposal of hazardous wastes and contaminated materials. Costs associated with land, right-of-way, or easement purchase are not included in this estimate.

Appendix D: Analysis Statistical Outputs

Reclamation Ditch at Davis Road, Percentile Flows by Month
Tembladero Slough at Castroville, Percentile Flows by Month

Scenario Notes:

Reclamation Ditch at Davis Road

Case 0: Base Condition: Flow = USGS San Jon Road gage (11152650), scaled down by a factor of 0.937 for Davis Rd. location

Case 1: Divert up to 2.99 cfs of available flow from Reclamation Ditch at Davis Rd; Leave a minimum base flow of 2 cfs Dec-May, or 0.69 cfs Jun-Nov

Case 2: Divert up to 6.0 cfs of available flow from Reclamation Ditch at Davis Rd; Leave a minimum base flow of 2 cfs Dec-May, or 0.69 cfs Jun-Nov

Case 3: Divert up to 2.99 cfs of available flow from Reclamation Ditch at Davis Rd; Leave a minimum base flow of 1.0 cfs year-round.

Case 4: Divert up to 6 cfs of available flow from Reclamation Ditch at Davis Rd; Leave a minimum base flow of 1.0 cfs year-round.

Tembladero Slough at Castroville

Case 0: Base Condition: Flow = USGS San Jon Road gage (11152650), scaled up by a factor of 1.4 for Castroville location

Case 1: Divert up to 2.99 cfs of available flow from Reclamation Ditch at Davis Rd and up to 2.99 cfs of available flow from Tembladero Slough at Catroville; Leave minimum base flows of 2 cfs Dec-May, or 0.69 cfs Jun-Nov, in Reclamation Ditch; Leave constant minimum base flow of 1 cfs in Tembladero Slough.

Case 2: Divert up to 6.0 cfs of available flow from Reclamation Ditch at Davis Rd and up to 2.99 cfs of available flow from Tembladero Slough at Catroville; Leave minimum base flows of 2 cfs Dec-May, or 0.69 cfs Jun-Nov Leave constant minimum base flow of 1 cfs in Tembladero Slough.

Case 3: Divert up to 2.99 cfs of available flow from Reclamation Ditch at Davis Rd and up to 2.99 cfs of available flow from Tembladero Slough at Catroville; Leave minimum base flows of 1.0 cfs year-round in both Tembladero Slough and Rec Ditch.

Case 4: Divert up to 6.0 cfs of available flow from Reclamation Ditch at Davis Rd and up to 2.99 cfs of available flow from Tembladero Slough at Catroville; Leave minimum base flows of 1.0 cfs year-round in both Tembladero Slough and Rec Ditch.

Percentile Results: The flow with the nth percentile rank.
The 1.0 percetile flow is the highest daily flow.
The 0.50 percentile flow is the median daily flow.
The 0.01 percentile flow is exceeded 99% of the time (blank if 0.0 cfs).

Reclamation Ditch at Davis Rd, Annual Percentile Flows (cfs)

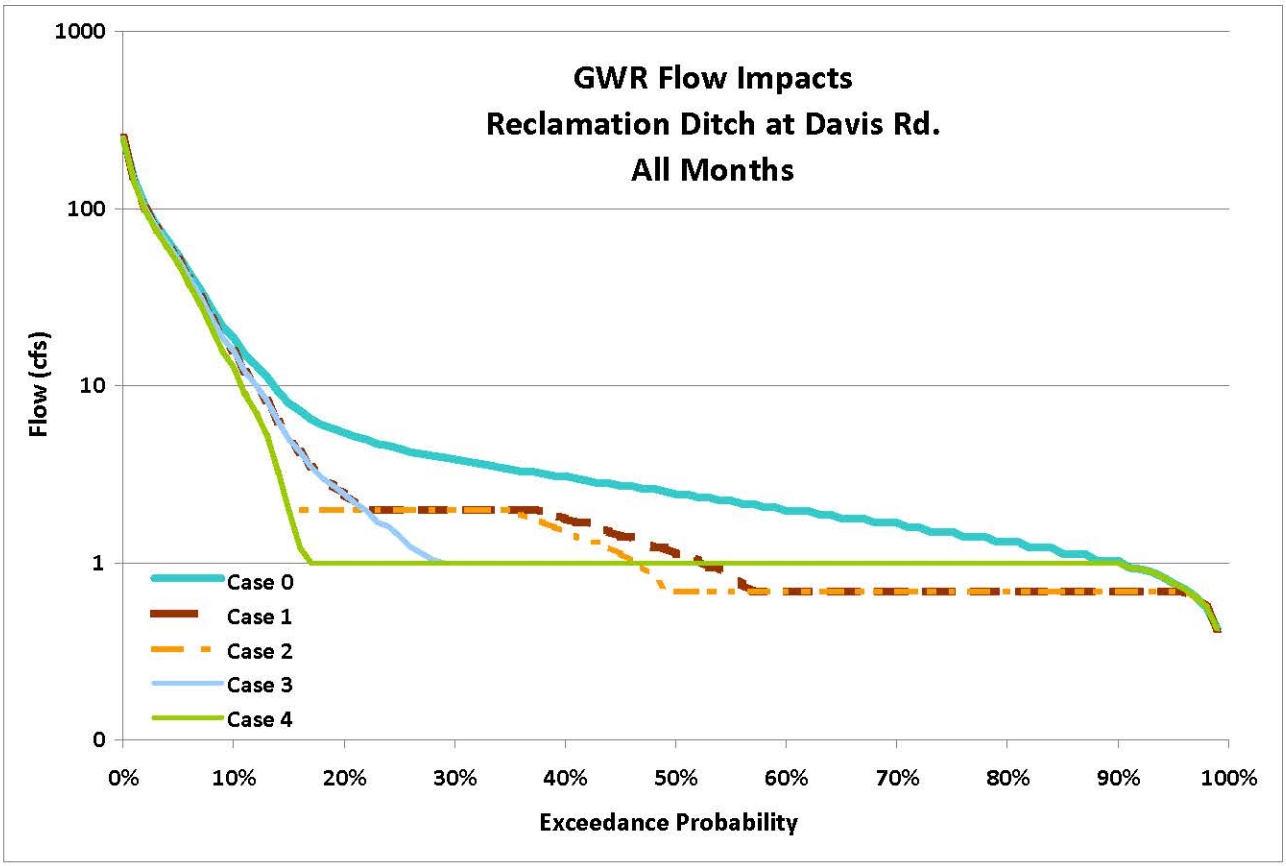
Annual Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	252.99	250.00	246.99	250.00	246.99
0.99	144.94	141.95	138.94	141.95	138.94
0.98	103.07	100.08	97.07	100.08	97.07
0.97	80.58	77.59	74.58	77.59	74.58
0.96	66.30	63.31	60.30	63.31	60.30
0.95	54.35	51.36	48.35	51.36	48.35
0.94	43.10	40.11	37.10	40.11	37.10
0.93	34.67	31.68	28.67	31.68	28.67
0.92	27.17	24.18	21.17	24.18	21.17
0.91	21.55	18.56	15.55	18.56	15.55
0.90	18.74	15.75	12.74	15.75	12.74
0.89	14.99	12.00	8.99	12.00	8.99
0.88	13.12	10.13	7.12	10.13	7.12
0.87	11.24	8.25	5.24	8.25	5.24
0.86	9.28	6.29	3.28	6.29	3.28
0.85	7.96	4.97	2.00	4.97	1.96
0.84	7.21	4.22	2.00	4.22	1.21
0.83	6.47	3.48	2.00	3.48	1.00
0.82	6.00	3.01	2.00	3.01	1.00
0.81	5.72	2.73	2.00	2.73	1.00
0.80	5.43	2.44	2.00	2.44	1.00
0.79	5.15	2.16	2.00	2.16	1.00
0.78	4.97	2.00	2.00	1.98	1.00
0.77	4.69	2.00	2.00	1.70	1.00
0.76	4.59	2.00	2.00	1.60	1.00
0.75	4.40	2.00	2.00	1.41	1.00
0.74	4.22	2.00	2.00	1.23	1.00
0.73	4.12	2.00	2.00	1.13	1.00
0.72	4.03	2.00	2.00	1.04	1.00
0.71	3.94	2.00	2.00	1.00	1.00
0.70	3.84	2.00	2.00	1.00	1.00
0.69	3.75	2.00	2.00	1.00	1.00
0.68	3.65	2.00	2.00	1.00	1.00
0.67	3.56	2.00	2.00	1.00	1.00
0.66	3.47	2.00	2.00	1.00	1.00
0.65	3.37	2.00	2.00	1.00	1.00
0.64	3.28	2.00	1.87	1.00	1.00
0.63	3.28	2.00	1.78	1.00	1.00
0.62	3.19	1.97	1.69	1.00	1.00
0.61	3.09	1.87	1.59	1.00	1.00
0.60	3.09	1.78	1.50	1.00	1.00
0.59	3.00	1.70	1.41	1.00	1.00
0.58	2.90	1.69	1.31	1.00	1.00
0.57	2.81	1.59	1.31	1.00	1.00
0.56	2.81	1.50	1.22	1.00	1.00
0.55	2.72	1.41	1.12	1.00	1.00
0.54	2.72	1.41	1.03	1.00	1.00
0.53	2.62	1.31	0.94	1.00	1.00
0.52	2.62	1.23	0.86	1.00	1.00
0.51	2.53	1.22	0.70	1.00	1.00

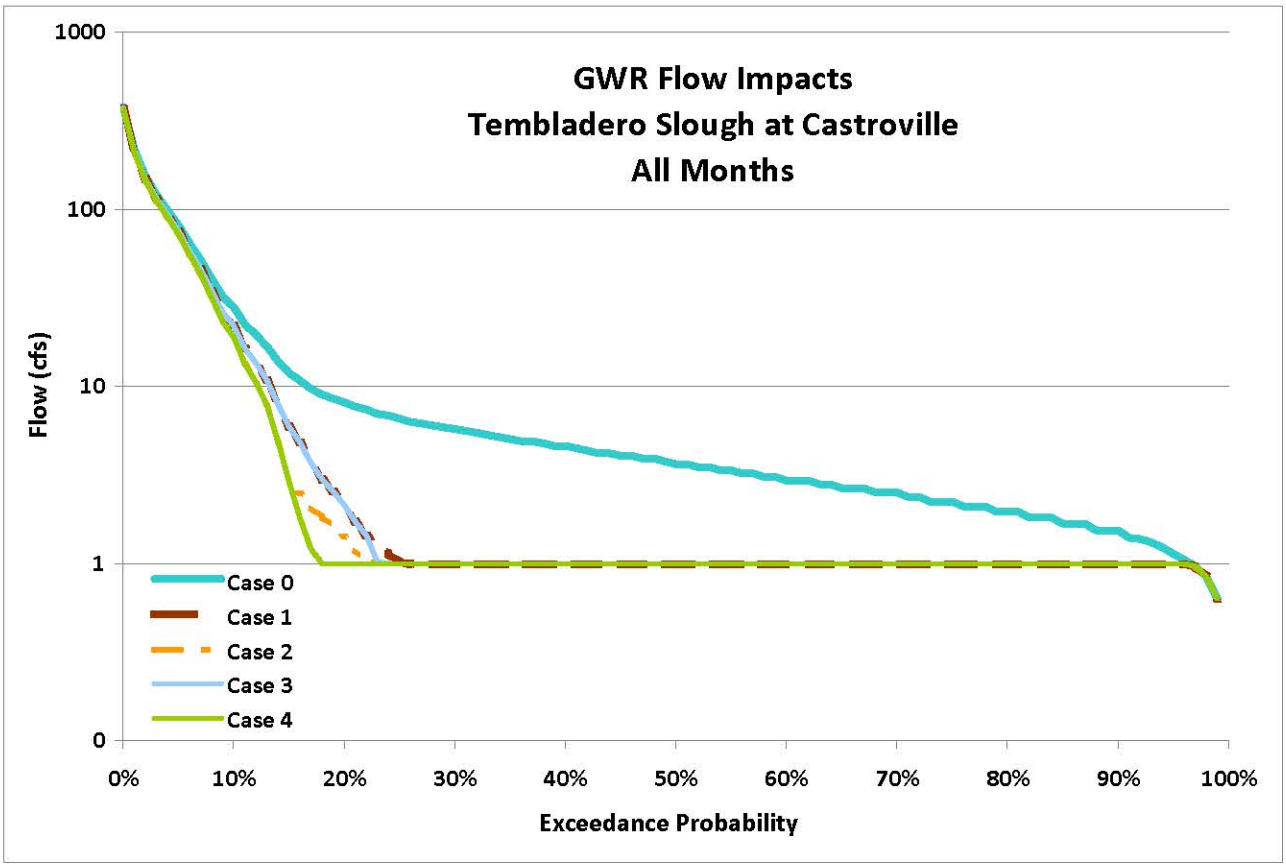
Annual Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	2.44	1.12	0.69	1.00	1.00
0.49	2.44	1.12	0.69	1.00	1.00
0.48	2.34	1.03	0.69	1.00	1.00
0.47	2.34	0.95	0.69	1.00	1.00
0.46	2.25	0.94	0.69	1.00	1.00
0.45	2.25	0.85	0.69	1.00	1.00
0.44	2.16	0.76	0.69	1.00	1.00
0.43	2.16	0.69	0.69	1.00	1.00
0.42	2.06	0.69	0.69	1.00	1.00
0.41	2.06	0.69	0.69	1.00	1.00
0.40	1.97	0.69	0.69	1.00	1.00
0.39	1.97	0.69	0.69	1.00	1.00
0.38	1.97	0.69	0.69	1.00	1.00
0.37	1.87	0.69	0.69	1.00	1.00
0.36	1.87	0.69	0.69	1.00	1.00
0.35	1.78	0.69	0.69	1.00	1.00
0.34	1.78	0.69	0.69	1.00	1.00
0.33	1.78	0.69	0.69	1.00	1.00
0.32	1.69	0.69	0.69	1.00	1.00
0.31	1.69	0.69	0.69	1.00	1.00
0.30	1.69	0.69	0.69	1.00	1.00
0.29	1.59	0.69	0.69	1.00	1.00
0.28	1.59	0.69	0.69	1.00	1.00
0.27	1.50	0.69	0.69	1.00	1.00
0.26	1.50	0.69	0.69	1.00	1.00
0.25	1.50	0.69	0.69	1.00	1.00
0.24	1.41	0.69	0.69	1.00	1.00
0.23	1.41	0.69	0.69	1.00	1.00
0.22	1.41	0.69	0.69	1.00	1.00
0.21	1.31	0.69	0.69	1.00	1.00
0.20	1.31	0.69	0.69	1.00	1.00
0.19	1.31	0.69	0.69	1.00	1.00
0.18	1.22	0.69	0.69	1.00	1.00
0.17	1.22	0.69	0.69	1.00	1.00
0.16	1.22	0.69	0.69	1.00	1.00
0.15	1.12	0.69	0.69	1.00	1.00
0.14	1.12	0.69	0.69	1.00	1.00
0.13	1.12	0.69	0.69	1.00	1.00
0.12	1.03	0.69	0.69	1.00	1.00
0.11	1.03	0.69	0.69	1.00	1.00
0.10	1.03	0.69	0.69	1.00	1.00
0.09	0.94	0.69	0.69	0.94	0.94
0.08	0.92	0.69	0.69	0.92	0.92
0.07	0.89	0.69	0.69	0.89	0.89
0.06	0.83	0.69	0.69	0.83	0.83
0.05	0.77	0.69	0.69	0.77	0.77
0.04	0.71	0.69	0.69	0.71	0.71
0.03	0.65	0.65	0.65	0.65	0.65
0.02	0.56	0.56	0.56	0.56	0.56
0.01	0.42	0.42	0.42	0.42	0.42

Tembladero Slough at Castroville, Annual Percentile Flows (cfs)

Annual Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	378.00	372.02	369.01	372.02	369.01
0.99	216.57	210.59	207.58	210.59	207.58
0.98	154.00	148.02	145.01	148.02	145.01
0.97	120.40	114.42	111.41	114.42	111.41
0.96	99.06	93.08	90.07	93.08	90.07
0.95	81.20	75.22	72.21	75.22	72.21
0.94	64.40	58.42	55.41	58.42	55.41
0.93	51.80	45.82	42.81	45.82	42.81
0.92	40.60	34.62	31.61	34.62	31.61
0.91	32.20	26.22	23.21	26.22	23.21
0.90	28.00	22.02	19.01	22.02	19.01
0.89	22.40	16.42	13.41	16.42	13.41
0.88	19.60	13.62	10.61	13.62	10.61
0.87	16.80	10.82	7.81	10.82	7.81
0.86	13.86	7.88	4.87	7.88	4.87
0.85	11.90	5.92	2.95	5.92	2.91
0.84	10.78	4.80	2.48	4.80	1.79
0.83	9.66	3.68	2.07	3.68	1.20
0.82	8.96	2.98	1.83	2.98	1.00
0.81	8.54	2.56	1.65	2.56	1.00
0.80	8.12	2.14	1.42	2.14	1.00
0.79	7.70	1.72	1.19	1.72	1.00
0.78	7.42	1.44	1.05	1.44	1.00
0.77	7.00	1.23	1.00	1.02	1.00
0.76	6.86	1.14	1.00	1.00	1.00
0.75	6.58	1.02	1.00	1.00	1.00
0.74	6.30	1.00	1.00	1.00	1.00
0.73	6.16	1.00	1.00	1.00	1.00
0.72	6.02	1.00	1.00	1.00	1.00
0.71	5.88	1.00	1.00	1.00	1.00
0.70	5.74	1.00	1.00	1.00	1.00
0.69	5.60	1.00	1.00	1.00	1.00
0.68	5.46	1.00	1.00	1.00	1.00
0.67	5.32	1.00	1.00	1.00	1.00
0.66	5.18	1.00	1.00	1.00	1.00
0.65	5.04	1.00	1.00	1.00	1.00
0.64	4.90	1.00	1.00	1.00	1.00
0.63	4.90	1.00	1.00	1.00	1.00
0.62	4.76	1.00	1.00	1.00	1.00
0.61	4.62	1.00	1.00	1.00	1.00
0.60	4.62	1.00	1.00	1.00	1.00
0.59	4.48	1.00	1.00	1.00	1.00
0.58	4.34	1.00	1.00	1.00	1.00
0.57	4.20	1.00	1.00	1.00	1.00
0.56	4.20	1.00	1.00	1.00	1.00
0.55	4.06	1.00	1.00	1.00	1.00
0.54	4.06	1.00	1.00	1.00	1.00
0.53	3.92	1.00	1.00	1.00	1.00
0.52	3.92	1.00	1.00	1.00	1.00
0.51	3.78	1.00	1.00	1.00	1.00

Annual Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	3.64	1.00	1.00	1.00	1.00
0.49	3.64	1.00	1.00	1.00	1.00
0.48	3.50	1.00	1.00	1.00	1.00
0.47	3.50	1.00	1.00	1.00	1.00
0.46	3.36	1.00	1.00	1.00	1.00
0.45	3.36	1.00	1.00	1.00	1.00
0.44	3.22	1.00	1.00	1.00	1.00
0.43	3.22	1.00	1.00	1.00	1.00
0.42	3.08	1.00	1.00	1.00	1.00
0.41	3.08	1.00	1.00	1.00	1.00
0.40	2.94	1.00	1.00	1.00	1.00
0.39	2.94	1.00	1.00	1.00	1.00
0.38	2.94	1.00	1.00	1.00	1.00
0.37	2.80	1.00	1.00	1.00	1.00
0.36	2.80	1.00	1.00	1.00	1.00
0.35	2.66	1.00	1.00	1.00	1.00
0.34	2.66	1.00	1.00	1.00	1.00
0.33	2.66	1.00	1.00	1.00	1.00
0.32	2.52	1.00	1.00	1.00	1.00
0.31	2.52	1.00	1.00	1.00	1.00
0.30	2.52	1.00	1.00	1.00	1.00
0.29	2.38	1.00	1.00	1.00	1.00
0.28	2.38	1.00	1.00	1.00	1.00
0.27	2.24	1.00	1.00	1.00	1.00
0.26	2.24	1.00	1.00	1.00	1.00
0.25	2.24	1.00	1.00	1.00	1.00
0.24	2.10	1.00	1.00	1.00	1.00
0.23	2.10	1.00	1.00	1.00	1.00
0.22	2.10	1.00	1.00	1.00	1.00
0.21	1.96	1.00	1.00	1.00	1.00
0.20	1.96	1.00	1.00	1.00	1.00
0.19	1.96	1.00	1.00	1.00	1.00
0.18	1.82	1.00	1.00	1.00	1.00
0.17	1.82	1.00	1.00	1.00	1.00
0.16	1.82	1.00	1.00	1.00	1.00
0.15	1.68	1.00	1.00	1.00	1.00
0.14	1.68	1.00	1.00	1.00	1.00
0.13	1.68	1.00	1.00	1.00	1.00
0.12	1.54	1.00	1.00	1.00	1.00
0.11	1.54	1.00	1.00	1.00	1.00
0.10	1.54	1.00	1.00	1.00	1.00
0.09	1.40	1.00	1.00	1.00	1.00
0.08	1.37	1.00	1.00	1.00	1.00
0.07	1.32	1.00	1.00	1.00	1.00
0.06	1.23	1.00	1.00	1.00	1.00
0.05	1.13	1.00	1.00	1.00	1.00
0.04	1.05	1.00	1.00	1.00	1.00
0.03	0.97	0.97	0.97	0.97	0.97
0.02	0.84	0.84	0.84	0.84	0.84
0.01	0.63	0.63	0.63	0.63	0.63


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
All Months
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
All Months
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

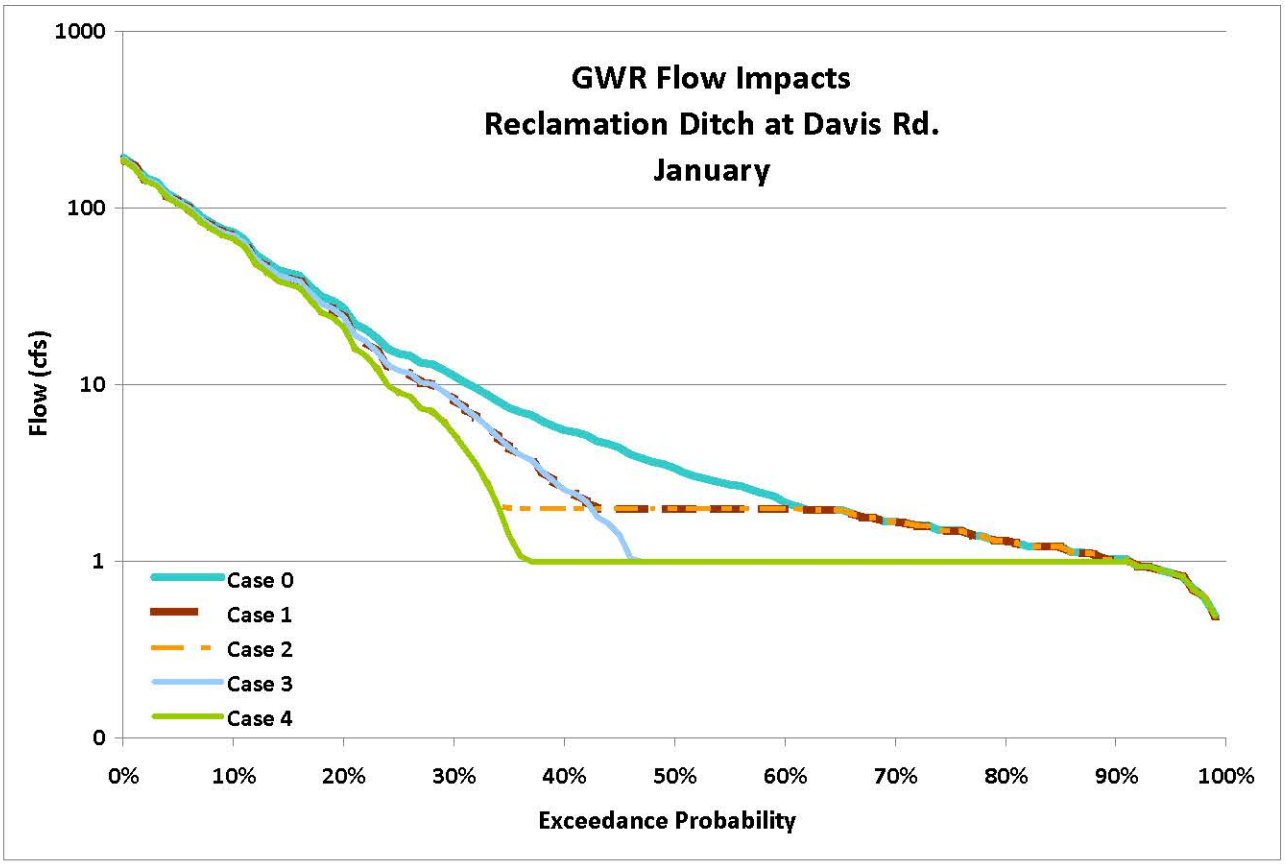
January Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	193.02	190.03	187.02	190.03	187.02
0.99	175.41	172.42	169.41	172.42	169.41
0.98	148.61	145.62	142.61	145.62	142.61
0.97	141.30	138.31	135.30	138.31	135.30
0.96	121.06	118.07	115.06	118.07	115.06
0.95	111.50	108.51	105.50	108.51	105.50
0.94	102.88	99.89	96.88	99.89	96.88
0.93	90.14	87.15	84.14	87.15	84.14
0.92	82.27	79.28	76.27	79.28	76.27
0.91	76.27	73.28	70.27	73.28	70.27
0.90	73.09	70.10	67.09	70.10	67.09
0.89	66.34	63.35	60.34	63.35	60.34
0.88	54.53	51.54	48.53	51.54	48.53
0.87	49.66	46.67	43.66	46.67	43.66
0.86	44.79	41.80	38.79	41.80	38.79
0.85	43.10	40.11	37.10	40.11	37.10
0.84	41.42	38.43	35.42	38.43	35.42
0.83	35.79	32.80	29.79	32.80	29.79
0.82	31.67	28.68	25.67	28.68	25.67
0.81	29.98	26.99	23.98	26.99	23.98
0.80	27.17	24.18	21.17	24.18	21.17
0.79	22.11	19.12	16.11	19.12	16.11
0.78	20.61	17.62	14.61	17.62	14.61
0.77	18.37	15.38	12.37	15.38	12.37
0.76	15.93	12.94	9.93	12.94	9.93
0.75	14.99	12.00	8.99	12.00	8.99
0.74	14.62	11.63	8.62	11.63	8.62
0.73	13.31	10.32	7.31	10.32	7.31
0.72	13.12	10.13	7.12	10.13	7.12
0.71	12.18	9.19	6.18	9.19	6.18
0.70	11.24	8.25	5.24	8.25	5.24
0.69	10.31	7.32	4.31	7.32	4.31
0.68	9.56	6.57	3.56	6.57	3.56
0.67	8.77	5.78	2.77	5.78	2.77
0.66	8.04	5.05	2.06	5.05	2.04
0.65	7.40	4.41	2.00	4.41	1.40
0.64	7.01	4.02	2.00	4.02	1.07
0.63	6.75	3.76	2.00	3.76	1.00
0.62	6.22	3.23	2.00	3.23	1.00
0.61	5.85	2.86	2.00	2.86	1.00
0.60	5.53	2.54	2.00	2.54	1.00
0.59	5.40	2.41	2.00	2.41	1.00
0.58	5.17	2.18	2.00	2.18	1.00
0.57	4.78	2.00	2.00	1.79	1.00
0.56	4.63	2.00	2.00	1.64	1.00
0.55	4.40	2.00	2.00	1.41	1.00
0.54	4.03	2.00	2.00	1.04	1.00
0.53	3.84	2.00	2.00	1.00	1.00
0.52	3.65	2.00	2.00	1.00	1.00
0.51	3.56	2.00	2.00	1.00	1.00

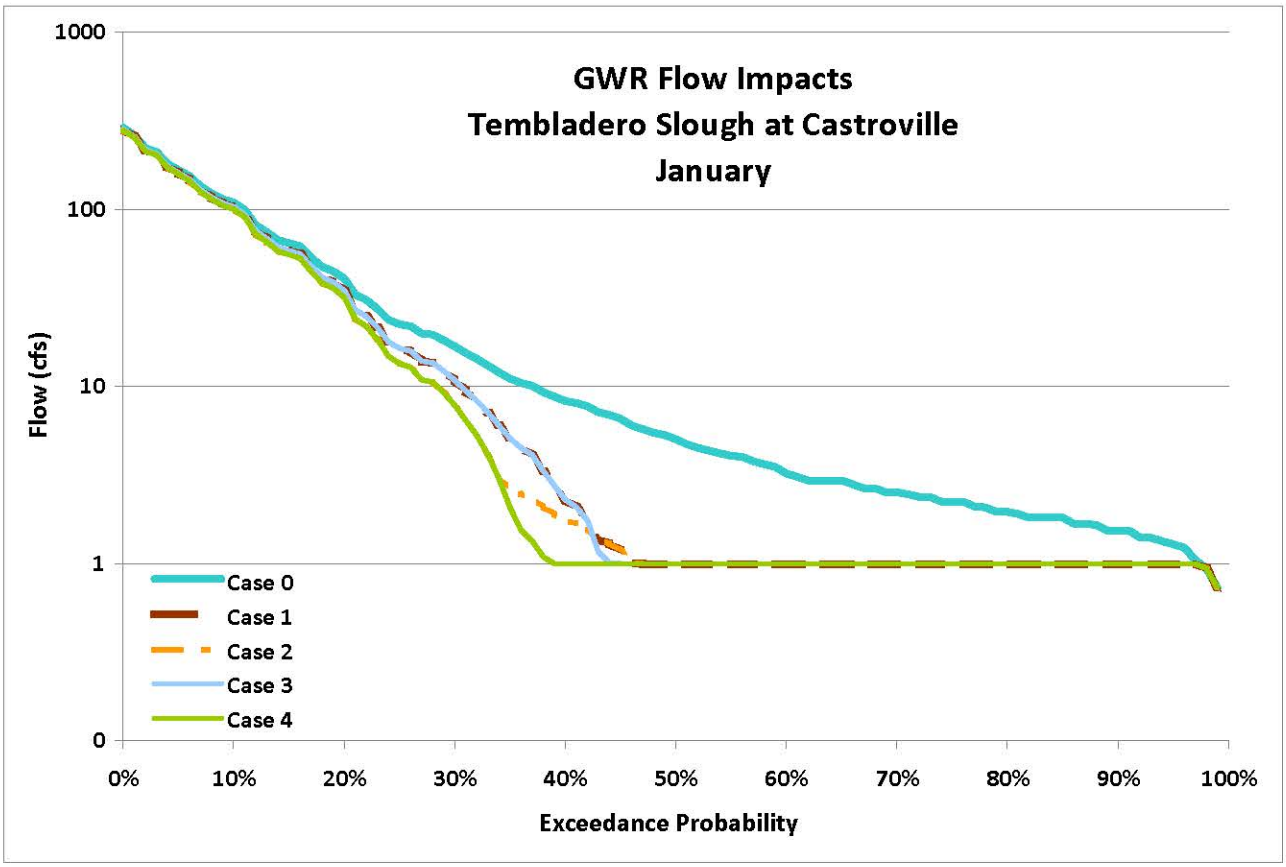
January Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	3.37	2.00	2.00	1.00	1.00
0.49	3.15	2.00	2.00	1.00	1.00
0.48	3.02	2.00	2.00	1.00	1.00
0.47	2.90	2.00	2.00	1.00	1.00
0.46	2.81	2.00	2.00	1.00	1.00
0.45	2.72	2.00	2.00	1.00	1.00
0.44	2.68	2.00	2.00	1.00	1.00
0.43	2.53	2.00	2.00	1.00	1.00
0.42	2.44	2.00	2.00	1.00	1.00
0.41	2.34	2.00	2.00	1.00	1.00
0.40	2.16	2.00	2.00	1.00	1.00
0.39	2.06	2.00	2.00	1.00	1.00
0.38	1.97	1.97	1.97	1.00	1.00
0.37	1.97	1.97	1.97	1.00	1.00
0.36	1.97	1.97	1.97	1.00	1.00
0.35	1.97	1.97	1.97	1.00	1.00
0.34	1.87	1.87	1.87	1.00	1.00
0.33	1.78	1.78	1.78	1.00	1.00
0.32	1.78	1.78	1.78	1.00	1.00
0.31	1.69	1.69	1.69	1.00	1.00
0.30	1.69	1.69	1.69	1.00	1.00
0.29	1.65	1.65	1.65	1.00	1.00
0.28	1.59	1.59	1.59	1.00	1.00
0.27	1.59	1.59	1.59	1.00	1.00
0.26	1.50	1.50	1.50	1.00	1.00
0.25	1.50	1.50	1.50	1.00	1.00
0.24	1.50	1.50	1.50	1.00	1.00
0.23	1.41	1.41	1.41	1.00	1.00
0.22	1.39	1.39	1.39	1.00	1.00
0.21	1.31	1.31	1.31	1.00	1.00
0.20	1.31	1.31	1.31	1.00	1.00
0.19	1.27	1.27	1.27	1.00	1.00
0.18	1.22	1.22	1.22	1.00	1.00
0.17	1.22	1.22	1.22	1.00	1.00
0.16	1.22	1.22	1.22	1.00	1.00
0.15	1.22	1.22	1.22	1.00	1.00
0.14	1.12	1.12	1.12	1.00	1.00
0.13	1.12	1.12	1.12	1.00	1.00
0.12	1.11	1.11	1.11	1.00	1.00
0.11	1.03	1.03	1.03	1.00	1.00
0.10	1.03	1.03	1.03	1.00	1.00
0.09	1.03	1.03	1.03	1.00	1.00
0.08	0.94	0.94	0.94	0.94	0.94
0.07	0.94	0.94	0.94	0.94	0.94
0.06	0.89	0.89	0.89	0.89	0.89
0.05	0.86	0.86	0.86	0.86	0.86
0.04	0.82	0.82	0.82	0.82	0.82
0.03	0.70	0.70	0.70	0.70	0.70
0.02	0.63	0.63	0.63	0.63	0.63
0.01	0.49	0.49	0.49	0.49	0.49

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

January Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	288.40	282.42	279.41	282.42	279.41
0.99	262.08	256.10	253.09	256.10	253.09
0.98	222.04	216.06	213.05	216.06	213.05
0.97	211.12	205.14	202.13	205.14	202.13
0.96	180.88	174.90	171.89	174.90	171.89
0.95	166.60	160.62	157.61	160.62	157.61
0.94	153.72	147.74	144.73	147.74	144.73
0.93	134.68	128.70	125.69	128.70	125.69
0.92	122.92	116.94	113.93	116.94	113.93
0.91	113.96	107.98	104.97	107.98	104.97
0.90	109.20	103.22	100.21	103.22	100.21
0.89	99.12	93.14	90.13	93.14	90.13
0.88	81.48	75.50	72.49	75.50	72.49
0.87	74.20	68.22	65.21	68.22	65.21
0.86	66.92	60.94	57.93	60.94	57.93
0.85	64.40	58.42	55.41	58.42	55.41
0.84	61.88	55.90	52.89	55.90	52.89
0.83	53.48	47.50	44.49	47.50	44.49
0.82	47.32	41.34	38.33	41.34	38.33
0.81	44.80	38.82	35.81	38.82	35.81
0.80	40.60	34.62	31.61	34.62	31.61
0.79	33.04	27.06	24.05	27.06	24.05
0.78	30.80	24.82	21.81	24.82	21.81
0.77	27.44	21.46	18.45	21.46	18.45
0.76	23.80	17.82	14.81	17.82	14.81
0.75	22.40	16.42	13.41	16.42	13.41
0.74	21.84	15.86	12.85	15.86	12.85
0.73	19.88	13.90	10.89	13.90	10.89
0.72	19.60	13.62	10.61	13.62	10.61
0.71	18.20	12.22	9.21	12.22	9.21
0.70	16.80	10.82	7.81	10.82	7.81
0.69	15.40	9.42	6.41	9.42	6.41
0.68	14.28	8.30	5.29	8.30	5.29
0.67	13.10	7.12	4.11	7.12	4.11
0.66	12.01	6.03	3.04	6.03	3.02
0.65	11.06	5.08	2.67	5.08	2.07
0.64	10.47	4.49	2.47	4.49	1.55
0.63	10.08	4.10	2.34	4.10	1.34
0.62	9.30	3.32	2.08	3.32	1.09
0.61	8.74	2.76	1.90	2.76	1.00
0.60	8.26	2.28	1.74	2.28	1.00
0.59	8.06	2.08	1.68	2.08	1.00
0.58	7.73	1.75	1.57	1.75	1.00
0.57	7.14	1.37	1.37	1.16	1.00
0.56	6.92	1.30	1.30	1.01	1.00
0.55	6.58	1.19	1.19	1.00	1.00
0.54	6.02	1.00	1.00	1.00	1.00
0.53	5.74	1.00	1.00	1.00	1.00
0.52	5.46	1.00	1.00	1.00	1.00
0.51	5.32	1.00	1.00	1.00	1.00

January Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	5.04	1.00	1.00	1.00	1.00
0.49	4.70	1.00	1.00	1.00	1.00
0.48	4.51	1.00	1.00	1.00	1.00
0.47	4.34	1.00	1.00	1.00	1.00
0.46	4.20	1.00	1.00	1.00	1.00
0.45	4.06	1.00	1.00	1.00	1.00
0.44	4.00	1.00	1.00	1.00	1.00
0.43	3.78	1.00	1.00	1.00	1.00
0.42	3.64	1.00	1.00	1.00	1.00
0.41	3.50	1.00	1.00	1.00	1.00
0.40	3.22	1.00	1.00	1.00	1.00
0.39	3.08	1.00	1.00	1.00	1.00
0.38	2.94	1.00	1.00	1.00	1.00
0.37	2.94	1.00	1.00	1.00	1.00
0.36	2.94	1.00	1.00	1.00	1.00
0.35	2.94	1.00	1.00	1.00	1.00
0.34	2.80	1.00	1.00	1.00	1.00
0.33	2.66	1.00	1.00	1.00	1.00
0.32	2.66	1.00	1.00	1.00	1.00
0.31	2.52	1.00	1.00	1.00	1.00
0.30	2.52	1.00	1.00	1.00	1.00
0.29	2.46	1.00	1.00	1.00	1.00
0.28	2.38	1.00	1.00	1.00	1.00
0.27	2.38	1.00	1.00	1.00	1.00
0.26	2.24	1.00	1.00	1.00	1.00
0.25	2.24	1.00	1.00	1.00	1.00
0.24	2.24	1.00	1.00	1.00	1.00
0.23	2.10	1.00	1.00	1.00	1.00
0.22	2.07	1.00	1.00	1.00	1.00
0.21	1.96	1.00	1.00	1.00	1.00
0.20	1.96	1.00	1.00	1.00	1.00
0.19	1.90	1.00	1.00	1.00	1.00
0.18	1.82	1.00	1.00	1.00	1.00
0.17	1.82	1.00	1.00	1.00	1.00
0.16	1.82	1.00	1.00	1.00	1.00
0.15	1.82	1.00	1.00	1.00	1.00
0.14	1.68	1.00	1.00	1.00	1.00
0.13	1.68	1.00	1.00	1.00	1.00
0.12	1.65	1.00	1.00	1.00	1.00
0.11	1.54	1.00	1.00	1.00	1.00
0.10	1.54	1.00	1.00	1.00	1.00
0.09	1.54	1.00	1.00	1.00	1.00
0.08	1.40	1.00	1.00	1.00	1.00
0.07	1.40	1.00	1.00	1.00	1.00
0.06	1.34	1.00	1.00	1.00	1.00
0.05	1.29	1.00	1.00	1.00	1.00
0.04	1.23	1.00	1.00	1.00	1.00
0.03	1.05	1.00	1.00	1.00	1.00
0.02	0.94	0.94	0.94	0.94	0.94
0.01	0.73	0.73	0.73	0.73	0.73


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
January
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
January
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

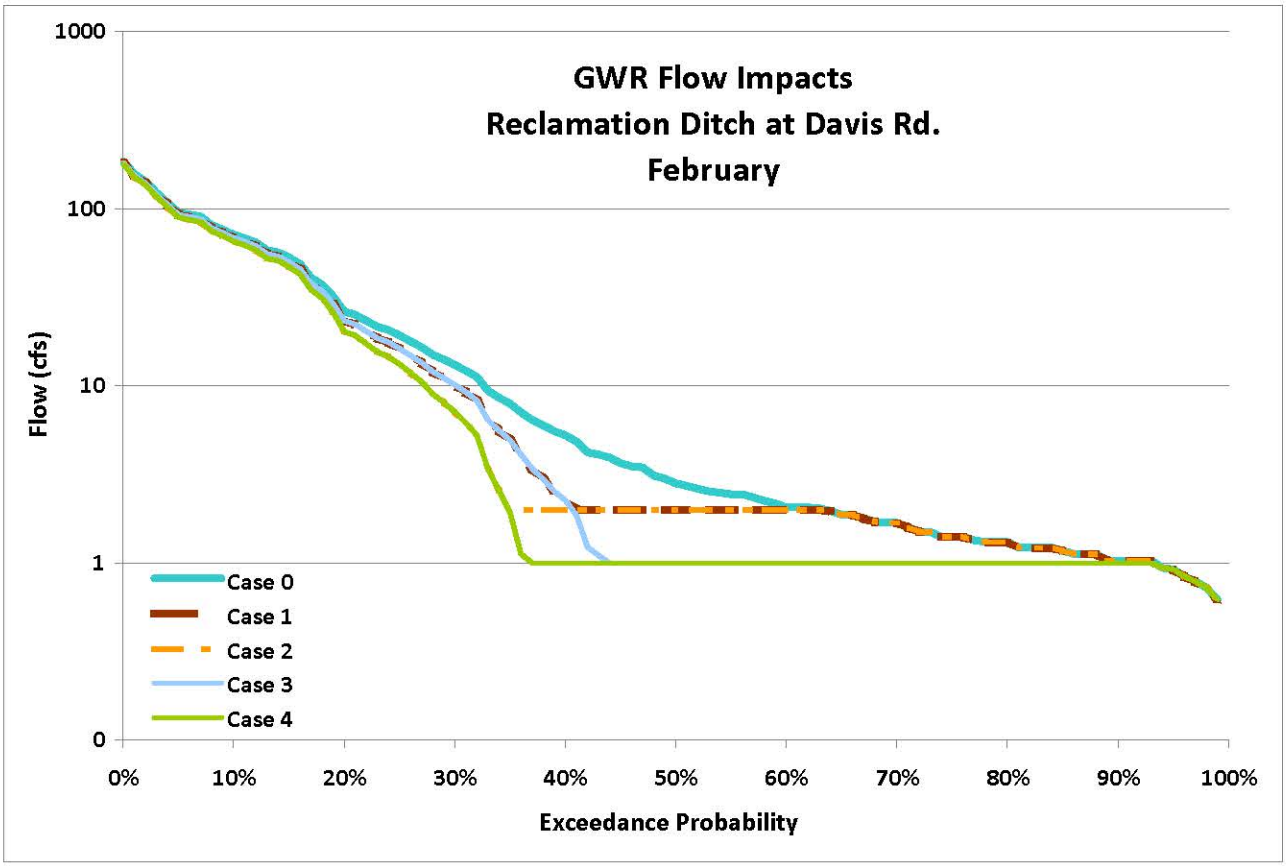
February Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	184.59	181.60	178.59	181.60	178.59
0.99	156.85	153.86	150.85	153.86	150.85
0.98	142.42	139.43	136.42	139.43	136.42
0.97	122.93	119.94	116.93	119.94	116.93
0.96	108.50	105.51	102.50	105.51	102.50
0.95	95.11	92.12	89.11	92.12	89.11
0.94	92.76	89.77	86.76	89.77	86.76
0.93	90.23	87.24	84.23	87.24	84.23
0.92	80.58	77.59	74.58	77.59	74.58
0.91	76.18	73.19	70.18	73.19	70.18
0.90	71.21	68.22	65.21	68.22	65.21
0.89	68.12	65.13	62.12	65.13	62.12
0.88	64.47	61.48	58.47	61.48	58.47
0.87	58.47	55.48	52.47	55.48	52.47
0.86	56.78	53.79	50.78	53.79	50.78
0.85	52.94	49.95	46.94	49.95	46.94
0.84	48.54	45.55	42.54	45.55	42.54
0.83	40.85	37.86	34.85	37.86	34.85
0.82	37.11	34.12	31.11	34.12	31.11
0.81	31.95	28.96	25.95	28.96	25.95
0.80	26.24	23.25	20.24	23.25	20.24
0.79	25.21	22.22	19.21	22.22	19.21
0.78	23.24	20.25	17.24	20.25	17.24
0.77	21.55	18.56	15.55	18.56	15.55
0.76	20.61	17.62	14.61	17.62	14.61
0.75	19.21	16.22	13.21	16.22	13.21
0.74	17.80	14.81	11.80	14.81	11.80
0.73	16.49	13.50	10.49	13.50	10.49
0.72	14.99	12.00	8.99	12.00	8.99
0.71	14.06	11.07	8.06	11.07	8.06
0.70	13.12	10.13	7.12	10.13	7.12
0.69	12.18	9.19	6.18	9.19	6.18
0.68	11.24	8.25	5.24	8.25	5.24
0.67	9.37	6.38	3.37	6.38	3.37
0.66	8.56	5.57	2.56	5.57	2.56
0.65	7.92	4.93	2.00	4.93	1.92
0.64	7.08	4.09	2.00	4.09	1.12
0.63	6.40	3.41	2.00	3.41	1.00
0.62	5.96	2.97	2.00	2.97	1.00
0.61	5.53	2.54	2.00	2.54	1.00
0.60	5.25	2.26	2.00	2.26	1.00
0.59	4.85	2.00	2.00	1.86	1.00
0.58	4.22	2.00	2.00	1.23	1.00
0.57	4.09	2.00	2.00	1.10	1.00
0.56	3.94	2.00	2.00	1.00	1.00
0.55	3.65	2.00	2.00	1.00	1.00
0.54	3.50	2.00	2.00	1.00	1.00
0.53	3.47	2.00	2.00	1.00	1.00
0.52	3.11	2.00	2.00	1.00	1.00
0.51	3.00	2.00	2.00	1.00	1.00

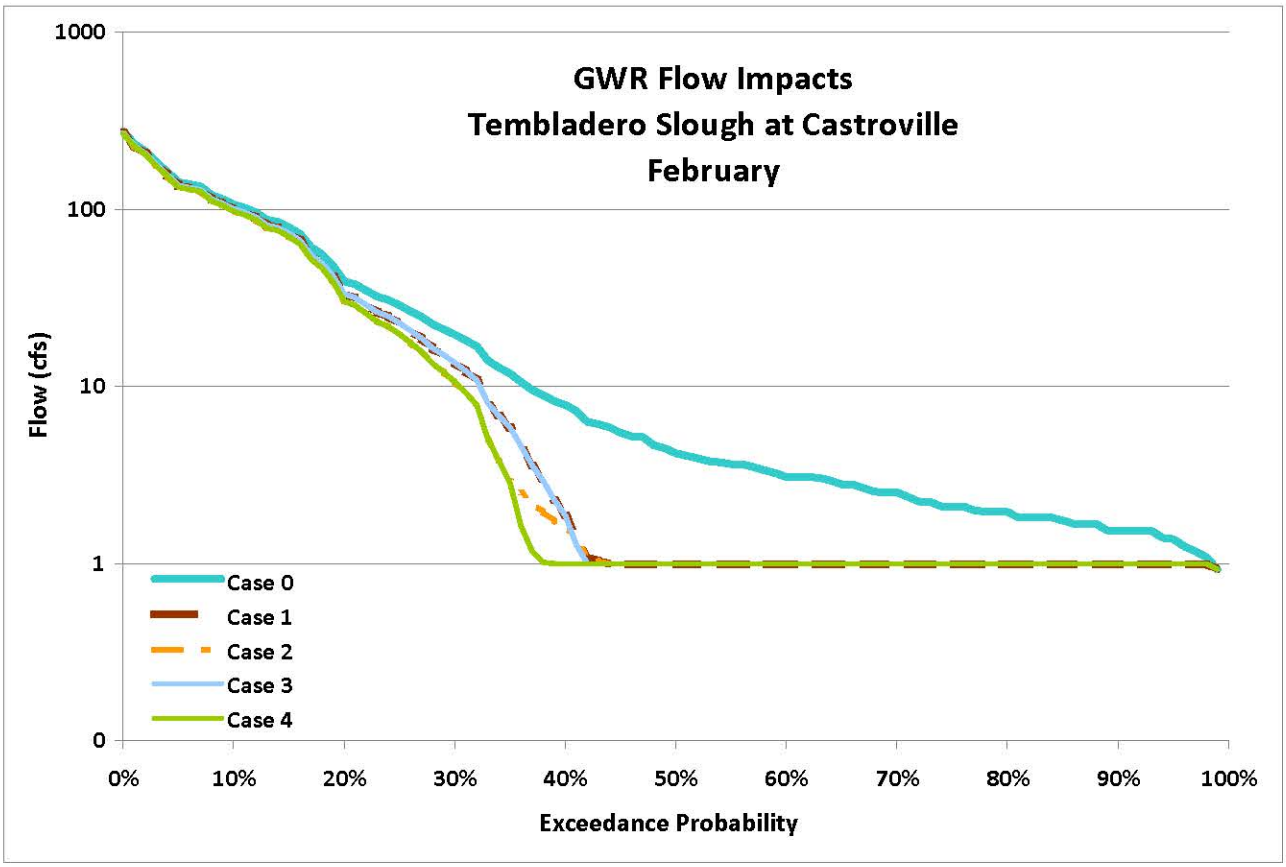
February Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	2.81	2.00	2.00	1.00	1.00
0.49	2.72	2.00	2.00	1.00	1.00
0.48	2.62	2.00	2.00	1.00	1.00
0.47	2.53	2.00	2.00	1.00	1.00
0.46	2.49	2.00	2.00	1.00	1.00
0.45	2.44	2.00	2.00	1.00	1.00
0.44	2.44	2.00	2.00	1.00	1.00
0.43	2.34	2.00	2.00	1.00	1.00
0.42	2.25	2.00	2.00	1.00	1.00
0.41	2.16	2.00	2.00	1.00	1.00
0.40	2.06	2.00	2.00	1.00	1.00
0.39	2.06	2.00	2.00	1.00	1.00
0.38	2.06	2.00	2.00	1.00	1.00
0.37	2.03	1.99	1.99	1.00	1.00
0.36	1.97	1.97	1.97	1.00	1.00
0.35	1.87	1.87	1.87	1.00	1.00
0.34	1.87	1.87	1.87	1.00	1.00
0.33	1.78	1.78	1.78	1.00	1.00
0.32	1.71	1.71	1.71	1.00	1.00
0.31	1.69	1.69	1.69	1.00	1.00
0.30	1.69	1.69	1.69	1.00	1.00
0.29	1.59	1.59	1.59	1.00	1.00
0.28	1.50	1.50	1.50	1.00	1.00
0.27	1.50	1.50	1.50	1.00	1.00
0.26	1.41	1.41	1.41	1.00	1.00
0.25	1.41	1.41	1.41	1.00	1.00
0.24	1.41	1.41	1.41	1.00	1.00
0.23	1.34	1.34	1.34	1.00	1.00
0.22	1.31	1.31	1.31	1.00	1.00
0.21	1.31	1.31	1.31	1.00	1.00
0.20	1.31	1.31	1.31	1.00	1.00
0.19	1.22	1.22	1.22	1.00	1.00
0.18	1.22	1.22	1.22	1.00	1.00
0.17	1.22	1.22	1.22	1.00	1.00
0.16	1.22	1.22	1.22	1.00	1.00
0.15	1.17	1.17	1.17	1.00	1.00
0.14	1.12	1.12	1.12	1.00	1.00
0.13	1.12	1.12	1.12	1.00	1.00
0.12	1.12	1.12	1.12	1.00	1.00
0.11	1.03	1.03	1.03	1.00	1.00
0.10	1.03	1.03	1.03	1.00	1.00
0.09	1.03	1.03	1.03	1.00	1.00
0.08	1.03	1.03	1.03	1.00	1.00
0.07	1.03	1.03	1.03	1.00	1.00
0.06	0.94	0.94	0.94	0.94	0.94
0.05	0.92	0.92	0.92	0.92	0.92
0.04	0.84	0.84	0.84	0.84	0.84
0.03	0.79	0.79	0.79	0.79	0.79
0.02	0.73	0.73	0.73	0.73	0.73
0.01	0.62	0.62	0.62	0.62	0.62

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

February Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	275.80	269.82	266.81	269.82	266.81
0.99	234.36	228.38	225.37	228.38	225.37
0.98	212.80	206.82	203.81	206.82	203.81
0.97	183.68	177.70	174.69	177.70	174.69
0.96	162.12	156.14	153.13	156.14	153.13
0.95	142.10	136.12	133.11	136.12	133.11
0.94	138.60	132.62	129.61	132.62	129.61
0.93	134.82	128.84	125.83	128.84	125.83
0.92	120.40	114.42	111.41	114.42	111.41
0.91	113.82	107.84	104.83	107.84	104.83
0.90	106.40	100.42	97.41	100.42	97.41
0.89	101.78	95.80	92.79	95.80	92.79
0.88	96.32	90.34	87.33	90.34	87.33
0.87	87.36	81.38	78.37	81.38	78.37
0.86	84.84	78.86	75.85	78.86	75.85
0.85	79.10	73.12	70.11	73.12	70.11
0.84	72.52	66.54	63.53	66.54	63.53
0.83	61.04	55.06	52.05	55.06	52.05
0.82	55.44	49.46	46.45	49.46	46.45
0.81	47.74	41.76	38.75	41.76	38.75
0.80	39.20	33.22	30.21	33.22	30.21
0.79	37.66	31.68	28.67	31.68	28.67
0.78	34.72	28.74	25.73	28.74	25.73
0.77	32.20	26.22	23.21	26.22	23.21
0.76	30.80	24.82	21.81	24.82	21.81
0.75	28.70	22.72	19.71	22.72	19.71
0.74	26.60	20.62	17.61	20.62	17.61
0.73	24.64	18.66	15.65	18.66	15.65
0.72	22.40	16.42	13.41	16.42	13.41
0.71	21.00	15.02	12.01	15.02	12.01
0.70	19.60	13.62	10.61	13.62	10.61
0.69	18.20	12.22	9.21	12.22	9.21
0.68	16.80	10.82	7.81	10.82	7.81
0.67	14.00	8.02	5.01	8.02	5.01
0.66	12.80	6.82	3.81	6.82	3.81
0.65	11.83	5.85	2.92	5.85	2.84
0.64	10.58	4.60	2.51	4.60	1.63
0.63	9.56	3.58	2.17	3.58	1.17
0.62	8.90	2.92	1.95	2.92	1.01
0.61	8.26	2.28	1.74	2.28	1.00
0.60	7.84	1.86	1.60	1.86	1.00
0.59	7.25	1.41	1.41	1.27	1.00
0.58	6.30	1.09	1.09	1.00	1.00
0.57	6.12	1.03	1.03	1.00	1.00
0.56	5.88	1.00	1.00	1.00	1.00
0.55	5.46	1.00	1.00	1.00	1.00
0.54	5.24	1.00	1.00	1.00	1.00
0.53	5.18	1.00	1.00	1.00	1.00
0.52	4.65	1.00	1.00	1.00	1.00
0.51	4.48	1.00	1.00	1.00	1.00

February Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	4.20	1.00	1.00	1.00	1.00
0.49	4.06	1.00	1.00	1.00	1.00
0.48	3.92	1.00	1.00	1.00	1.00
0.47	3.78	1.00	1.00	1.00	1.00
0.46	3.72	1.00	1.00	1.00	1.00
0.45	3.64	1.00	1.00	1.00	1.00
0.44	3.64	1.00	1.00	1.00	1.00
0.43	3.50	1.00	1.00	1.00	1.00
0.42	3.36	1.00	1.00	1.00	1.00
0.41	3.23	1.00	1.00	1.00	1.00
0.40	3.08	1.00	1.00	1.00	1.00
0.39	3.08	1.00	1.00	1.00	1.00
0.38	3.08	1.00	1.00	1.00	1.00
0.37	3.04	1.00	1.00	1.00	1.00
0.36	2.94	1.00	1.00	1.00	1.00
0.35	2.80	1.00	1.00	1.00	1.00
0.34	2.80	1.00	1.00	1.00	1.00
0.33	2.66	1.00	1.00	1.00	1.00
0.32	2.55	1.00	1.00	1.00	1.00
0.31	2.52	1.00	1.00	1.00	1.00
0.30	2.52	1.00	1.00	1.00	1.00
0.29	2.38	1.00	1.00	1.00	1.00
0.28	2.24	1.00	1.00	1.00	1.00
0.27	2.24	1.00	1.00	1.00	1.00
0.26	2.10	1.00	1.00	1.00	1.00
0.25	2.10	1.00	1.00	1.00	1.00
0.24	2.10	1.00	1.00	1.00	1.00
0.23	2.00	1.00	1.00	1.00	1.00
0.22	1.96	1.00	1.00	1.00	1.00
0.21	1.96	1.00	1.00	1.00	1.00
0.20	1.96	1.00	1.00	1.00	1.00
0.19	1.82	1.00	1.00	1.00	1.00
0.18	1.82	1.00	1.00	1.00	1.00
0.17	1.82	1.00	1.00	1.00	1.00
0.16	1.82	1.00	1.00	1.00	1.00
0.15	1.75	1.00	1.00	1.00	1.00
0.14	1.68	1.00	1.00	1.00	1.00
0.13	1.68	1.00	1.00	1.00	1.00
0.12	1.68	1.00	1.00	1.00	1.00
0.11	1.54	1.00	1.00	1.00	1.00
0.10	1.54	1.00	1.00	1.00	1.00
0.09	1.54	1.00	1.00	1.00	1.00
0.08	1.54	1.00	1.00	1.00	1.00
0.07	1.54	1.00	1.00	1.00	1.00
0.06	1.40	1.00	1.00	1.00	1.00
0.05	1.37	1.00	1.00	1.00	1.00
0.04	1.25	1.00	1.00	1.00	1.00
0.03	1.18	1.00	1.00	1.00	1.00
0.02	1.08	1.00	1.00	1.00	1.00
0.01	0.93	0.93	0.93	0.93	0.93


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
February
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
February
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

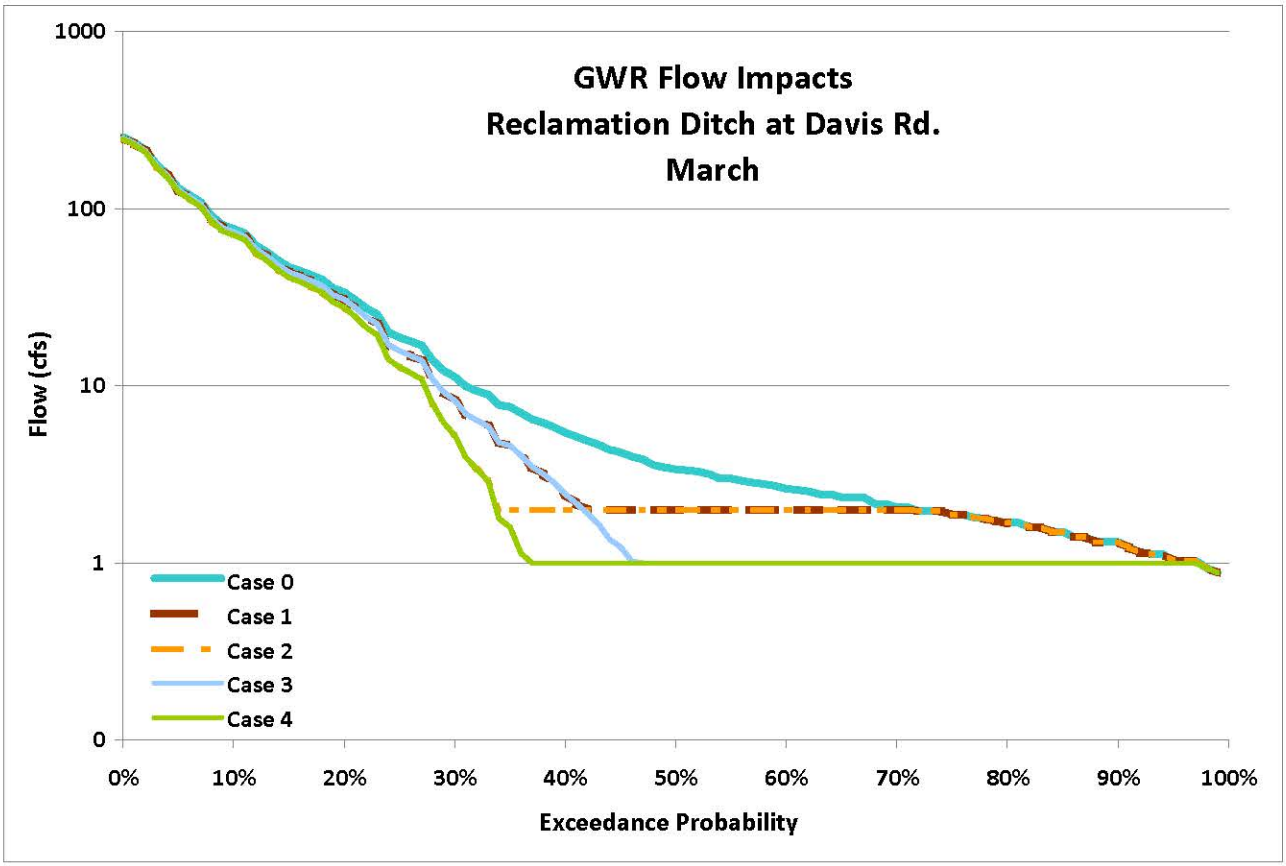
March Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	252.99	250.00	246.99	250.00	246.99
0.99	235.75	232.76	229.75	232.76	229.75
0.98	214.76	211.77	208.76	211.77	208.76
0.97	177.66	174.67	171.66	174.67	171.66
0.96	155.92	152.93	149.92	152.93	149.92
0.95	130.24	127.25	124.24	127.25	124.24
0.94	119.19	116.20	113.19	116.20	113.19
0.93	108.88	105.89	102.88	105.89	102.88
0.92	90.89	87.90	84.89	87.90	84.89
0.91	80.58	77.59	74.58	77.59	74.58
0.90	76.83	73.84	70.83	73.84	70.83
0.89	72.71	69.72	66.71	69.72	66.71
0.88	62.22	59.23	56.22	59.23	56.22
0.87	56.97	53.98	50.97	53.98	50.97
0.86	50.97	47.98	44.97	47.98	44.97
0.85	46.85	43.86	40.85	43.86	40.85
0.84	44.60	41.61	38.60	41.61	38.60
0.83	42.17	39.18	36.17	39.18	36.17
0.82	39.73	36.74	33.73	36.74	33.73
0.81	35.61	32.62	29.61	32.62	29.61
0.80	33.73	30.74	27.73	30.74	27.73
0.79	30.55	27.56	24.55	27.56	24.55
0.78	27.36	24.37	21.36	24.37	21.36
0.77	25.30	22.31	19.30	22.31	19.30
0.76	20.05	17.06	14.05	17.06	14.05
0.75	18.74	15.75	12.74	15.75	12.74
0.74	17.80	14.81	11.80	14.81	11.80
0.73	16.87	13.88	10.87	13.88	10.87
0.72	13.87	10.88	7.87	10.88	7.87
0.71	12.18	9.19	6.18	9.19	6.18
0.70	11.24	8.25	5.24	8.25	5.24
0.69	9.93	6.94	3.93	6.94	3.93
0.68	9.37	6.38	3.37	6.38	3.37
0.67	8.92	5.93	2.92	5.93	2.92
0.66	7.78	4.79	2.00	4.79	1.78
0.65	7.59	4.60	2.00	4.60	1.59
0.64	7.03	4.04	2.00	4.04	1.13
0.63	6.47	3.48	2.00	3.48	1.00
0.62	6.17	3.18	2.00	3.18	1.00
0.61	5.83	2.84	2.00	2.84	1.00
0.60	5.43	2.44	2.00	2.44	1.00
0.59	5.15	2.16	2.00	2.16	1.00
0.58	4.89	2.00	2.00	1.90	1.00
0.57	4.65	2.00	2.00	1.66	1.00
0.56	4.35	2.00	2.00	1.36	1.00
0.55	4.22	2.00	2.00	1.23	1.00
0.54	3.99	2.00	2.00	1.02	1.00
0.53	3.84	2.00	2.00	1.00	1.00
0.52	3.56	2.00	2.00	1.00	1.00
0.51	3.47	2.00	2.00	1.00	1.00

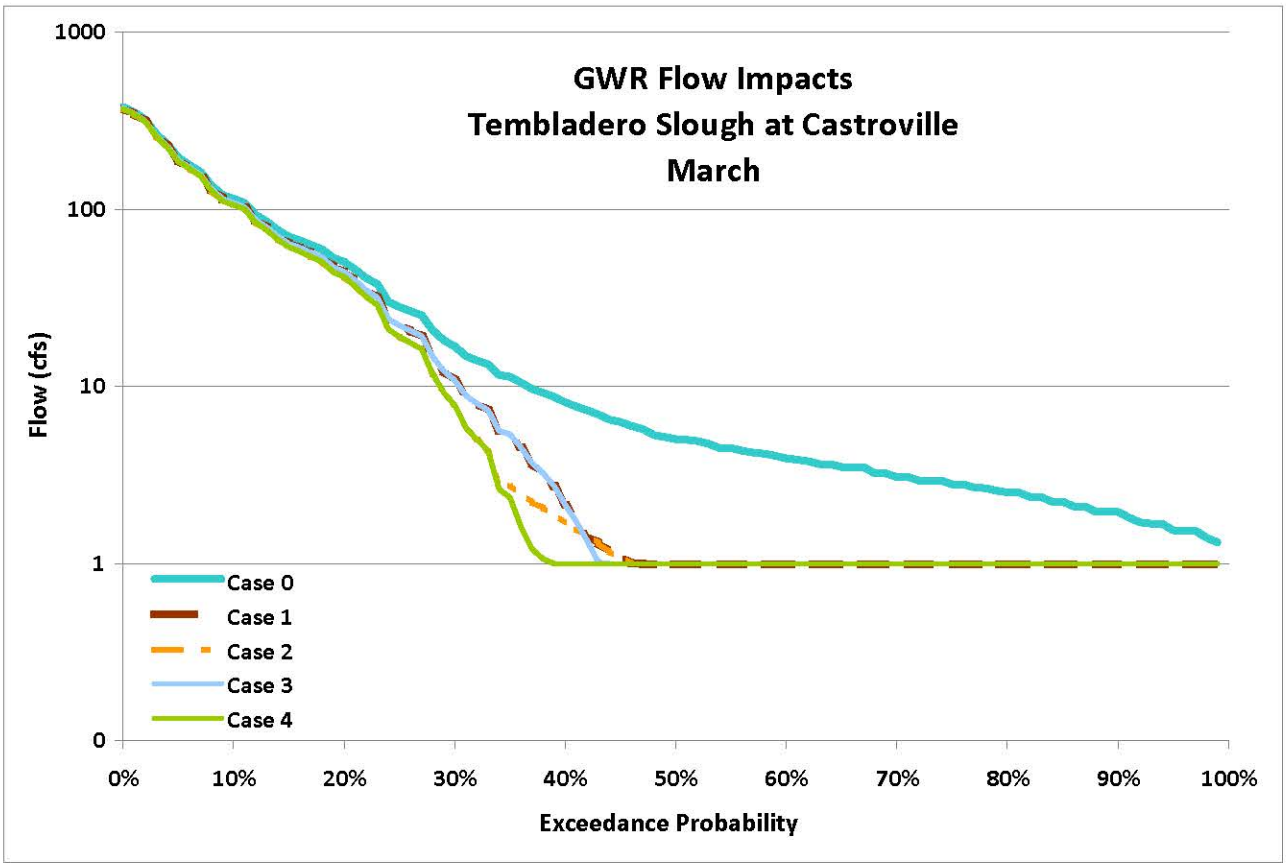
March Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	3.37	2.00	2.00	1.00	1.00
0.49	3.34	2.00	2.00	1.00	1.00
0.48	3.28	2.00	2.00	1.00	1.00
0.47	3.17	2.00	2.00	1.00	1.00
0.46	3.00	2.00	2.00	1.00	1.00
0.45	3.00	2.00	2.00	1.00	1.00
0.44	2.90	2.00	2.00	1.00	1.00
0.43	2.83	2.00	2.00	1.00	1.00
0.42	2.79	2.00	2.00	1.00	1.00
0.41	2.72	2.00	2.00	1.00	1.00
0.40	2.62	2.00	2.00	1.00	1.00
0.39	2.59	2.00	2.00	1.00	1.00
0.38	2.53	2.00	2.00	1.00	1.00
0.37	2.44	2.00	2.00	1.00	1.00
0.36	2.44	2.00	2.00	1.00	1.00
0.35	2.34	2.00	2.00	1.00	1.00
0.34	2.34	2.00	2.00	1.00	1.00
0.33	2.34	2.00	2.00	1.00	1.00
0.32	2.16	2.00	2.00	1.00	1.00
0.31	2.16	2.00	2.00	1.00	1.00
0.30	2.06	2.00	2.00	1.00	1.00
0.29	2.06	2.00	2.00	1.00	1.00
0.28	1.97	1.97	1.97	1.00	1.00
0.27	1.97	1.97	1.97	1.00	1.00
0.26	1.97	1.97	1.97	1.00	1.00
0.25	1.87	1.87	1.87	1.00	1.00
0.24	1.87	1.87	1.87	1.00	1.00
0.23	1.80	1.80	1.80	1.00	1.00
0.22	1.78	1.78	1.78	1.00	1.00
0.21	1.72	1.72	1.72	1.00	1.00
0.20	1.69	1.69	1.69	1.00	1.00
0.19	1.69	1.69	1.69	1.00	1.00
0.18	1.59	1.59	1.59	1.00	1.00
0.17	1.59	1.59	1.59	1.00	1.00
0.16	1.50	1.50	1.50	1.00	1.00
0.15	1.50	1.50	1.50	1.00	1.00
0.14	1.41	1.41	1.41	1.00	1.00
0.13	1.41	1.41	1.41	1.00	1.00
0.12	1.31	1.31	1.31	1.00	1.00
0.11	1.31	1.31	1.31	1.00	1.00
0.10	1.31	1.31	1.31	1.00	1.00
0.09	1.22	1.22	1.22	1.00	1.00
0.08	1.14	1.14	1.14	1.00	1.00
0.07	1.12	1.12	1.12	1.00	1.00
0.06	1.12	1.12	1.12	1.00	1.00
0.05	1.03	1.03	1.03	1.00	1.00
0.04	1.03	1.03	1.03	1.00	1.00
0.03	1.03	1.03	1.03	1.00	1.00
0.02	0.94	0.94	0.94	0.94	0.94
0.01	0.88	0.88	0.88	0.88	0.88

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

March Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	378.00	372.02	369.01	372.02	369.01
0.99	352.24	346.26	343.25	346.26	343.25
0.98	320.88	314.90	311.89	314.90	311.89
0.97	265.44	259.46	256.45	259.46	256.45
0.96	232.96	226.98	223.97	226.98	223.97
0.95	194.60	188.62	185.61	188.62	185.61
0.94	178.08	172.10	169.09	172.10	169.09
0.93	162.68	156.70	153.69	156.70	153.69
0.92	135.80	129.82	126.81	129.82	126.81
0.91	120.40	114.42	111.41	114.42	111.41
0.90	114.80	108.82	105.81	108.82	105.81
0.89	108.64	102.66	99.65	102.66	99.65
0.88	92.96	86.98	83.97	86.98	83.97
0.87	85.12	79.14	76.13	79.14	76.13
0.86	76.16	70.18	67.17	70.18	67.17
0.85	70.00	64.02	61.01	64.02	61.01
0.84	66.64	60.66	57.65	60.66	57.65
0.83	63.00	57.02	54.01	57.02	54.01
0.82	59.36	53.38	50.37	53.38	50.37
0.81	53.20	47.22	44.21	47.22	44.21
0.80	50.40	44.42	41.41	44.42	41.41
0.79	45.64	39.66	36.65	39.66	36.65
0.78	40.88	34.90	31.89	34.90	31.89
0.77	37.80	31.82	28.81	31.82	28.81
0.76	29.96	23.98	20.97	23.98	20.97
0.75	28.00	22.02	19.01	22.02	19.01
0.74	26.60	20.62	17.61	20.62	17.61
0.73	25.20	19.22	16.21	19.22	16.21
0.72	20.72	14.74	11.73	14.74	11.73
0.71	18.20	12.22	9.21	12.22	9.21
0.70	16.80	10.82	7.81	10.82	7.81
0.69	14.84	8.86	5.85	8.86	5.85
0.68	14.00	8.02	5.01	8.02	5.01
0.67	13.33	7.35	4.34	7.35	4.34
0.66	11.62	5.64	2.85	5.64	2.63
0.65	11.34	5.36	2.76	5.36	2.35
0.64	10.50	4.52	2.48	4.52	1.61
0.63	9.66	3.68	2.20	3.68	1.20
0.62	9.21	3.23	2.06	3.23	1.06
0.61	8.71	2.73	1.89	2.73	1.00
0.60	8.12	2.14	1.70	2.14	1.00
0.59	7.70	1.72	1.56	1.72	1.00
0.58	7.31	1.43	1.43	1.33	1.00
0.57	6.94	1.31	1.31	1.02	1.00
0.56	6.50	1.16	1.16	1.00	1.00
0.55	6.30	1.09	1.09	1.00	1.00
0.54	5.96	1.00	1.00	1.00	1.00
0.53	5.74	1.00	1.00	1.00	1.00
0.52	5.32	1.00	1.00	1.00	1.00
0.51	5.18	1.00	1.00	1.00	1.00

March Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	5.04	1.00	1.00	1.00	1.00
0.49	4.98	1.00	1.00	1.00	1.00
0.48	4.90	1.00	1.00	1.00	1.00
0.47	4.73	1.00	1.00	1.00	1.00
0.46	4.48	1.00	1.00	1.00	1.00
0.45	4.48	1.00	1.00	1.00	1.00
0.44	4.34	1.00	1.00	1.00	1.00
0.43	4.23	1.00	1.00	1.00	1.00
0.42	4.17	1.00	1.00	1.00	1.00
0.41	4.06	1.00	1.00	1.00	1.00
0.40	3.92	1.00	1.00	1.00	1.00
0.39	3.86	1.00	1.00	1.00	1.00
0.38	3.78	1.00	1.00	1.00	1.00
0.37	3.64	1.00	1.00	1.00	1.00
0.36	3.64	1.00	1.00	1.00	1.00
0.35	3.50	1.00	1.00	1.00	1.00
0.34	3.50	1.00	1.00	1.00	1.00
0.33	3.50	1.00	1.00	1.00	1.00
0.32	3.22	1.00	1.00	1.00	1.00
0.31	3.22	1.00	1.00	1.00	1.00
0.30	3.08	1.00	1.00	1.00	1.00
0.29	3.08	1.00	1.00	1.00	1.00
0.28	2.94	1.00	1.00	1.00	1.00
0.27	2.94	1.00	1.00	1.00	1.00
0.26	2.94	1.00	1.00	1.00	1.00
0.25	2.80	1.00	1.00	1.00	1.00
0.24	2.80	1.00	1.00	1.00	1.00
0.23	2.69	1.00	1.00	1.00	1.00
0.22	2.66	1.00	1.00	1.00	1.00
0.21	2.58	1.00	1.00	1.00	1.00
0.20	2.52	1.00	1.00	1.00	1.00
0.19	2.52	1.00	1.00	1.00	1.00
0.18	2.38	1.00	1.00	1.00	1.00
0.17	2.38	1.00	1.00	1.00	1.00
0.16	2.24	1.00	1.00	1.00	1.00
0.15	2.24	1.00	1.00	1.00	1.00
0.14	2.10	1.00	1.00	1.00	1.00
0.13	2.10	1.00	1.00	1.00	1.00
0.12	1.96	1.00	1.00	1.00	1.00
0.11	1.96	1.00	1.00	1.00	1.00
0.10	1.96	1.00	1.00	1.00	1.00
0.09	1.82	1.00	1.00	1.00	1.00
0.08	1.71	1.00	1.00	1.00	1.00
0.07	1.68	1.00	1.00	1.00	1.00
0.06	1.68	1.00	1.00	1.00	1.00
0.05	1.54	1.00	1.00	1.00	1.00
0.04	1.54	1.00	1.00	1.00	1.00
0.03	1.54	1.00	1.00	1.00	1.00
0.02	1.40	1.00	1.00	1.00	1.00
0.01	1.32	1.00	1.00	1.00	1.00


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
March
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
March
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

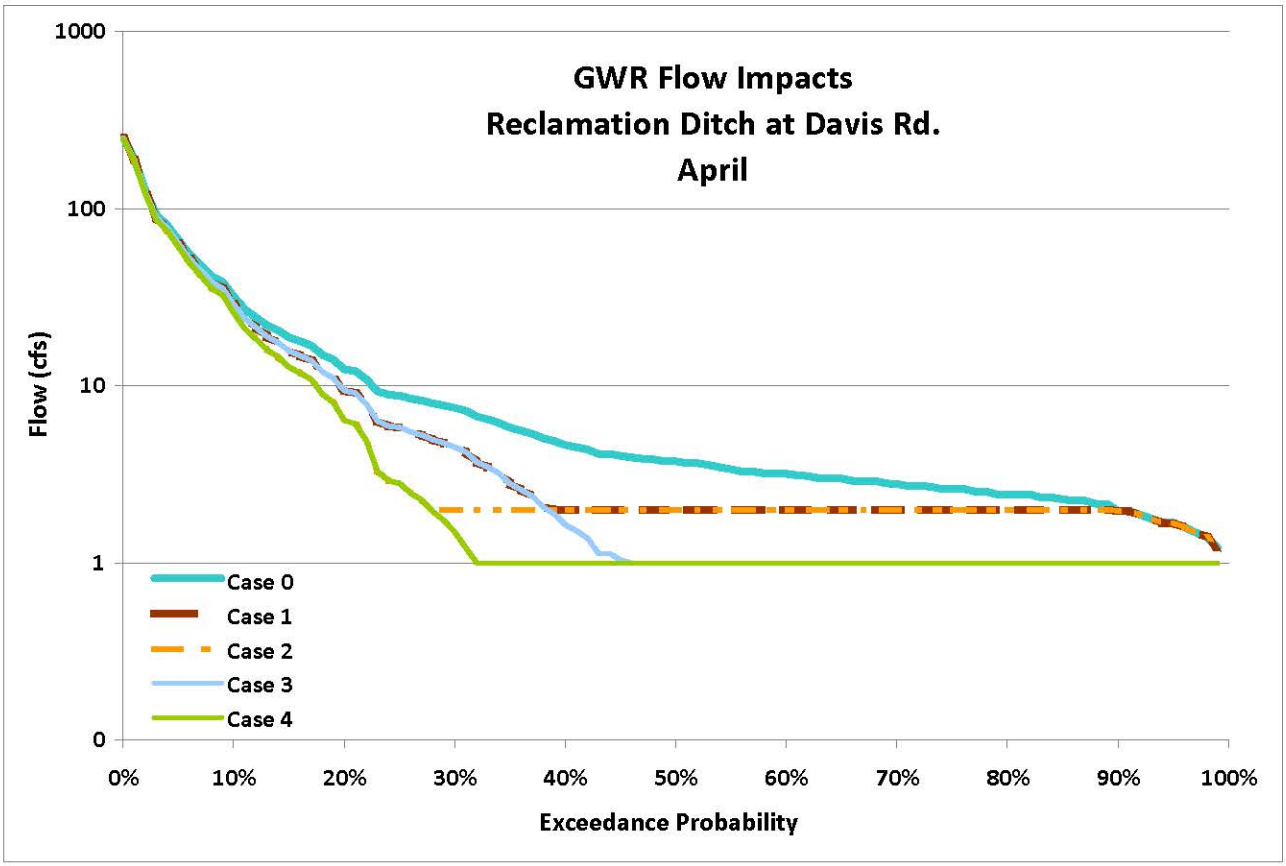
April Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	252.99	250.00	246.99	250.00	246.99
0.99	190.41	187.42	184.41	187.42	184.41
0.98	126.83	123.84	120.83	123.84	120.83
0.97	91.83	88.84	85.83	88.84	85.83
0.96	80.47	77.48	74.47	77.48	74.47
0.95	66.48	63.49	60.48	63.49	60.48
0.94	55.28	52.29	49.28	52.29	49.28
0.93	47.76	44.77	41.76	44.77	41.76
0.92	41.57	38.58	35.57	38.58	35.57
0.91	38.42	35.43	32.42	35.43	32.42
0.90	31.86	28.87	25.86	28.87	25.86
0.89	26.99	24.00	20.99	24.00	20.99
0.88	24.40	21.41	18.40	21.41	18.40
0.87	21.98	18.99	15.98	18.99	15.98
0.86	20.56	17.57	14.56	17.57	14.56
0.85	18.74	15.75	12.74	15.75	12.74
0.84	17.80	14.81	11.80	14.81	11.80
0.83	16.87	13.88	10.87	13.88	10.87
0.82	14.99	12.00	8.99	12.00	8.99
0.81	14.06	11.07	8.06	11.07	8.06
0.80	12.37	9.38	6.37	9.38	6.37
0.79	12.10	9.11	6.10	9.11	6.10
0.78	10.89	7.90	4.89	7.90	4.89
0.77	9.31	6.32	3.31	6.32	3.31
0.76	8.91	5.92	2.91	5.92	2.91
0.75	8.81	5.82	2.81	5.82	2.81
0.74	8.48	5.49	2.48	5.49	2.48
0.73	8.26	5.27	2.26	5.27	2.26
0.72	7.95	4.96	2.00	4.96	1.95
0.71	7.74	4.75	2.00	4.75	1.74
0.70	7.50	4.51	2.00	4.51	1.50
0.69	7.21	4.22	2.00	4.22	1.21
0.68	6.69	3.70	2.00	3.70	1.00
0.67	6.47	3.48	2.00	3.48	1.00
0.66	6.18	3.19	2.00	3.19	1.00
0.65	5.80	2.81	2.00	2.81	1.00
0.64	5.58	2.59	2.00	2.59	1.00
0.63	5.37	2.38	2.00	2.38	1.00
0.62	5.06	2.07	2.00	2.07	1.00
0.61	4.87	2.00	2.00	1.88	1.00
0.60	4.63	2.00	2.00	1.64	1.00
0.59	4.51	2.00	2.00	1.52	1.00
0.58	4.37	2.00	2.00	1.38	1.00
0.57	4.12	2.00	2.00	1.13	1.00
0.56	4.12	2.00	2.00	1.13	1.00
0.55	4.03	2.00	2.00	1.04	1.00
0.54	3.94	2.00	2.00	1.00	1.00
0.53	3.88	2.00	2.00	1.00	1.00
0.52	3.84	2.00	2.00	1.00	1.00
0.51	3.75	2.00	2.00	1.00	1.00

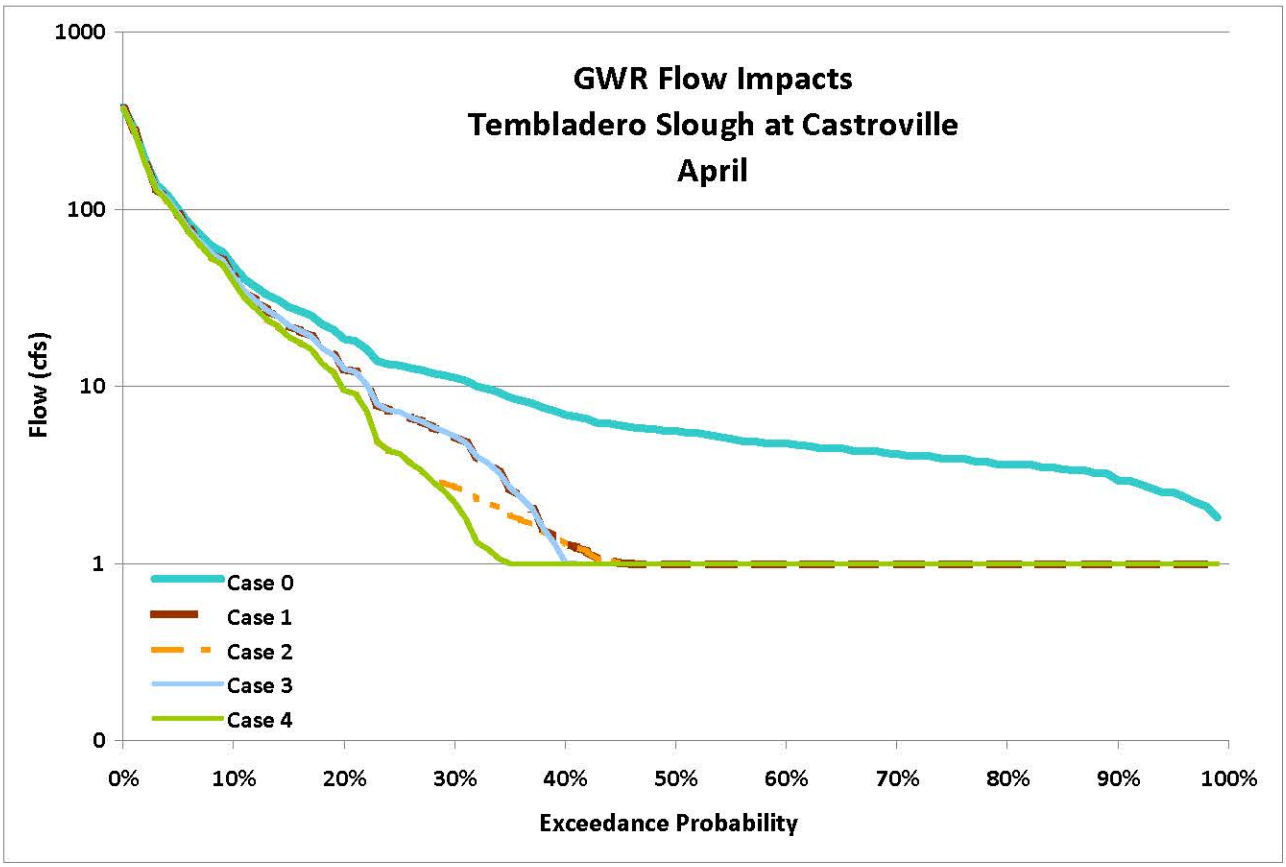
April Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	3.75	2.00	2.00	1.00	1.00
0.49	3.65	2.00	2.00	1.00	1.00
0.48	3.65	2.00	2.00	1.00	1.00
0.47	3.56	2.00	2.00	1.00	1.00
0.46	3.47	2.00	2.00	1.00	1.00
0.45	3.38	2.00	2.00	1.00	1.00
0.44	3.28	2.00	2.00	1.00	1.00
0.43	3.28	2.00	2.00	1.00	1.00
0.42	3.20	2.00	2.00	1.00	1.00
0.41	3.19	2.00	2.00	1.00	1.00
0.40	3.19	2.00	2.00	1.00	1.00
0.39	3.12	2.00	2.00	1.00	1.00
0.38	3.09	2.00	2.00	1.00	1.00
0.37	3.00	2.00	2.00	1.00	1.00
0.36	3.00	2.00	2.00	1.00	1.00
0.35	3.00	2.00	2.00	1.00	1.00
0.34	2.90	2.00	2.00	1.00	1.00
0.33	2.90	2.00	2.00	1.00	1.00
0.32	2.90	2.00	2.00	1.00	1.00
0.31	2.81	2.00	2.00	1.00	1.00
0.30	2.78	2.00	2.00	1.00	1.00
0.29	2.72	2.00	2.00	1.00	1.00
0.28	2.72	2.00	2.00	1.00	1.00
0.27	2.70	2.00	2.00	1.00	1.00
0.26	2.62	2.00	2.00	1.00	1.00
0.25	2.62	2.00	2.00	1.00	1.00
0.24	2.62	2.00	2.00	1.00	1.00
0.23	2.53	2.00	2.00	1.00	1.00
0.22	2.53	2.00	2.00	1.00	1.00
0.21	2.44	2.00	2.00	1.00	1.00
0.20	2.44	2.00	2.00	1.00	1.00
0.19	2.44	2.00	2.00	1.00	1.00
0.18	2.44	2.00	2.00	1.00	1.00
0.17	2.34	2.00	2.00	1.00	1.00
0.16	2.34	2.00	2.00	1.00	1.00
0.15	2.28	2.00	2.00	1.00	1.00
0.14	2.25	2.00	2.00	1.00	1.00
0.13	2.25	2.00	2.00	1.00	1.00
0.12	2.16	2.00	2.00	1.00	1.00
0.11	2.16	2.00	2.00	1.00	1.00
0.10	1.97	1.97	1.97	1.00	1.00
0.09	1.97	1.97	1.97	1.00	1.00
0.08	1.87	1.87	1.87	1.00	1.00
0.07	1.78	1.78	1.78	1.00	1.00
0.06	1.69	1.69	1.69	1.00	1.00
0.05	1.69	1.69	1.69	1.00	1.00
0.04	1.59	1.59	1.59	1.00	1.00
0.03	1.49	1.49	1.49	1.00	1.00
0.02	1.41	1.41	1.41	1.00	1.00
0.01	1.22	1.22	1.22	1.00	1.00

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

April Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	378.00	372.02	369.01	372.02	369.01
0.99	284.49	278.51	275.50	278.51	275.50
0.98	189.50	183.52	180.51	183.52	180.51
0.97	137.20	131.22	128.21	131.22	128.21
0.96	120.23	114.25	111.24	114.25	111.24
0.95	99.33	93.35	90.34	93.35	90.34
0.94	82.60	76.62	73.61	76.62	73.61
0.93	71.36	65.38	62.37	65.38	62.37
0.92	62.10	56.12	53.11	56.12	53.11
0.91	57.40	51.42	48.41	51.42	48.41
0.90	47.60	41.62	38.61	41.62	38.61
0.89	40.33	34.35	31.34	34.35	31.34
0.88	36.46	30.48	27.47	30.48	27.47
0.87	32.84	26.86	23.85	26.86	23.85
0.86	30.72	24.74	21.73	24.74	21.73
0.85	28.00	22.02	19.01	22.02	19.01
0.84	26.60	20.62	17.61	20.62	17.61
0.83	25.20	19.22	16.21	19.22	16.21
0.82	22.40	16.42	13.41	16.42	13.41
0.81	21.00	15.02	12.01	15.02	12.01
0.80	18.48	12.50	9.49	12.50	9.49
0.79	18.07	12.09	9.08	12.09	9.08
0.78	16.27	10.29	7.28	10.29	7.28
0.77	13.91	7.93	4.92	7.93	4.92
0.76	13.32	7.34	4.33	7.34	4.33
0.75	13.16	7.18	4.17	7.18	4.17
0.74	12.66	6.68	3.67	6.68	3.67
0.73	12.34	6.36	3.35	6.36	3.35
0.72	11.88	5.90	2.94	5.90	2.89
0.71	11.56	5.58	2.83	5.58	2.57
0.70	11.20	5.22	2.71	5.22	2.21
0.69	10.78	4.80	2.58	4.80	1.79
0.68	10.00	4.02	2.32	4.02	1.32
0.67	9.66	3.68	2.20	3.68	1.20
0.66	9.24	3.26	2.07	3.26	1.07
0.65	8.66	2.68	1.87	2.68	1.00
0.64	8.34	2.36	1.77	2.36	1.00
0.63	8.02	2.04	1.66	2.04	1.00
0.62	7.56	1.58	1.51	1.58	1.00
0.61	7.28	1.42	1.42	1.30	1.00
0.60	6.92	1.30	1.30	1.01	1.00
0.59	6.74	1.24	1.24	1.00	1.00
0.58	6.53	1.17	1.17	1.00	1.00
0.57	6.16	1.05	1.05	1.00	1.00
0.56	6.16	1.05	1.05	1.00	1.00
0.55	6.02	1.00	1.00	1.00	1.00
0.54	5.88	1.00	1.00	1.00	1.00
0.53	5.79	1.00	1.00	1.00	1.00
0.52	5.74	1.00	1.00	1.00	1.00
0.51	5.60	1.00	1.00	1.00	1.00

April Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	5.60	1.00	1.00	1.00	1.00
0.49	5.46	1.00	1.00	1.00	1.00
0.48	5.45	1.00	1.00	1.00	1.00
0.47	5.32	1.00	1.00	1.00	1.00
0.46	5.18	1.00	1.00	1.00	1.00
0.45	5.05	1.00	1.00	1.00	1.00
0.44	4.90	1.00	1.00	1.00	1.00
0.43	4.90	1.00	1.00	1.00	1.00
0.42	4.79	1.00	1.00	1.00	1.00
0.41	4.76	1.00	1.00	1.00	1.00
0.40	4.76	1.00	1.00	1.00	1.00
0.39	4.66	1.00	1.00	1.00	1.00
0.38	4.62	1.00	1.00	1.00	1.00
0.37	4.48	1.00	1.00	1.00	1.00
0.36	4.48	1.00	1.00	1.00	1.00
0.35	4.48	1.00	1.00	1.00	1.00
0.34	4.34	1.00	1.00	1.00	1.00
0.33	4.34	1.00	1.00	1.00	1.00
0.32	4.34	1.00	1.00	1.00	1.00
0.31	4.20	1.00	1.00	1.00	1.00
0.30	4.16	1.00	1.00	1.00	1.00
0.29	4.06	1.00	1.00	1.00	1.00
0.28	4.06	1.00	1.00	1.00	1.00
0.27	4.04	1.00	1.00	1.00	1.00
0.26	3.92	1.00	1.00	1.00	1.00
0.25	3.92	1.00	1.00	1.00	1.00
0.24	3.92	1.00	1.00	1.00	1.00
0.23	3.78	1.00	1.00	1.00	1.00
0.22	3.78	1.00	1.00	1.00	1.00
0.21	3.64	1.00	1.00	1.00	1.00
0.20	3.64	1.00	1.00	1.00	1.00
0.19	3.64	1.00	1.00	1.00	1.00
0.18	3.64	1.00	1.00	1.00	1.00
0.17	3.50	1.00	1.00	1.00	1.00
0.16	3.50	1.00	1.00	1.00	1.00
0.15	3.41	1.00	1.00	1.00	1.00
0.14	3.36	1.00	1.00	1.00	1.00
0.13	3.36	1.00	1.00	1.00	1.00
0.12	3.22	1.00	1.00	1.00	1.00
0.11	3.22	1.00	1.00	1.00	1.00
0.10	2.94	1.00	1.00	1.00	1.00
0.09	2.94	1.00	1.00	1.00	1.00
0.08	2.80	1.00	1.00	1.00	1.00
0.07	2.66	1.00	1.00	1.00	1.00
0.06	2.52	1.00	1.00	1.00	1.00
0.05	2.52	1.00	1.00	1.00	1.00
0.04	2.38	1.00	1.00	1.00	1.00
0.03	2.22	1.00	1.00	1.00	1.00
0.02	2.10	1.00	1.00	1.00	1.00
0.01	1.82	1.00	1.00	1.00	1.00


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
April
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
April
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

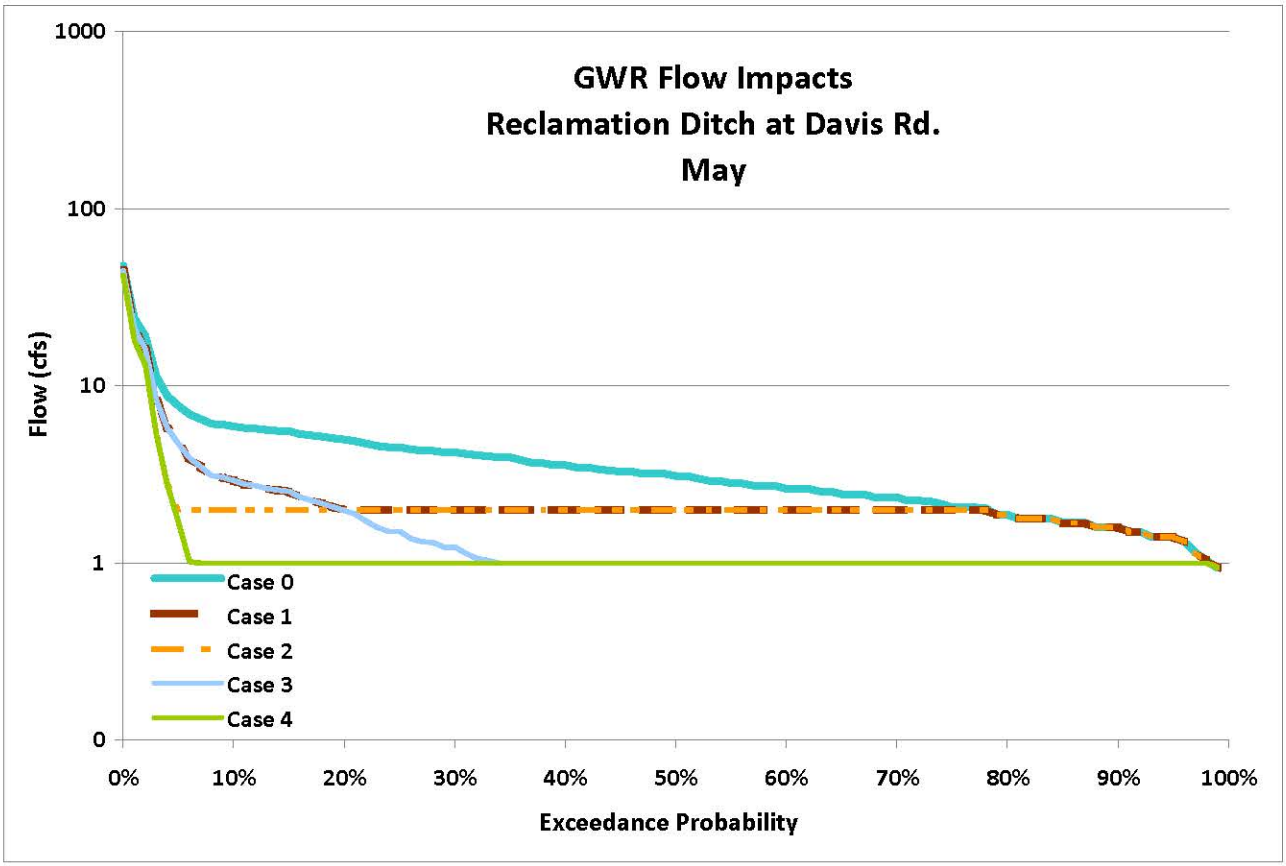
May Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	47.79	44.80	41.79	44.80	41.79
0.99	23.99	21.00	17.99	21.00	17.99
0.98	19.11	16.12	13.11	16.12	13.11
0.97	11.24	8.25	5.24	8.25	5.24
0.96	8.75	5.76	2.75	5.76	2.75
0.95	7.68	4.69	2.00	4.69	1.68
0.94	6.92	3.93	2.00	3.93	1.02
0.93	6.48	3.49	2.00	3.49	1.00
0.92	6.09	3.10	2.00	3.10	1.00
0.91	6.03	3.04	2.00	3.04	1.00
0.90	5.90	2.91	2.00	2.91	1.00
0.89	5.77	2.78	2.00	2.78	1.00
0.88	5.72	2.73	2.00	2.73	1.00
0.87	5.62	2.63	2.00	2.63	1.00
0.86	5.57	2.58	2.00	2.58	1.00
0.85	5.53	2.54	2.00	2.54	1.00
0.84	5.34	2.35	2.00	2.35	1.00
0.83	5.25	2.26	2.00	2.26	1.00
0.82	5.15	2.16	2.00	2.16	1.00
0.81	5.06	2.07	2.00	2.07	1.00
0.80	4.97	2.00	2.00	1.98	1.00
0.79	4.87	2.00	2.00	1.88	1.00
0.78	4.70	2.00	2.00	1.71	1.00
0.77	4.57	2.00	2.00	1.58	1.00
0.76	4.50	2.00	2.00	1.51	1.00
0.75	4.50	2.00	2.00	1.51	1.00
0.74	4.37	2.00	2.00	1.38	1.00
0.73	4.31	2.00	2.00	1.32	1.00
0.72	4.29	2.00	2.00	1.30	1.00
0.71	4.22	2.00	2.00	1.23	1.00
0.70	4.22	2.00	2.00	1.23	1.00
0.69	4.12	2.00	2.00	1.13	1.00
0.68	4.05	2.00	2.00	1.06	1.00
0.67	4.01	2.00	2.00	1.03	1.00
0.66	3.94	2.00	2.00	1.00	1.00
0.65	3.94	2.00	2.00	1.00	1.00
0.64	3.80	2.00	2.00	1.00	1.00
0.63	3.67	2.00	2.00	1.00	1.00
0.62	3.65	2.00	2.00	1.00	1.00
0.61	3.56	2.00	2.00	1.00	1.00
0.60	3.56	2.00	2.00	1.00	1.00
0.59	3.47	2.00	2.00	1.00	1.00
0.58	3.47	2.00	2.00	1.00	1.00
0.57	3.37	2.00	2.00	1.00	1.00
0.56	3.32	2.00	2.00	1.00	1.00
0.55	3.28	2.00	2.00	1.00	1.00
0.54	3.28	2.00	2.00	1.00	1.00
0.53	3.19	2.00	2.00	1.00	1.00
0.52	3.19	2.00	2.00	1.00	1.00
0.51	3.19	2.00	2.00	1.00	1.00

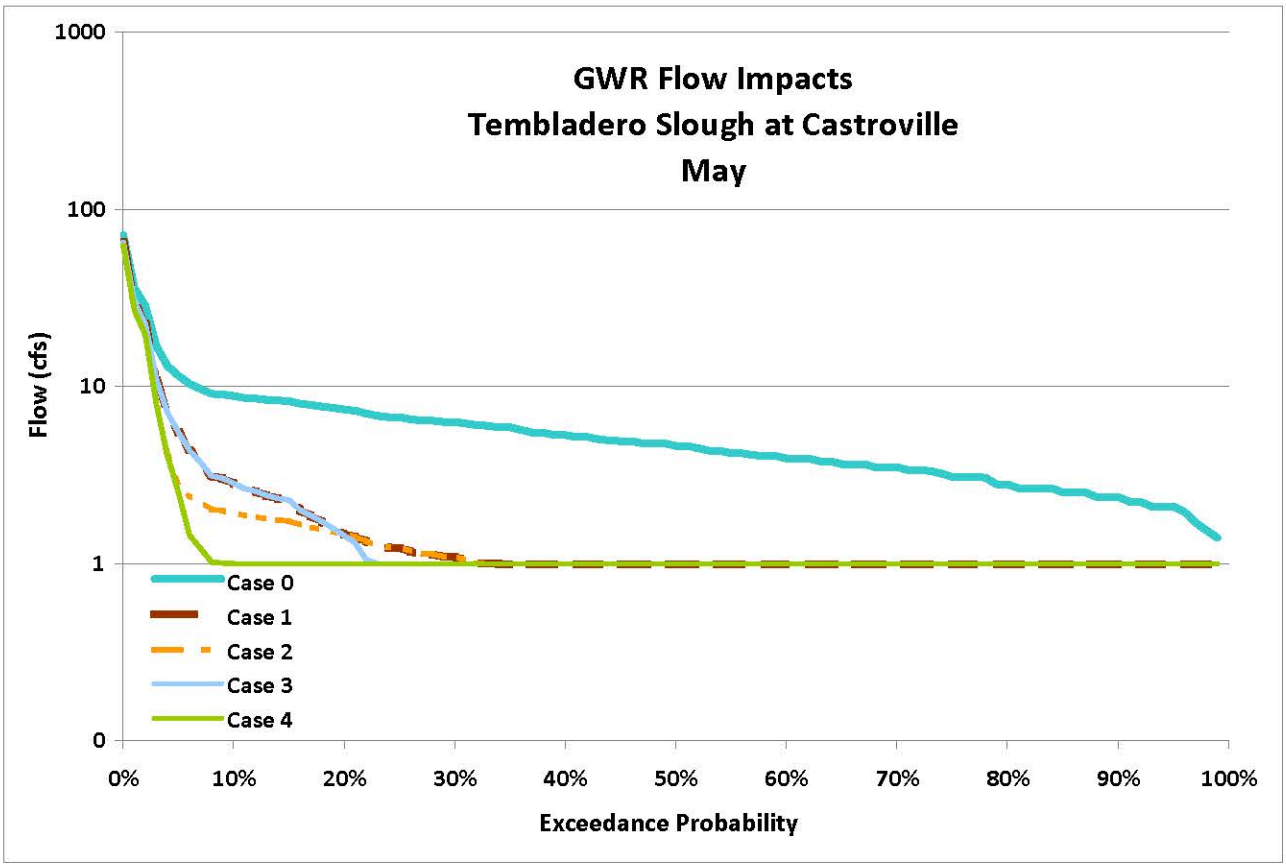
May Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	3.09	2.00	2.00	1.00	1.00
0.49	3.09	2.00	2.00	1.00	1.00
0.48	3.00	2.00	2.00	1.00	1.00
0.47	2.90	2.00	2.00	1.00	1.00
0.46	2.90	2.00	2.00	1.00	1.00
0.45	2.81	2.00	2.00	1.00	1.00
0.44	2.81	2.00	2.00	1.00	1.00
0.43	2.74	2.00	2.00	1.00	1.00
0.42	2.72	2.00	2.00	1.00	1.00
0.41	2.72	2.00	2.00	1.00	1.00
0.40	2.62	2.00	2.00	1.00	1.00
0.39	2.62	2.00	2.00	1.00	1.00
0.38	2.62	2.00	2.00	1.00	1.00
0.37	2.53	2.00	2.00	1.00	1.00
0.36	2.53	2.00	2.00	1.00	1.00
0.35	2.44	2.00	2.00	1.00	1.00
0.34	2.44	2.00	2.00	1.00	1.00
0.33	2.44	2.00	2.00	1.00	1.00
0.32	2.34	2.00	2.00	1.00	1.00
0.31	2.34	2.00	2.00	1.00	1.00
0.30	2.34	2.00	2.00	1.00	1.00
0.29	2.25	2.00	2.00	1.00	1.00
0.28	2.25	2.00	2.00	1.00	1.00
0.27	2.23	2.00	2.00	1.00	1.00
0.26	2.16	2.00	2.00	1.00	1.00
0.25	2.06	2.00	2.00	1.00	1.00
0.24	2.06	2.00	2.00	1.00	1.00
0.23	2.06	2.00	2.00	1.00	1.00
0.22	2.04	1.99	1.99	1.00	1.00
0.21	1.87	1.87	1.87	1.00	1.00
0.20	1.87	1.87	1.87	1.00	1.00
0.19	1.78	1.78	1.78	1.00	1.00
0.18	1.78	1.78	1.78	1.00	1.00
0.17	1.78	1.78	1.78	1.00	1.00
0.16	1.78	1.78	1.78	1.00	1.00
0.15	1.69	1.69	1.69	1.00	1.00
0.14	1.69	1.69	1.69	1.00	1.00
0.13	1.69	1.69	1.69	1.00	1.00
0.12	1.59	1.59	1.59	1.00	1.00
0.11	1.59	1.59	1.59	1.00	1.00
0.10	1.59	1.59	1.59	1.00	1.00
0.09	1.50	1.50	1.50	1.00	1.00
0.08	1.50	1.50	1.50	1.00	1.00
0.07	1.41	1.41	1.41	1.00	1.00
0.06	1.41	1.41	1.41	1.00	1.00
0.05	1.41	1.41	1.41	1.00	1.00
0.04	1.31	1.31	1.31	1.00	1.00
0.03	1.14	1.14	1.14	1.00	1.00
0.02	1.03	1.03	1.03	1.00	1.00
0.01	0.94	0.94	0.94	0.94	0.94

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

May Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	71.40	65.42	62.41	65.42	62.41
0.99	35.84	29.86	26.85	29.86	26.85
0.98	28.56	22.58	19.57	22.58	19.57
0.97	16.80	10.82	7.81	10.82	7.81
0.96	13.08	7.10	4.09	7.10	4.09
0.95	11.48	5.50	2.81	5.50	2.49
0.94	10.33	4.35	2.43	4.35	1.44
0.93	9.69	3.71	2.21	3.71	1.21
0.92	9.10	3.12	2.02	3.12	1.02
0.91	9.02	3.04	1.99	3.04	1.01
0.90	8.82	2.84	1.93	2.84	1.00
0.89	8.62	2.64	1.86	2.64	1.00
0.88	8.54	2.56	1.83	2.56	1.00
0.87	8.40	2.42	1.79	2.42	1.00
0.86	8.32	2.34	1.76	2.34	1.00
0.85	8.26	2.28	1.74	2.28	1.00
0.84	7.98	2.00	1.65	2.00	1.00
0.83	7.84	1.86	1.60	1.86	1.00
0.82	7.70	1.72	1.56	1.72	1.00
0.81	7.56	1.58	1.51	1.58	1.00
0.80	7.42	1.46	1.46	1.44	1.00
0.79	7.28	1.42	1.42	1.30	1.00
0.78	7.03	1.33	1.33	1.05	1.00
0.77	6.83	1.27	1.27	1.00	1.00
0.76	6.72	1.23	1.23	1.00	1.00
0.75	6.72	1.23	1.23	1.00	1.00
0.74	6.52	1.17	1.17	1.00	1.00
0.73	6.44	1.14	1.14	1.00	1.00
0.72	6.41	1.13	1.13	1.00	1.00
0.71	6.30	1.09	1.09	1.00	1.00
0.70	6.30	1.09	1.09	1.00	1.00
0.69	6.16	1.05	1.05	1.00	1.00
0.68	6.05	1.01	1.01	1.00	1.00
0.67	5.99	1.00	1.00	1.00	1.00
0.66	5.88	1.00	1.00	1.00	1.00
0.65	5.88	1.00	1.00	1.00	1.00
0.64	5.68	1.00	1.00	1.00	1.00
0.63	5.49	1.00	1.00	1.00	1.00
0.62	5.46	1.00	1.00	1.00	1.00
0.61	5.32	1.00	1.00	1.00	1.00
0.60	5.32	1.00	1.00	1.00	1.00
0.59	5.18	1.00	1.00	1.00	1.00
0.58	5.18	1.00	1.00	1.00	1.00
0.57	5.04	1.00	1.00	1.00	1.00
0.56	4.96	1.00	1.00	1.00	1.00
0.55	4.90	1.00	1.00	1.00	1.00
0.54	4.90	1.00	1.00	1.00	1.00
0.53	4.76	1.00	1.00	1.00	1.00
0.52	4.76	1.00	1.00	1.00	1.00
0.51	4.76	1.00	1.00	1.00	1.00

May Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	4.62	1.00	1.00	1.00	1.00
0.49	4.62	1.00	1.00	1.00	1.00
0.48	4.48	1.00	1.00	1.00	1.00
0.47	4.34	1.00	1.00	1.00	1.00
0.46	4.34	1.00	1.00	1.00	1.00
0.45	4.20	1.00	1.00	1.00	1.00
0.44	4.20	1.00	1.00	1.00	1.00
0.43	4.09	1.00	1.00	1.00	1.00
0.42	4.06	1.00	1.00	1.00	1.00
0.41	4.06	1.00	1.00	1.00	1.00
0.40	3.92	1.00	1.00	1.00	1.00
0.39	3.92	1.00	1.00	1.00	1.00
0.38	3.92	1.00	1.00	1.00	1.00
0.37	3.78	1.00	1.00	1.00	1.00
0.36	3.78	1.00	1.00	1.00	1.00
0.35	3.64	1.00	1.00	1.00	1.00
0.34	3.64	1.00	1.00	1.00	1.00
0.33	3.64	1.00	1.00	1.00	1.00
0.32	3.50	1.00	1.00	1.00	1.00
0.31	3.50	1.00	1.00	1.00	1.00
0.30	3.50	1.00	1.00	1.00	1.00
0.29	3.36	1.00	1.00	1.00	1.00
0.28	3.36	1.00	1.00	1.00	1.00
0.27	3.33	1.00	1.00	1.00	1.00
0.26	3.22	1.00	1.00	1.00	1.00
0.25	3.08	1.00	1.00	1.00	1.00
0.24	3.08	1.00	1.00	1.00	1.00
0.23	3.08	1.00	1.00	1.00	1.00
0.22	3.05	1.00	1.00	1.00	1.00
0.21	2.80	1.00	1.00	1.00	1.00
0.20	2.80	1.00	1.00	1.00	1.00
0.19	2.66	1.00	1.00	1.00	1.00
0.18	2.66	1.00	1.00	1.00	1.00
0.17	2.66	1.00	1.00	1.00	1.00
0.16	2.66	1.00	1.00	1.00	1.00
0.15	2.52	1.00	1.00	1.00	1.00
0.14	2.52	1.00	1.00	1.00	1.00
0.13	2.52	1.00	1.00	1.00	1.00
0.12	2.38	1.00	1.00	1.00	1.00
0.11	2.38	1.00	1.00	1.00	1.00
0.10	2.38	1.00	1.00	1.00	1.00
0.09	2.24	1.00	1.00	1.00	1.00
0.08	2.24	1.00	1.00	1.00	1.00
0.07	2.10	1.00	1.00	1.00	1.00
0.06	2.10	1.00	1.00	1.00	1.00
0.05	2.10	1.00	1.00	1.00	1.00
0.04	1.96	1.00	1.00	1.00	1.00
0.03	1.71	1.00	1.00	1.00	1.00
0.02	1.54	1.00	1.00	1.00	1.00
0.01	1.40	1.00	1.00	1.00	1.00


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
May
Flow (cfs)
1000
100
10
1
0
Case 0
Case 1
Case 2
Case 3
Case 4
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability


GWR Flow Impacts
Tembladero Slough at Castroville
May
Flow (cfs)
1000
100
10
1
0
Case 0
Case 1
Case 2
Case 3
Case 4
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

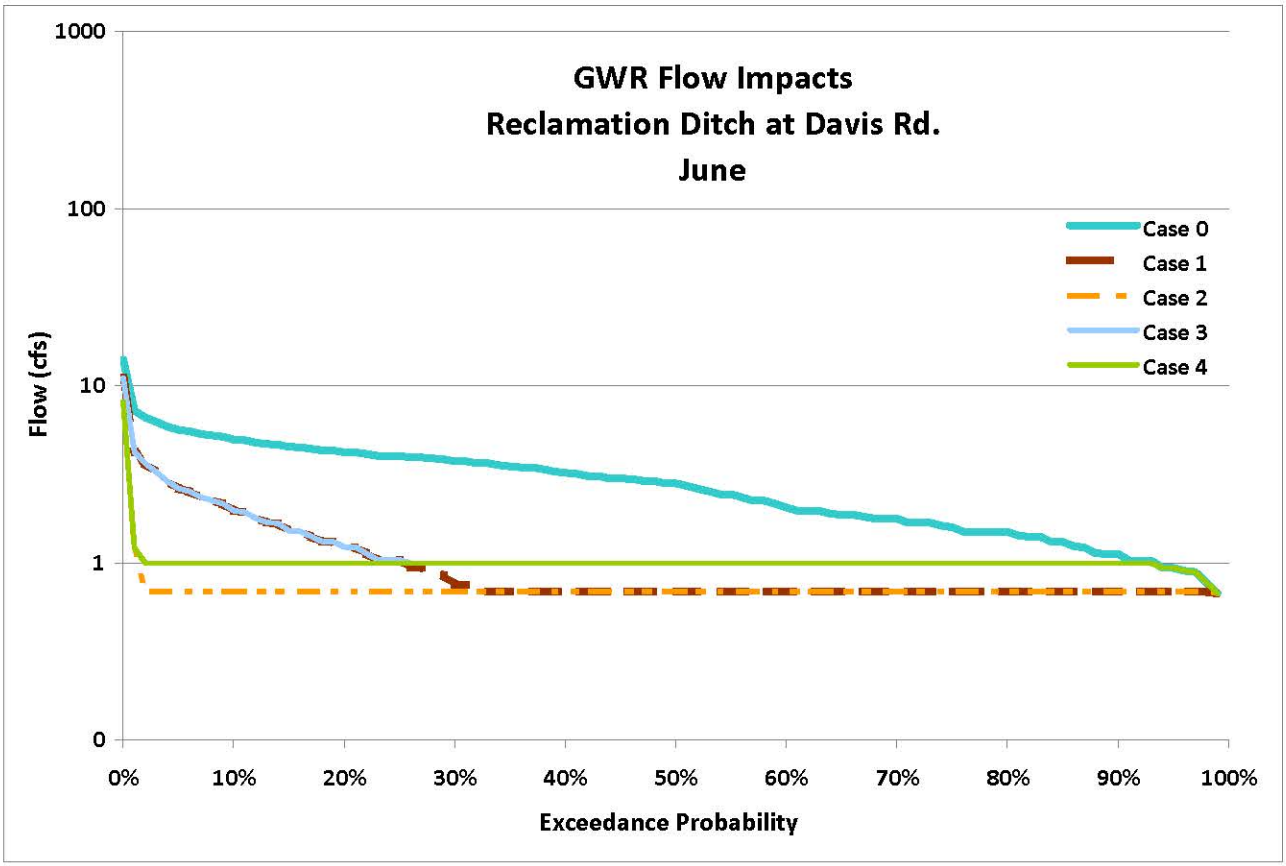
June Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	14.06	11.07	8.06	11.07	8.06
0.99	7.21	4.22	1.21	4.22	1.21
0.98	6.64	3.65	0.69	3.65	1.00
0.97	6.25	3.26	0.69	3.26	1.00
0.96	5.87	2.88	0.69	2.88	1.00
0.95	5.62	2.63	0.69	2.63	1.00
0.94	5.53	2.54	0.69	2.54	1.00
0.93	5.34	2.35	0.69	2.35	1.00
0.92	5.25	2.26	0.69	2.26	1.00
0.91	5.15	2.16	0.69	2.16	1.00
0.90	4.97	1.98	0.69	1.98	1.00
0.89	4.92	1.93	0.69	1.93	1.00
0.88	4.78	1.79	0.69	1.79	1.00
0.87	4.69	1.70	0.69	1.70	1.00
0.86	4.66	1.67	0.69	1.67	1.00
0.85	4.51	1.52	0.69	1.52	1.00
0.84	4.50	1.51	0.69	1.51	1.00
0.83	4.40	1.41	0.69	1.41	1.00
0.82	4.31	1.32	0.69	1.32	1.00
0.81	4.31	1.32	0.69	1.32	1.00
0.80	4.22	1.23	0.69	1.23	1.00
0.79	4.22	1.23	0.69	1.23	1.00
0.78	4.12	1.13	0.69	1.13	1.00
0.77	4.03	1.04	0.69	1.04	1.00
0.76	4.03	1.04	0.69	1.04	1.00
0.75	4.03	1.04	0.69	1.04	1.00
0.74	3.94	0.95	0.69	1.00	1.00
0.73	3.94	0.95	0.69	1.00	1.00
0.72	3.89	0.90	0.69	1.00	1.00
0.71	3.84	0.85	0.69	1.00	1.00
0.70	3.75	0.76	0.69	1.00	1.00
0.69	3.75	0.76	0.69	1.00	1.00
0.68	3.65	0.69	0.69	1.00	1.00
0.67	3.65	0.69	0.69	1.00	1.00
0.66	3.56	0.69	0.69	1.00	1.00
0.65	3.50	0.69	0.69	1.00	1.00
0.64	3.47	0.69	0.69	1.00	1.00
0.63	3.47	0.69	0.69	1.00	1.00
0.62	3.37	0.69	0.69	1.00	1.00
0.61	3.28	0.69	0.69	1.00	1.00
0.60	3.22	0.69	0.69	1.00	1.00
0.59	3.19	0.69	0.69	1.00	1.00
0.58	3.09	0.69	0.69	1.00	1.00
0.57	3.09	0.69	0.69	1.00	1.00
0.56	3.00	0.69	0.69	1.00	1.00
0.55	3.00	0.69	0.69	1.00	1.00
0.54	2.99	0.69	0.69	1.00	1.00
0.53	2.90	0.69	0.69	1.00	1.00
0.52	2.90	0.69	0.69	1.00	1.00
0.51	2.81	0.69	0.69	1.00	1.00

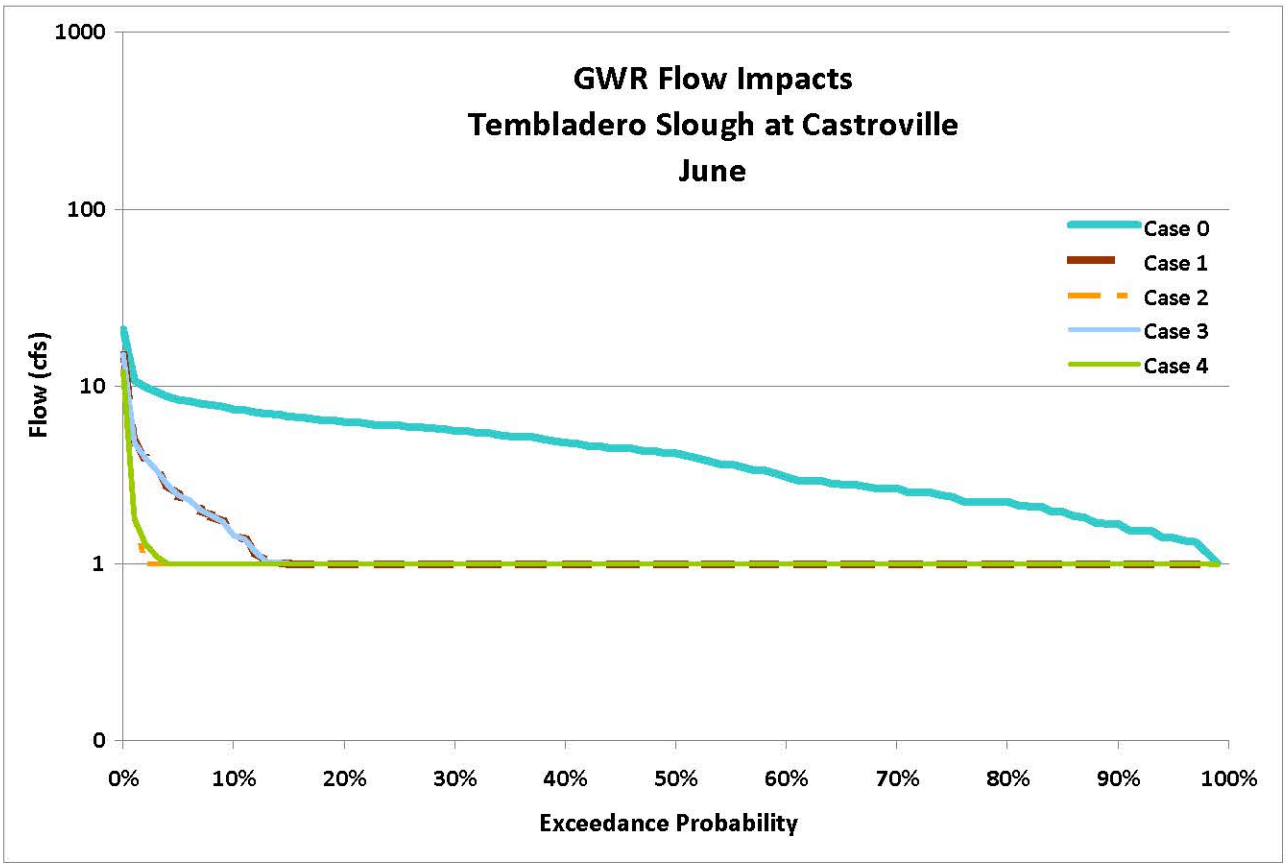
June Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	2.81	0.69	0.69	1.00	1.00
0.49	2.72	0.69	0.69	1.00	1.00
0.48	2.62	0.69	0.69	1.00	1.00
0.47	2.53	0.69	0.69	1.00	1.00
0.46	2.44	0.69	0.69	1.00	1.00
0.45	2.44	0.69	0.69	1.00	1.00
0.44	2.34	0.69	0.69	1.00	1.00
0.43	2.25	0.69	0.69	1.00	1.00
0.42	2.25	0.69	0.69	1.00	1.00
0.41	2.16	0.69	0.69	1.00	1.00
0.40	2.06	0.69	0.69	1.00	1.00
0.39	1.97	0.69	0.69	1.00	1.00
0.38	1.97	0.69	0.69	1.00	1.00
0.37	1.97	0.69	0.69	1.00	1.00
0.36	1.90	0.69	0.69	1.00	1.00
0.35	1.87	0.69	0.69	1.00	1.00
0.34	1.87	0.69	0.69	1.00	1.00
0.33	1.82	0.69	0.69	1.00	1.00
0.32	1.78	0.69	0.69	1.00	1.00
0.31	1.78	0.69	0.69	1.00	1.00
0.30	1.78	0.69	0.69	1.00	1.00
0.29	1.69	0.69	0.69	1.00	1.00
0.28	1.69	0.69	0.69	1.00	1.00
0.27	1.69	0.69	0.69	1.00	1.00
0.26	1.62	0.69	0.69	1.00	1.00
0.25	1.59	0.69	0.69	1.00	1.00
0.24	1.50	0.69	0.69	1.00	1.00
0.23	1.50	0.69	0.69	1.00	1.00
0.22	1.50	0.69	0.69	1.00	1.00
0.21	1.50	0.69	0.69	1.00	1.00
0.20	1.50	0.69	0.69	1.00	1.00
0.19	1.43	0.69	0.69	1.00	1.00
0.18	1.41	0.69	0.69	1.00	1.00
0.17	1.41	0.69	0.69	1.00	1.00
0.16	1.31	0.69	0.69	1.00	1.00
0.15	1.31	0.69	0.69	1.00	1.00
0.14	1.24	0.69	0.69	1.00	1.00
0.13	1.22	0.69	0.69	1.00	1.00
0.12	1.13	0.69	0.69	1.00	1.00
0.11	1.12	0.69	0.69	1.00	1.00
0.10	1.12	0.69	0.69	1.00	1.00
0.09	1.03	0.69	0.69	1.00	1.00
0.08	1.03	0.69	0.69	1.00	1.00
0.07	1.03	0.69	0.69	1.00	1.00
0.06	0.94	0.69	0.69	0.94	0.94
0.05	0.94	0.69	0.69	0.94	0.94
0.04	0.90	0.69	0.69	0.90	0.90
0.03	0.89	0.69	0.69	0.89	0.89
0.02	0.78	0.69	0.69	0.78	0.78
0.01	0.67	0.67	0.67	0.67	0.67

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

June Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	21.00	15.02	12.01	15.02	12.01
0.99	10.78	4.80	1.79	4.80	1.79
0.98	9.91	3.93	1.00	3.93	1.29
0.97	9.34	3.36	1.00	3.36	1.10
0.96	8.77	2.79	1.00	2.79	1.00
0.95	8.40	2.42	1.00	2.42	1.00
0.94	8.26	2.28	1.00	2.28	1.00
0.93	7.98	2.00	1.00	2.00	1.00
0.92	7.84	1.86	1.00	1.86	1.00
0.91	7.70	1.72	1.00	1.72	1.00
0.90	7.42	1.44	1.00	1.44	1.00
0.89	7.35	1.37	1.00	1.37	1.00
0.88	7.14	1.16	1.00	1.16	1.00
0.87	7.00	1.02	1.00	1.02	1.00
0.86	6.96	1.01	1.00	1.01	1.00
0.85	6.74	1.00	1.00	1.00	1.00
0.84	6.72	1.00	1.00	1.00	1.00
0.83	6.58	1.00	1.00	1.00	1.00
0.82	6.44	1.00	1.00	1.00	1.00
0.81	6.44	1.00	1.00	1.00	1.00
0.80	6.30	1.00	1.00	1.00	1.00
0.79	6.30	1.00	1.00	1.00	1.00
0.78	6.16	1.00	1.00	1.00	1.00
0.77	6.02	1.00	1.00	1.00	1.00
0.76	6.02	1.00	1.00	1.00	1.00
0.75	6.02	1.00	1.00	1.00	1.00
0.74	5.88	1.00	1.00	1.00	1.00
0.73	5.88	1.00	1.00	1.00	1.00
0.72	5.81	1.00	1.00	1.00	1.00
0.71	5.74	1.00	1.00	1.00	1.00
0.70	5.60	1.00	1.00	1.00	1.00
0.69	5.60	1.00	1.00	1.00	1.00
0.68	5.46	1.00	1.00	1.00	1.00
0.67	5.46	1.00	1.00	1.00	1.00
0.66	5.32	1.00	1.00	1.00	1.00
0.65	5.23	1.00	1.00	1.00	1.00
0.64	5.18	1.00	1.00	1.00	1.00
0.63	5.18	1.00	1.00	1.00	1.00
0.62	5.04	1.00	1.00	1.00	1.00
0.61	4.90	1.00	1.00	1.00	1.00
0.60	4.82	1.00	1.00	1.00	1.00
0.59	4.76	1.00	1.00	1.00	1.00
0.58	4.62	1.00	1.00	1.00	1.00
0.57	4.62	1.00	1.00	1.00	1.00
0.56	4.48	1.00	1.00	1.00	1.00
0.55	4.48	1.00	1.00	1.00	1.00
0.54	4.46	1.00	1.00	1.00	1.00
0.53	4.34	1.00	1.00	1.00	1.00
0.52	4.34	1.00	1.00	1.00	1.00
0.51	4.20	1.00	1.00	1.00	1.00

June Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	4.20	1.00	1.00	1.00	1.00
0.49	4.06	1.00	1.00	1.00	1.00
0.48	3.92	1.00	1.00	1.00	1.00
0.47	3.78	1.00	1.00	1.00	1.00
0.46	3.64	1.00	1.00	1.00	1.00
0.45	3.64	1.00	1.00	1.00	1.00
0.44	3.50	1.00	1.00	1.00	1.00
0.43	3.36	1.00	1.00	1.00	1.00
0.42	3.36	1.00	1.00	1.00	1.00
0.41	3.22	1.00	1.00	1.00	1.00
0.40	3.08	1.00	1.00	1.00	1.00
0.39	2.94	1.00	1.00	1.00	1.00
0.38	2.94	1.00	1.00	1.00	1.00
0.37	2.94	1.00	1.00	1.00	1.00
0.36	2.83	1.00	1.00	1.00	1.00
0.35	2.80	1.00	1.00	1.00	1.00
0.34	2.80	1.00	1.00	1.00	1.00
0.33	2.73	1.00	1.00	1.00	1.00
0.32	2.66	1.00	1.00	1.00	1.00
0.31	2.66	1.00	1.00	1.00	1.00
0.30	2.66	1.00	1.00	1.00	1.00
0.29	2.52	1.00	1.00	1.00	1.00
0.28	2.52	1.00	1.00	1.00	1.00
0.27	2.52	1.00	1.00	1.00	1.00
0.26	2.43	1.00	1.00	1.00	1.00
0.25	2.38	1.00	1.00	1.00	1.00
0.24	2.24	1.00	1.00	1.00	1.00
0.23	2.24	1.00	1.00	1.00	1.00
0.22	2.24	1.00	1.00	1.00	1.00
0.21	2.24	1.00	1.00	1.00	1.00
0.20	2.24	1.00	1.00	1.00	1.00
0.19	2.13	1.00	1.00	1.00	1.00
0.18	2.10	1.00	1.00	1.00	1.00
0.17	2.10	1.00	1.00	1.00	1.00
0.16	1.96	1.00	1.00	1.00	1.00
0.15	1.96	1.00	1.00	1.00	1.00
0.14	1.86	1.00	1.00	1.00	1.00
0.13	1.82	1.00	1.00	1.00	1.00
0.12	1.69	1.00	1.00	1.00	1.00
0.11	1.68	1.00	1.00	1.00	1.00
0.10	1.68	1.00	1.00	1.00	1.00
0.09	1.54	1.00	1.00	1.00	1.00
0.08	1.54	1.00	1.00	1.00	1.00
0.07	1.54	1.00	1.00	1.00	1.00
0.06	1.40	1.00	1.00	1.00	1.00
0.05	1.40	1.00	1.00	1.00	1.00
0.04	1.35	1.00	1.00	1.00	1.00
0.03	1.33	1.00	1.00	1.00	1.00
0.02	1.16	1.00	1.00	1.00	1.00
0.01	1.01	0.99	0.99	0.99	0.99


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
June
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
June
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

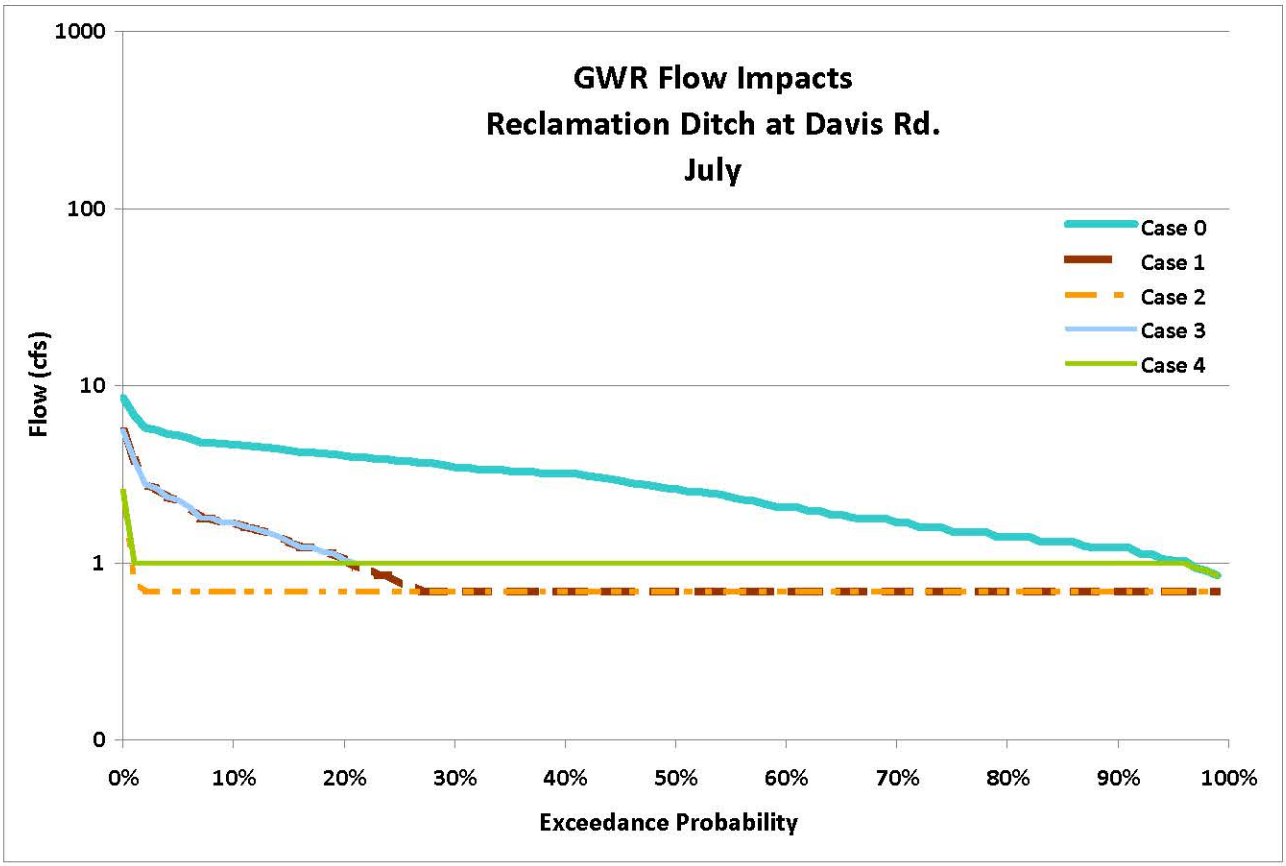
July Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	8.53	5.54	2.53	5.54	2.53
0.99	6.77	3.78	0.77	3.78	1.00
0.98	5.77	2.78	0.69	2.78	1.00
0.97	5.62	2.63	0.69	2.63	1.00
0.96	5.34	2.35	0.69	2.35	1.00
0.95	5.25	2.26	0.69	2.26	1.00
0.94	5.06	2.07	0.69	2.07	1.00
0.93	4.78	1.79	0.69	1.79	1.00
0.92	4.78	1.79	0.69	1.79	1.00
0.91	4.69	1.70	0.69	1.70	1.00
0.90	4.68	1.69	0.69	1.69	1.00
0.89	4.59	1.60	0.69	1.60	1.00
0.88	4.54	1.55	0.69	1.55	1.00
0.87	4.48	1.49	0.69	1.49	1.00
0.86	4.40	1.41	0.69	1.41	1.00
0.85	4.31	1.32	0.69	1.32	1.00
0.84	4.22	1.23	0.69	1.23	1.00
0.83	4.22	1.23	0.69	1.23	1.00
0.82	4.14	1.15	0.69	1.15	1.00
0.81	4.12	1.13	0.69	1.13	1.00
0.80	4.03	1.04	0.69	1.04	1.00
0.79	3.94	0.95	0.69	1.00	1.00
0.78	3.94	0.95	0.69	1.00	1.00
0.77	3.84	0.85	0.69	1.00	1.00
0.76	3.84	0.85	0.69	1.00	1.00
0.75	3.75	0.76	0.69	1.00	1.00
0.74	3.75	0.76	0.69	1.00	1.00
0.73	3.65	0.69	0.69	1.00	1.00
0.72	3.65	0.69	0.69	1.00	1.00
0.71	3.56	0.69	0.69	1.00	1.00
0.70	3.47	0.69	0.69	1.00	1.00
0.69	3.47	0.69	0.69	1.00	1.00
0.68	3.37	0.69	0.69	1.00	1.00
0.67	3.37	0.69	0.69	1.00	1.00
0.66	3.37	0.69	0.69	1.00	1.00
0.65	3.29	0.69	0.69	1.00	1.00
0.64	3.28	0.69	0.69	1.00	1.00
0.63	3.28	0.69	0.69	1.00	1.00
0.62	3.19	0.69	0.69	1.00	1.00
0.61	3.19	0.69	0.69	1.00	1.00
0.60	3.19	0.69	0.69	1.00	1.00
0.59	3.19	0.69	0.69	1.00	1.00
0.58	3.09	0.69	0.69	1.00	1.00
0.57	3.04	0.69	0.69	1.00	1.00
0.56	2.98	0.69	0.69	1.00	1.00
0.55	2.90	0.69	0.69	1.00	1.00
0.54	2.81	0.69	0.69	1.00	1.00
0.53	2.78	0.69	0.69	1.00	1.00
0.52	2.72	0.69	0.69	1.00	1.00
0.51	2.64	0.69	0.69	1.00	1.00

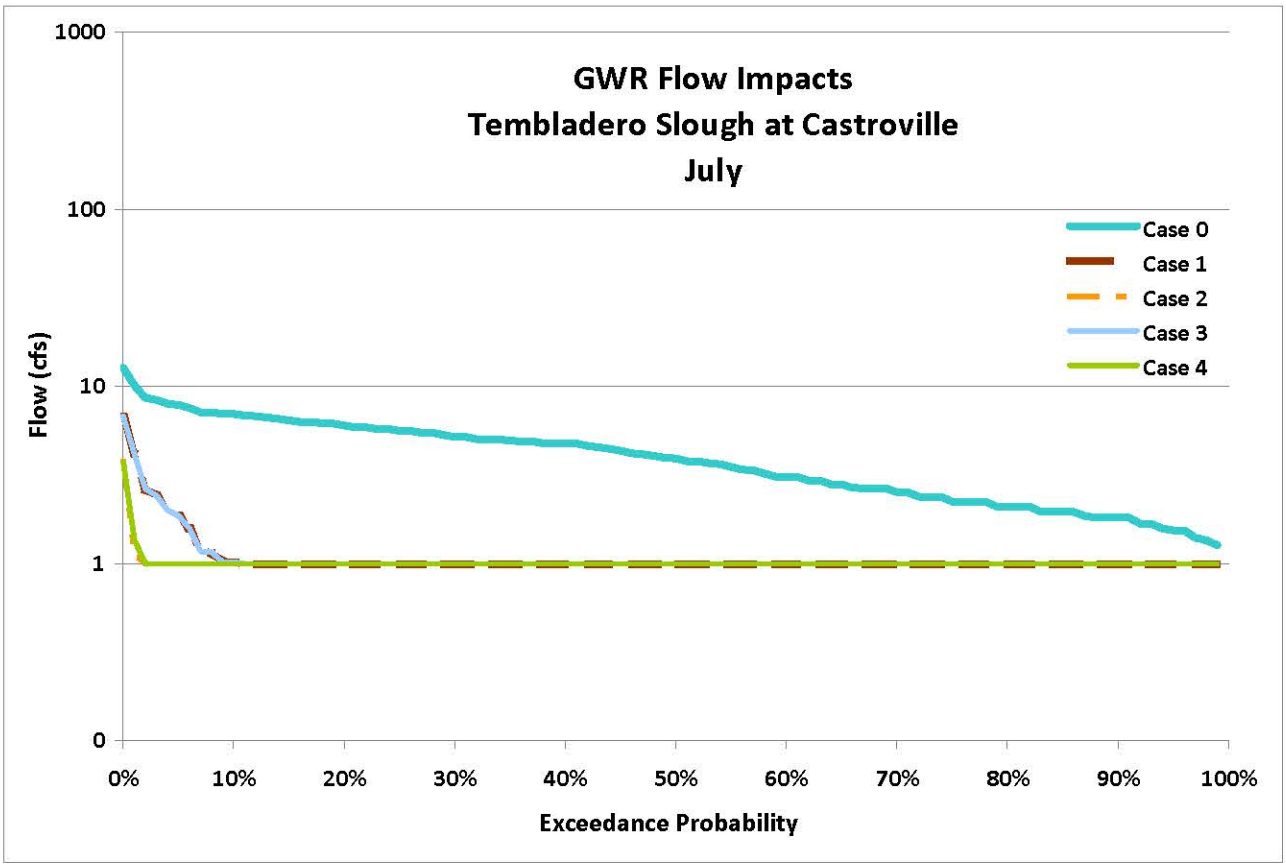
July Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	2.62	0.69	0.69	1.00	1.00
0.49	2.53	0.69	0.69	1.00	1.00
0.48	2.53	0.69	0.69	1.00	1.00
0.47	2.47	0.69	0.69	1.00	1.00
0.46	2.44	0.69	0.69	1.00	1.00
0.45	2.34	0.69	0.69	1.00	1.00
0.44	2.27	0.69	0.69	1.00	1.00
0.43	2.25	0.69	0.69	1.00	1.00
0.42	2.16	0.69	0.69	1.00	1.00
0.41	2.07	0.69	0.69	1.00	1.00
0.40	2.06	0.69	0.69	1.00	1.00
0.39	2.06	0.69	0.69	1.00	1.00
0.38	1.97	0.69	0.69	1.00	1.00
0.37	1.97	0.69	0.69	1.00	1.00
0.36	1.87	0.69	0.69	1.00	1.00
0.35	1.87	0.69	0.69	1.00	1.00
0.34	1.79	0.69	0.69	1.00	1.00
0.33	1.78	0.69	0.69	1.00	1.00
0.32	1.78	0.69	0.69	1.00	1.00
0.31	1.78	0.69	0.69	1.00	1.00
0.30	1.69	0.69	0.69	1.00	1.00
0.29	1.69	0.69	0.69	1.00	1.00
0.28	1.59	0.69	0.69	1.00	1.00
0.27	1.59	0.69	0.69	1.00	1.00
0.26	1.59	0.69	0.69	1.00	1.00
0.25	1.50	0.69	0.69	1.00	1.00
0.24	1.50	0.69	0.69	1.00	1.00
0.23	1.50	0.69	0.69	1.00	1.00
0.22	1.50	0.69	0.69	1.00	1.00
0.21	1.41	0.69	0.69	1.00	1.00
0.20	1.41	0.69	0.69	1.00	1.00
0.19	1.41	0.69	0.69	1.00	1.00
0.18	1.41	0.69	0.69	1.00	1.00
0.17	1.31	0.69	0.69	1.00	1.00
0.16	1.31	0.69	0.69	1.00	1.00
0.15	1.31	0.69	0.69	1.00	1.00
0.14	1.31	0.69	0.69	1.00	1.00
0.13	1.24	0.69	0.69	1.00	1.00
0.12	1.22	0.69	0.69	1.00	1.00
0.11	1.22	0.69	0.69	1.00	1.00
0.10	1.22	0.69	0.69	1.00	1.00
0.09	1.22	0.69	0.69	1.00	1.00
0.08	1.12	0.69	0.69	1.00	1.00
0.07	1.12	0.69	0.69	1.00	1.00
0.06	1.06	0.69	0.69	1.00	1.00
0.05	1.03	0.69	0.69	1.00	1.00
0.04	1.03	0.69	0.69	1.00	1.00
0.03	0.94	0.69	0.69	0.94	0.94
0.02	0.90	0.69	0.69	0.90	0.90
0.01	0.85	0.69	0.69	0.85	0.85

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

July Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	12.74	6.76	3.75	6.76	3.75
0.99	10.12	4.14	1.13	4.14	1.36
0.98	8.62	2.64	1.00	2.64	1.00
0.97	8.40	2.42	1.00	2.42	1.00
0.96	7.98	2.00	1.00	2.00	1.00
0.95	7.84	1.86	1.00	1.86	1.00
0.94	7.56	1.58	1.00	1.58	1.00
0.93	7.15	1.17	1.00	1.17	1.00
0.92	7.14	1.16	1.00	1.16	1.00
0.91	7.00	1.02	1.00	1.02	1.00
0.90	6.99	1.02	1.00	1.02	1.00
0.89	6.86	1.00	1.00	1.00	1.00
0.88	6.79	1.00	1.00	1.00	1.00
0.87	6.69	1.00	1.00	1.00	1.00
0.86	6.58	1.00	1.00	1.00	1.00
0.85	6.44	1.00	1.00	1.00	1.00
0.84	6.30	1.00	1.00	1.00	1.00
0.83	6.30	1.00	1.00	1.00	1.00
0.82	6.19	1.00	1.00	1.00	1.00
0.81	6.16	1.00	1.00	1.00	1.00
0.80	6.02	1.00	1.00	1.00	1.00
0.79	5.88	1.00	1.00	1.00	1.00
0.78	5.88	1.00	1.00	1.00	1.00
0.77	5.74	1.00	1.00	1.00	1.00
0.76	5.74	1.00	1.00	1.00	1.00
0.75	5.60	1.00	1.00	1.00	1.00
0.74	5.60	1.00	1.00	1.00	1.00
0.73	5.46	1.00	1.00	1.00	1.00
0.72	5.46	1.00	1.00	1.00	1.00
0.71	5.32	1.00	1.00	1.00	1.00
0.70	5.18	1.00	1.00	1.00	1.00
0.69	5.18	1.00	1.00	1.00	1.00
0.68	5.04	1.00	1.00	1.00	1.00
0.67	5.04	1.00	1.00	1.00	1.00
0.66	5.04	1.00	1.00	1.00	1.00
0.65	4.92	1.00	1.00	1.00	1.00
0.64	4.90	1.00	1.00	1.00	1.00
0.63	4.90	1.00	1.00	1.00	1.00
0.62	4.76	1.00	1.00	1.00	1.00
0.61	4.76	1.00	1.00	1.00	1.00
0.60	4.76	1.00	1.00	1.00	1.00
0.59	4.76	1.00	1.00	1.00	1.00
0.58	4.62	1.00	1.00	1.00	1.00
0.57	4.55	1.00	1.00	1.00	1.00
0.56	4.45	1.00	1.00	1.00	1.00
0.55	4.34	1.00	1.00	1.00	1.00
0.54	4.20	1.00	1.00	1.00	1.00
0.53	4.15	1.00	1.00	1.00	1.00
0.52	4.06	1.00	1.00	1.00	1.00
0.51	3.95	1.00	1.00	1.00	1.00

July Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	3.92	1.00	1.00	1.00	1.00
0.49	3.78	1.00	1.00	1.00	1.00
0.48	3.78	1.00	1.00	1.00	1.00
0.47	3.69	1.00	1.00	1.00	1.00
0.46	3.64	1.00	1.00	1.00	1.00
0.45	3.50	1.00	1.00	1.00	1.00
0.44	3.39	1.00	1.00	1.00	1.00
0.43	3.36	1.00	1.00	1.00	1.00
0.42	3.22	1.00	1.00	1.00	1.00
0.41	3.10	1.00	1.00	1.00	1.00
0.40	3.08	1.00	1.00	1.00	1.00
0.39	3.08	1.00	1.00	1.00	1.00
0.38	2.94	1.00	1.00	1.00	1.00
0.37	2.94	1.00	1.00	1.00	1.00
0.36	2.80	1.00	1.00	1.00	1.00
0.35	2.80	1.00	1.00	1.00	1.00
0.34	2.68	1.00	1.00	1.00	1.00
0.33	2.66	1.00	1.00	1.00	1.00
0.32	2.66	1.00	1.00	1.00	1.00
0.31	2.66	1.00	1.00	1.00	1.00
0.30	2.52	1.00	1.00	1.00	1.00
0.29	2.52	1.00	1.00	1.00	1.00
0.28	2.38	1.00	1.00	1.00	1.00
0.27	2.38	1.00	1.00	1.00	1.00
0.26	2.38	1.00	1.00	1.00	1.00
0.25	2.24	1.00	1.00	1.00	1.00
0.24	2.24	1.00	1.00	1.00	1.00
0.23	2.24	1.00	1.00	1.00	1.00
0.22	2.24	1.00	1.00	1.00	1.00
0.21	2.10	1.00	1.00	1.00	1.00
0.20	2.10	1.00	1.00	1.00	1.00
0.19	2.10	1.00	1.00	1.00	1.00
0.18	2.10	1.00	1.00	1.00	1.00
0.17	1.96	1.00	1.00	1.00	1.00
0.16	1.96	1.00	1.00	1.00	1.00
0.15	1.96	1.00	1.00	1.00	1.00
0.14	1.96	1.00	1.00	1.00	1.00
0.13	1.85	1.00	1.00	1.00	1.00
0.12	1.82	1.00	1.00	1.00	1.00
0.11	1.82	1.00	1.00	1.00	1.00
0.10	1.82	1.00	1.00	1.00	1.00
0.09	1.82	1.00	1.00	1.00	1.00
0.08	1.68	1.00	1.00	1.00	1.00
0.07	1.68	1.00	1.00	1.00	1.00
0.06	1.58	1.00	1.00	1.00	1.00
0.05	1.54	1.00	1.00	1.00	1.00
0.04	1.54	1.00	1.00	1.00	1.00
0.03	1.40	1.00	1.00	1.00	1.00
0.02	1.35	1.00	1.00	1.00	1.00
0.01	1.27	1.00	1.00	1.00	1.00


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
July
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
July
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

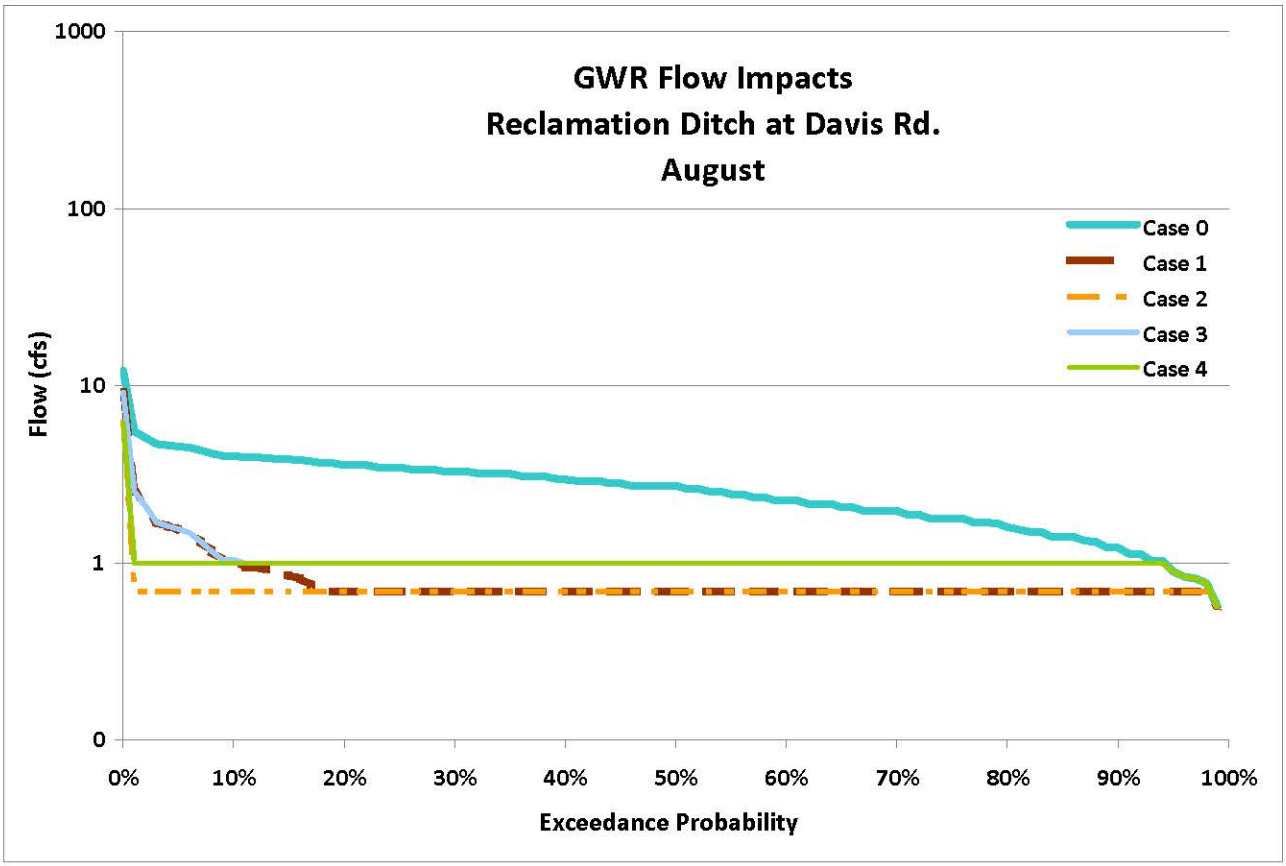
August Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	12.18	9.19	6.18	9.19	6.18
0.99	5.52	2.53	0.69	2.53	1.00
0.98	5.09	2.10	0.69	2.10	1.00
0.97	4.69	1.70	0.69	1.70	1.00
0.96	4.61	1.62	0.69	1.62	1.00
0.95	4.54	1.55	0.69	1.55	1.00
0.94	4.47	1.48	0.69	1.48	1.00
0.93	4.31	1.32	0.69	1.32	1.00
0.92	4.15	1.16	0.69	1.16	1.00
0.91	4.03	1.04	0.69	1.04	1.00
0.90	4.03	1.04	0.69	1.04	1.00
0.89	3.94	0.95	0.69	1.00	1.00
0.88	3.94	0.95	0.69	1.00	1.00
0.87	3.91	0.92	0.69	1.00	1.00
0.86	3.84	0.85	0.69	1.00	1.00
0.85	3.84	0.85	0.69	1.00	1.00
0.84	3.81	0.82	0.69	1.00	1.00
0.83	3.74	0.75	0.69	1.00	1.00
0.82	3.65	0.69	0.69	1.00	1.00
0.81	3.65	0.69	0.69	1.00	1.00
0.80	3.56	0.69	0.69	1.00	1.00
0.79	3.56	0.69	0.69	1.00	1.00
0.78	3.56	0.69	0.69	1.00	1.00
0.77	3.47	0.69	0.69	1.00	1.00
0.76	3.47	0.69	0.69	1.00	1.00
0.75	3.47	0.69	0.69	1.00	1.00
0.74	3.37	0.69	0.69	1.00	1.00
0.73	3.37	0.69	0.69	1.00	1.00
0.72	3.37	0.69	0.69	1.00	1.00
0.71	3.28	0.69	0.69	1.00	1.00
0.70	3.28	0.69	0.69	1.00	1.00
0.69	3.28	0.69	0.69	1.00	1.00
0.68	3.21	0.69	0.69	1.00	1.00
0.67	3.19	0.69	0.69	1.00	1.00
0.66	3.19	0.69	0.69	1.00	1.00
0.65	3.19	0.69	0.69	1.00	1.00
0.64	3.09	0.69	0.69	1.00	1.00
0.63	3.09	0.69	0.69	1.00	1.00
0.62	3.09	0.69	0.69	1.00	1.00
0.61	3.00	0.69	0.69	1.00	1.00
0.60	2.96	0.69	0.69	1.00	1.00
0.59	2.90	0.69	0.69	1.00	1.00
0.58	2.90	0.69	0.69	1.00	1.00
0.57	2.90	0.69	0.69	1.00	1.00
0.56	2.81	0.69	0.69	1.00	1.00
0.55	2.81	0.69	0.69	1.00	1.00
0.54	2.72	0.69	0.69	1.00	1.00
0.53	2.72	0.69	0.69	1.00	1.00
0.52	2.72	0.69	0.69	1.00	1.00
0.51	2.72	0.69	0.69	1.00	1.00

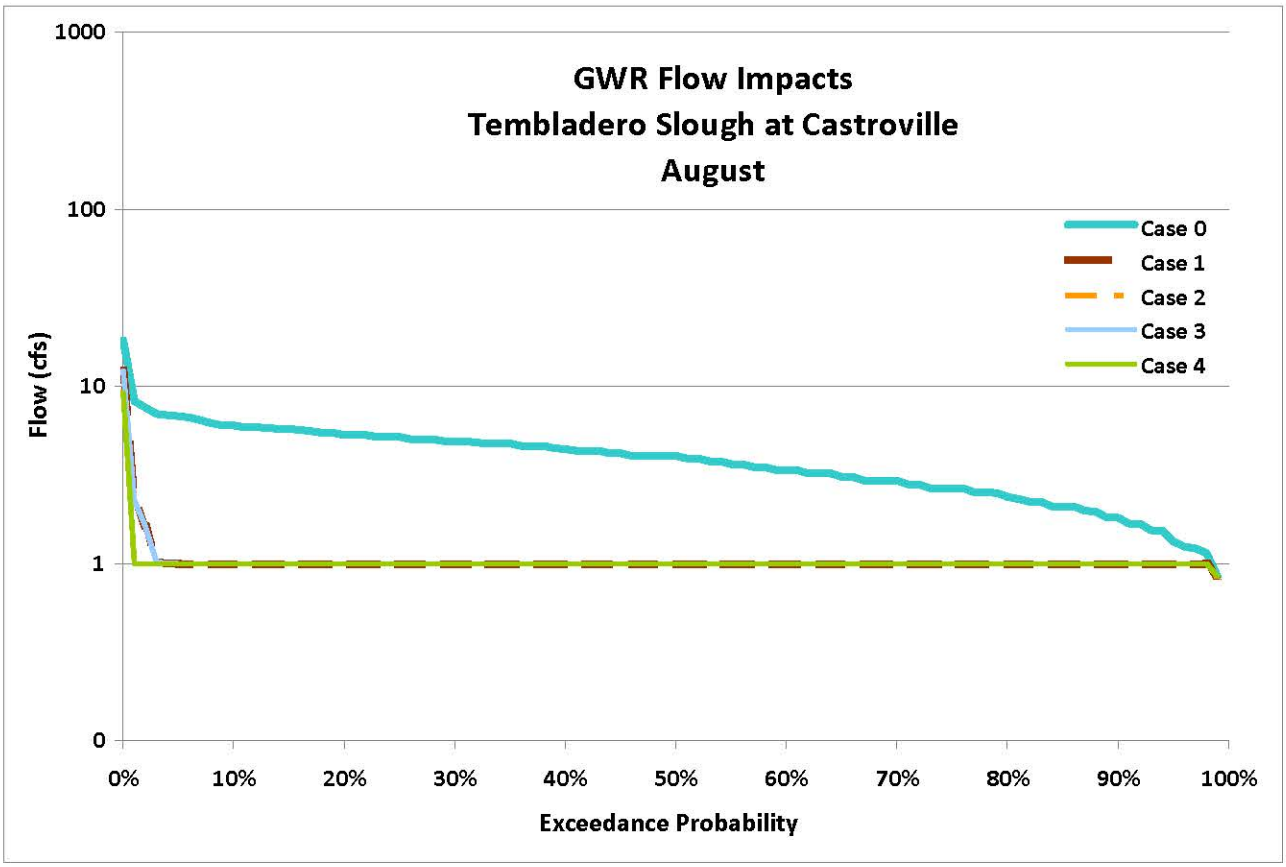
August Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	2.72	0.69	0.69	1.00	1.00
0.49	2.62	0.69	0.69	1.00	1.00
0.48	2.62	0.69	0.69	1.00	1.00
0.47	2.53	0.69	0.69	1.00	1.00
0.46	2.53	0.69	0.69	1.00	1.00
0.45	2.44	0.69	0.69	1.00	1.00
0.44	2.44	0.69	0.69	1.00	1.00
0.43	2.34	0.69	0.69	1.00	1.00
0.42	2.34	0.69	0.69	1.00	1.00
0.41	2.26	0.69	0.69	1.00	1.00
0.40	2.25	0.69	0.69	1.00	1.00
0.39	2.25	0.69	0.69	1.00	1.00
0.38	2.16	0.69	0.69	1.00	1.00
0.37	2.16	0.69	0.69	1.00	1.00
0.36	2.16	0.69	0.69	1.00	1.00
0.35	2.06	0.69	0.69	1.00	1.00
0.34	2.06	0.69	0.69	1.00	1.00
0.33	1.97	0.69	0.69	1.00	1.00
0.32	1.97	0.69	0.69	1.00	1.00
0.31	1.97	0.69	0.69	1.00	1.00
0.30	1.97	0.69	0.69	1.00	1.00
0.29	1.87	0.69	0.69	1.00	1.00
0.28	1.87	0.69	0.69	1.00	1.00
0.27	1.78	0.69	0.69	1.00	1.00
0.26	1.78	0.69	0.69	1.00	1.00
0.25	1.78	0.69	0.69	1.00	1.00
0.24	1.78	0.69	0.69	1.00	1.00
0.23	1.69	0.69	0.69	1.00	1.00
0.22	1.69	0.69	0.69	1.00	1.00
0.21	1.68	0.69	0.69	1.00	1.00
0.20	1.59	0.69	0.69	1.00	1.00
0.19	1.55	0.69	0.69	1.00	1.00
0.18	1.50	0.69	0.69	1.00	1.00
0.17	1.50	0.69	0.69	1.00	1.00
0.16	1.41	0.69	0.69	1.00	1.00
0.15	1.41	0.69	0.69	1.00	1.00
0.14	1.41	0.69	0.69	1.00	1.00
0.13	1.33	0.69	0.69	1.00	1.00
0.12	1.31	0.69	0.69	1.00	1.00
0.11	1.22	0.69	0.69	1.00	1.00
0.10	1.22	0.69	0.69	1.00	1.00
0.09	1.12	0.69	0.69	1.00	1.00
0.08	1.12	0.69	0.69	1.00	1.00
0.07	1.03	0.69	0.69	1.00	1.00
0.06	1.03	0.69	0.69	1.00	1.00
0.05	0.90	0.69	0.69	0.90	0.90
0.04	0.83	0.69	0.69	0.83	0.83
0.03	0.82	0.69	0.69	0.82	0.82
0.02	0.77	0.69	0.69	0.77	0.77
0.01	0.57	0.57	0.57	0.57	0.57

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

August Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	18.20	12.22	9.21	12.22	9.21
0.99	8.24	2.26	1.00	2.26	1.00
0.98	7.60	1.62	1.00	1.62	1.00
0.97	7.00	1.02	1.00	1.02	1.00
0.96	6.88	1.00	1.00	1.00	1.00
0.95	6.78	1.00	1.00	1.00	1.00
0.94	6.68	1.00	1.00	1.00	1.00
0.93	6.44	1.00	1.00	1.00	1.00
0.92	6.20	1.00	1.00	1.00	1.00
0.91	6.02	1.00	1.00	1.00	1.00
0.90	6.02	1.00	1.00	1.00	1.00
0.89	5.88	1.00	1.00	1.00	1.00
0.88	5.88	1.00	1.00	1.00	1.00
0.87	5.85	1.00	1.00	1.00	1.00
0.86	5.74	1.00	1.00	1.00	1.00
0.85	5.74	1.00	1.00	1.00	1.00
0.84	5.69	1.00	1.00	1.00	1.00
0.83	5.59	1.00	1.00	1.00	1.00
0.82	5.46	1.00	1.00	1.00	1.00
0.81	5.46	1.00	1.00	1.00	1.00
0.80	5.32	1.00	1.00	1.00	1.00
0.79	5.32	1.00	1.00	1.00	1.00
0.78	5.32	1.00	1.00	1.00	1.00
0.77	5.18	1.00	1.00	1.00	1.00
0.76	5.18	1.00	1.00	1.00	1.00
0.75	5.18	1.00	1.00	1.00	1.00
0.74	5.04	1.00	1.00	1.00	1.00
0.73	5.04	1.00	1.00	1.00	1.00
0.72	5.04	1.00	1.00	1.00	1.00
0.71	4.90	1.00	1.00	1.00	1.00
0.70	4.90	1.00	1.00	1.00	1.00
0.69	4.90	1.00	1.00	1.00	1.00
0.68	4.80	1.00	1.00	1.00	1.00
0.67	4.76	1.00	1.00	1.00	1.00
0.66	4.76	1.00	1.00	1.00	1.00
0.65	4.76	1.00	1.00	1.00	1.00
0.64	4.62	1.00	1.00	1.00	1.00
0.63	4.62	1.00	1.00	1.00	1.00
0.62	4.62	1.00	1.00	1.00	1.00
0.61	4.48	1.00	1.00	1.00	1.00
0.60	4.42	1.00	1.00	1.00	1.00
0.59	4.34	1.00	1.00	1.00	1.00
0.58	4.34	1.00	1.00	1.00	1.00
0.57	4.34	1.00	1.00	1.00	1.00
0.56	4.20	1.00	1.00	1.00	1.00
0.55	4.20	1.00	1.00	1.00	1.00
0.54	4.06	1.00	1.00	1.00	1.00
0.53	4.06	1.00	1.00	1.00	1.00
0.52	4.06	1.00	1.00	1.00	1.00
0.51	4.06	1.00	1.00	1.00	1.00

August Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	4.06	1.00	1.00	1.00	1.00
0.49	3.92	1.00	1.00	1.00	1.00
0.48	3.92	1.00	1.00	1.00	1.00
0.47	3.78	1.00	1.00	1.00	1.00
0.46	3.78	1.00	1.00	1.00	1.00
0.45	3.64	1.00	1.00	1.00	1.00
0.44	3.64	1.00	1.00	1.00	1.00
0.43	3.50	1.00	1.00	1.00	1.00
0.42	3.50	1.00	1.00	1.00	1.00
0.41	3.38	1.00	1.00	1.00	1.00
0.40	3.36	1.00	1.00	1.00	1.00
0.39	3.36	1.00	1.00	1.00	1.00
0.38	3.22	1.00	1.00	1.00	1.00
0.37	3.22	1.00	1.00	1.00	1.00
0.36	3.22	1.00	1.00	1.00	1.00
0.35	3.08	1.00	1.00	1.00	1.00
0.34	3.08	1.00	1.00	1.00	1.00
0.33	2.94	1.00	1.00	1.00	1.00
0.32	2.94	1.00	1.00	1.00	1.00
0.31	2.94	1.00	1.00	1.00	1.00
0.30	2.94	1.00	1.00	1.00	1.00
0.29	2.80	1.00	1.00	1.00	1.00
0.28	2.80	1.00	1.00	1.00	1.00
0.27	2.66	1.00	1.00	1.00	1.00
0.26	2.66	1.00	1.00	1.00	1.00
0.25	2.66	1.00	1.00	1.00	1.00
0.24	2.66	1.00	1.00	1.00	1.00
0.23	2.52	1.00	1.00	1.00	1.00
0.22	2.52	1.00	1.00	1.00	1.00
0.21	2.51	1.00	1.00	1.00	1.00
0.20	2.38	1.00	1.00	1.00	1.00
0.19	2.31	1.00	1.00	1.00	1.00
0.18	2.24	1.00	1.00	1.00	1.00
0.17	2.24	1.00	1.00	1.00	1.00
0.16	2.10	1.00	1.00	1.00	1.00
0.15	2.10	1.00	1.00	1.00	1.00
0.14	2.10	1.00	1.00	1.00	1.00
0.13	1.99	1.00	1.00	1.00	1.00
0.12	1.96	1.00	1.00	1.00	1.00
0.11	1.82	1.00	1.00	1.00	1.00
0.10	1.82	1.00	1.00	1.00	1.00
0.09	1.68	1.00	1.00	1.00	1.00
0.08	1.68	1.00	1.00	1.00	1.00
0.07	1.54	1.00	1.00	1.00	1.00
0.06	1.54	1.00	1.00	1.00	1.00
0.05	1.34	1.00	1.00	1.00	1.00
0.04	1.25	1.00	1.00	1.00	1.00
0.03	1.22	1.00	1.00	1.00	1.00
0.02	1.15	1.00	1.00	1.00	1.00
0.01	0.85	0.85	0.85	0.85	0.85


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
August
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
August
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

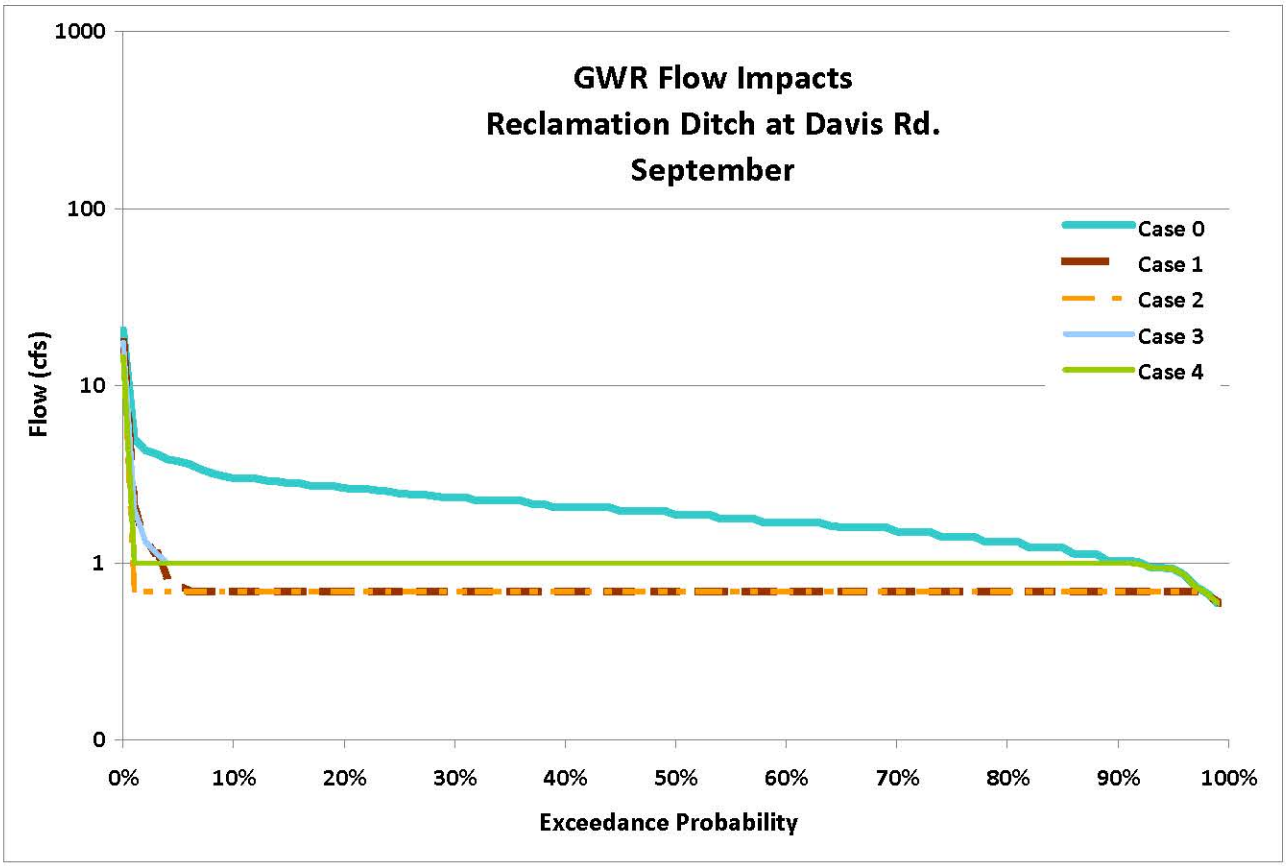
September Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	20.61	17.62	14.61	17.62	14.61
0.99	4.99	2.00	0.69	2.00	1.00
0.98	4.31	1.32	0.69	1.32	1.00
0.97	4.12	1.13	0.69	1.13	1.00
0.96	3.84	0.85	0.69	1.00	1.00
0.95	3.75	0.76	0.69	1.00	1.00
0.94	3.60	0.69	0.69	1.00	1.00
0.93	3.37	0.69	0.69	1.00	1.00
0.92	3.21	0.69	0.69	1.00	1.00
0.91	3.09	0.69	0.69	1.00	1.00
0.90	3.01	0.69	0.69	1.00	1.00
0.89	3.00	0.69	0.69	1.00	1.00
0.88	3.00	0.69	0.69	1.00	1.00
0.87	2.90	0.69	0.69	1.00	1.00
0.86	2.88	0.69	0.69	1.00	1.00
0.85	2.81	0.69	0.69	1.00	1.00
0.84	2.81	0.69	0.69	1.00	1.00
0.83	2.72	0.69	0.69	1.00	1.00
0.82	2.72	0.69	0.69	1.00	1.00
0.81	2.72	0.69	0.69	1.00	1.00
0.80	2.64	0.69	0.69	1.00	1.00
0.79	2.62	0.69	0.69	1.00	1.00
0.78	2.62	0.69	0.69	1.00	1.00
0.77	2.57	0.69	0.69	1.00	1.00
0.76	2.53	0.69	0.69	1.00	1.00
0.75	2.46	0.69	0.69	1.00	1.00
0.74	2.44	0.69	0.69	1.00	1.00
0.73	2.44	0.69	0.69	1.00	1.00
0.72	2.39	0.69	0.69	1.00	1.00
0.71	2.34	0.69	0.69	1.00	1.00
0.70	2.34	0.69	0.69	1.00	1.00
0.69	2.34	0.69	0.69	1.00	1.00
0.68	2.25	0.69	0.69	1.00	1.00
0.67	2.25	0.69	0.69	1.00	1.00
0.66	2.25	0.69	0.69	1.00	1.00
0.65	2.25	0.69	0.69	1.00	1.00
0.64	2.25	0.69	0.69	1.00	1.00
0.63	2.16	0.69	0.69	1.00	1.00
0.62	2.16	0.69	0.69	1.00	1.00
0.61	2.06	0.69	0.69	1.00	1.00
0.60	2.06	0.69	0.69	1.00	1.00
0.59	2.06	0.69	0.69	1.00	1.00
0.58	2.06	0.69	0.69	1.00	1.00
0.57	2.06	0.69	0.69	1.00	1.00
0.56	2.06	0.69	0.69	1.00	1.00
0.55	1.97	0.69	0.69	1.00	1.00
0.54	1.97	0.69	0.69	1.00	1.00
0.53	1.97	0.69	0.69	1.00	1.00
0.52	1.97	0.69	0.69	1.00	1.00
0.51	1.97	0.69	0.69	1.00	1.00

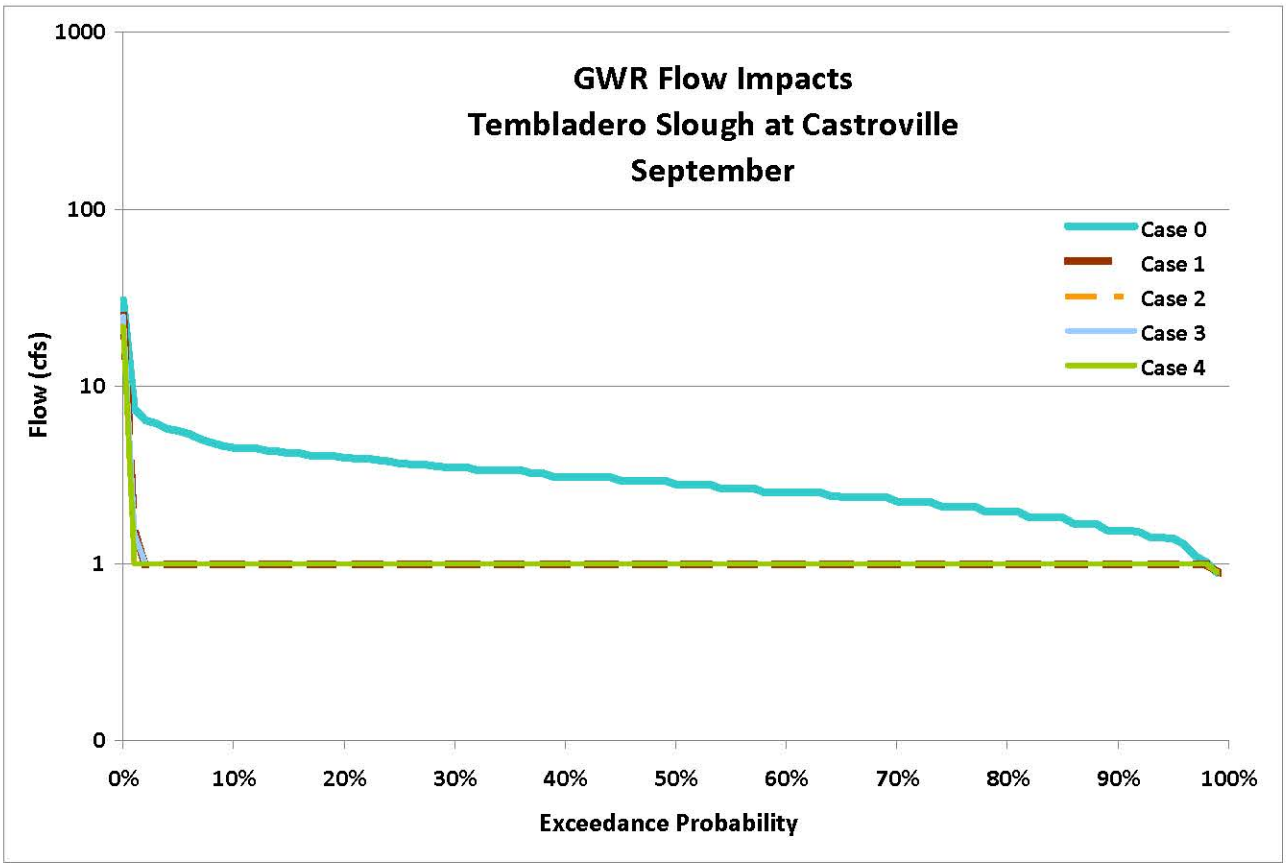
September Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	1.87	0.69	0.69	1.00	1.00
0.49	1.87	0.69	0.69	1.00	1.00
0.48	1.87	0.69	0.69	1.00	1.00
0.47	1.87	0.69	0.69	1.00	1.00
0.46	1.78	0.69	0.69	1.00	1.00
0.45	1.78	0.69	0.69	1.00	1.00
0.44	1.78	0.69	0.69	1.00	1.00
0.43	1.78	0.69	0.69	1.00	1.00
0.42	1.69	0.69	0.69	1.00	1.00
0.41	1.69	0.69	0.69	1.00	1.00
0.40	1.69	0.69	0.69	1.00	1.00
0.39	1.69	0.69	0.69	1.00	1.00
0.38	1.69	0.69	0.69	1.00	1.00
0.37	1.69	0.69	0.69	1.00	1.00
0.36	1.62	0.69	0.69	1.00	1.00
0.35	1.59	0.69	0.69	1.00	1.00
0.34	1.59	0.69	0.69	1.00	1.00
0.33	1.59	0.69	0.69	1.00	1.00
0.32	1.59	0.69	0.69	1.00	1.00
0.31	1.59	0.69	0.69	1.00	1.00
0.30	1.50	0.69	0.69	1.00	1.00
0.29	1.50	0.69	0.69	1.00	1.00
0.28	1.50	0.69	0.69	1.00	1.00
0.27	1.49	0.69	0.69	1.00	1.00
0.26	1.41	0.69	0.69	1.00	1.00
0.25	1.41	0.69	0.69	1.00	1.00
0.24	1.41	0.69	0.69	1.00	1.00
0.23	1.41	0.69	0.69	1.00	1.00
0.22	1.31	0.69	0.69	1.00	1.00
0.21	1.31	0.69	0.69	1.00	1.00
0.20	1.31	0.69	0.69	1.00	1.00
0.19	1.31	0.69	0.69	1.00	1.00
0.18	1.22	0.69	0.69	1.00	1.00
0.17	1.22	0.69	0.69	1.00	1.00
0.16	1.22	0.69	0.69	1.00	1.00
0.15	1.22	0.69	0.69	1.00	1.00
0.14	1.12	0.69	0.69	1.00	1.00
0.13	1.12	0.69	0.69	1.00	1.00
0.12	1.12	0.69	0.69	1.00	1.00
0.11	1.03	0.69	0.69	1.00	1.00
0.10	1.03	0.69	0.69	1.00	1.00
0.09	1.03	0.69	0.69	1.00	1.00
0.08	1.00	0.69	0.69	0.98	0.98
0.07	0.94	0.69	0.69	0.94	0.94
0.06	0.94	0.69	0.69	0.94	0.94
0.05	0.93	0.69	0.69	0.93	0.93
0.04	0.86	0.69	0.69	0.86	0.86
0.03	0.74	0.69	0.69	0.74	0.74
0.02	0.68	0.68	0.68	0.68	0.68
0.01	0.59	0.59	0.59	0.59	0.59

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

September Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	30.80	24.82	21.81	24.82	21.81
0.99	7.45	1.47	1.00	1.47	1.00
0.98	6.44	1.00	1.00	1.00	1.00
0.97	6.16	1.00	1.00	1.00	1.00
0.96	5.74	1.00	1.00	1.00	1.00
0.95	5.60	1.00	1.00	1.00	1.00
0.94	5.38	1.00	1.00	1.00	1.00
0.93	5.04	1.00	1.00	1.00	1.00
0.92	4.80	1.00	1.00	1.00	1.00
0.91	4.62	1.00	1.00	1.00	1.00
0.90	4.49	1.00	1.00	1.00	1.00
0.89	4.48	1.00	1.00	1.00	1.00
0.88	4.48	1.00	1.00	1.00	1.00
0.87	4.34	1.00	1.00	1.00	1.00
0.86	4.30	1.00	1.00	1.00	1.00
0.85	4.20	1.00	1.00	1.00	1.00
0.84	4.20	1.00	1.00	1.00	1.00
0.83	4.06	1.00	1.00	1.00	1.00
0.82	4.06	1.00	1.00	1.00	1.00
0.81	4.06	1.00	1.00	1.00	1.00
0.80	3.95	1.00	1.00	1.00	1.00
0.79	3.92	1.00	1.00	1.00	1.00
0.78	3.92	1.00	1.00	1.00	1.00
0.77	3.84	1.00	1.00	1.00	1.00
0.76	3.78	1.00	1.00	1.00	1.00
0.75	3.68	1.00	1.00	1.00	1.00
0.74	3.64	1.00	1.00	1.00	1.00
0.73	3.64	1.00	1.00	1.00	1.00
0.72	3.57	1.00	1.00	1.00	1.00
0.71	3.50	1.00	1.00	1.00	1.00
0.70	3.50	1.00	1.00	1.00	1.00
0.69	3.50	1.00	1.00	1.00	1.00
0.68	3.36	1.00	1.00	1.00	1.00
0.67	3.36	1.00	1.00	1.00	1.00
0.66	3.36	1.00	1.00	1.00	1.00
0.65	3.36	1.00	1.00	1.00	1.00
0.64	3.36	1.00	1.00	1.00	1.00
0.63	3.22	1.00	1.00	1.00	1.00
0.62	3.22	1.00	1.00	1.00	1.00
0.61	3.08	1.00	1.00	1.00	1.00
0.60	3.08	1.00	1.00	1.00	1.00
0.59	3.08	1.00	1.00	1.00	1.00
0.58	3.08	1.00	1.00	1.00	1.00
0.57	3.08	1.00	1.00	1.00	1.00
0.56	3.08	1.00	1.00	1.00	1.00
0.55	2.94	1.00	1.00	1.00	1.00
0.54	2.94	1.00	1.00	1.00	1.00
0.53	2.94	1.00	1.00	1.00	1.00
0.52	2.94	1.00	1.00	1.00	1.00
0.51	2.94	1.00	1.00	1.00	1.00

September Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	2.80	1.00	1.00	1.00	1.00
0.49	2.80	1.00	1.00	1.00	1.00
0.48	2.80	1.00	1.00	1.00	1.00
0.47	2.80	1.00	1.00	1.00	1.00
0.46	2.66	1.00	1.00	1.00	1.00
0.45	2.66	1.00	1.00	1.00	1.00
0.44	2.66	1.00	1.00	1.00	1.00
0.43	2.66	1.00	1.00	1.00	1.00
0.42	2.52	1.00	1.00	1.00	1.00
0.41	2.52	1.00	1.00	1.00	1.00
0.40	2.52	1.00	1.00	1.00	1.00
0.39	2.52	1.00	1.00	1.00	1.00
0.38	2.52	1.00	1.00	1.00	1.00
0.37	2.52	1.00	1.00	1.00	1.00
0.36	2.41	1.00	1.00	1.00	1.00
0.35	2.38	1.00	1.00	1.00	1.00
0.34	2.38	1.00	1.00	1.00	1.00
0.33	2.38	1.00	1.00	1.00	1.00
0.32	2.38	1.00	1.00	1.00	1.00
0.31	2.38	1.00	1.00	1.00	1.00
0.30	2.24	1.00	1.00	1.00	1.00
0.29	2.24	1.00	1.00	1.00	1.00
0.28	2.24	1.00	1.00	1.00	1.00
0.27	2.23	1.00	1.00	1.00	1.00
0.26	2.10	1.00	1.00	1.00	1.00
0.25	2.10	1.00	1.00	1.00	1.00
0.24	2.10	1.00	1.00	1.00	1.00
0.23	2.10	1.00	1.00	1.00	1.00
0.22	1.96	1.00	1.00	1.00	1.00
0.21	1.96	1.00	1.00	1.00	1.00
0.20	1.96	1.00	1.00	1.00	1.00
0.19	1.96	1.00	1.00	1.00	1.00
0.18	1.82	1.00	1.00	1.00	1.00
0.17	1.82	1.00	1.00	1.00	1.00
0.16	1.82	1.00	1.00	1.00	1.00
0.15	1.82	1.00	1.00	1.00	1.00
0.14	1.68	1.00	1.00	1.00	1.00
0.13	1.68	1.00	1.00	1.00	1.00
0.12	1.68	1.00	1.00	1.00	1.00
0.11	1.54	1.00	1.00	1.00	1.00
0.10	1.54	1.00	1.00	1.00	1.00
0.09	1.54	1.00	1.00	1.00	1.00
0.08	1.50	1.00	1.00	1.00	1.00
0.07	1.40	1.00	1.00	1.00	1.00
0.06	1.40	1.00	1.00	1.00	1.00
0.05	1.38	1.00	1.00	1.00	1.00
0.04	1.28	1.00	1.00	1.00	1.00
0.03	1.10	1.00	1.00	1.00	1.00
0.02	1.01	1.00	1.00	1.00	1.00
0.01	0.89	0.89	0.89	0.89	0.89


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
September
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
September
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

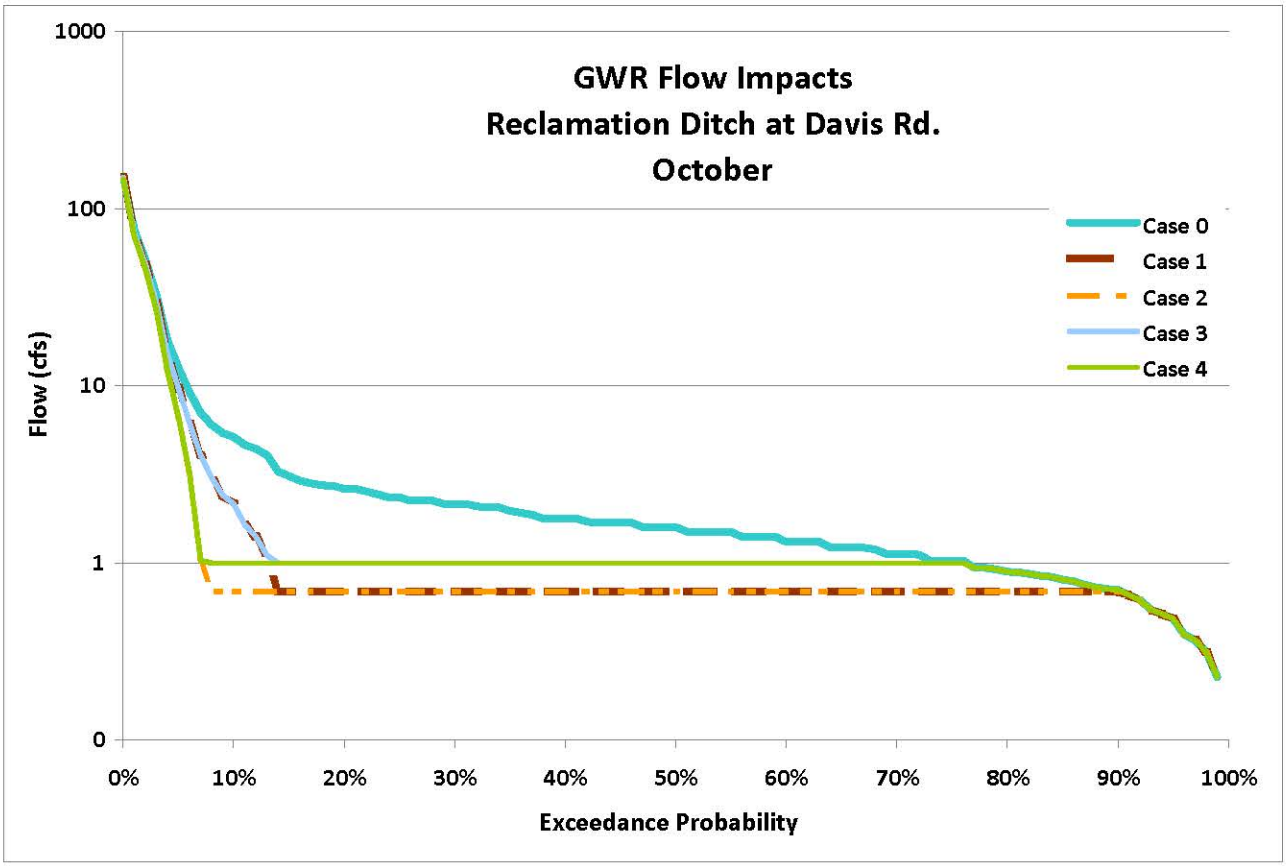
October Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	152.73	149.74	146.73	149.74	146.73
0.99	75.23	72.24	69.23	72.24	69.23
0.98	51.65	48.66	45.65	48.66	45.65
0.97	32.31	29.32	26.31	29.32	26.31
0.96	18.10	15.11	12.10	15.11	12.10
0.95	12.60	9.61	6.60	9.61	6.60
0.94	9.20	6.21	3.20	6.21	3.20
0.93	7.03	4.04	1.03	4.04	1.03
0.92	6.02	3.03	0.69	3.03	1.00
0.91	5.40	2.41	0.69	2.41	1.00
0.90	5.14	2.15	0.69	2.15	1.00
0.89	4.63	1.64	0.69	1.64	1.00
0.88	4.40	1.41	0.69	1.41	1.00
0.87	4.08	1.09	0.69	1.10	1.00
0.86	3.28	0.69	0.69	1.00	1.00
0.85	3.09	0.69	0.69	1.00	1.00
0.84	2.90	0.69	0.69	1.00	1.00
0.83	2.81	0.69	0.69	1.00	1.00
0.82	2.74	0.69	0.69	1.00	1.00
0.81	2.72	0.69	0.69	1.00	1.00
0.80	2.62	0.69	0.69	1.00	1.00
0.79	2.62	0.69	0.69	1.00	1.00
0.78	2.53	0.69	0.69	1.00	1.00
0.77	2.44	0.69	0.69	1.00	1.00
0.76	2.34	0.69	0.69	1.00	1.00
0.75	2.34	0.69	0.69	1.00	1.00
0.74	2.25	0.69	0.69	1.00	1.00
0.73	2.25	0.69	0.69	1.00	1.00
0.72	2.25	0.69	0.69	1.00	1.00
0.71	2.16	0.69	0.69	1.00	1.00
0.70	2.16	0.69	0.69	1.00	1.00
0.69	2.16	0.69	0.69	1.00	1.00
0.68	2.09	0.69	0.69	1.00	1.00
0.67	2.06	0.69	0.69	1.00	1.00
0.66	2.06	0.69	0.69	1.00	1.00
0.65	1.97	0.69	0.69	1.00	1.00
0.64	1.92	0.69	0.69	1.00	1.00
0.63	1.87	0.69	0.69	1.00	1.00
0.62	1.78	0.69	0.69	1.00	1.00
0.61	1.78	0.69	0.69	1.00	1.00
0.60	1.78	0.69	0.69	1.00	1.00
0.59	1.78	0.69	0.69	1.00	1.00
0.58	1.70	0.69	0.69	1.00	1.00
0.57	1.69	0.69	0.69	1.00	1.00
0.56	1.69	0.69	0.69	1.00	1.00
0.55	1.69	0.69	0.69	1.00	1.00
0.54	1.69	0.69	0.69	1.00	1.00
0.53	1.59	0.69	0.69	1.00	1.00
0.52	1.59	0.69	0.69	1.00	1.00
0.51	1.59	0.69	0.69	1.00	1.00

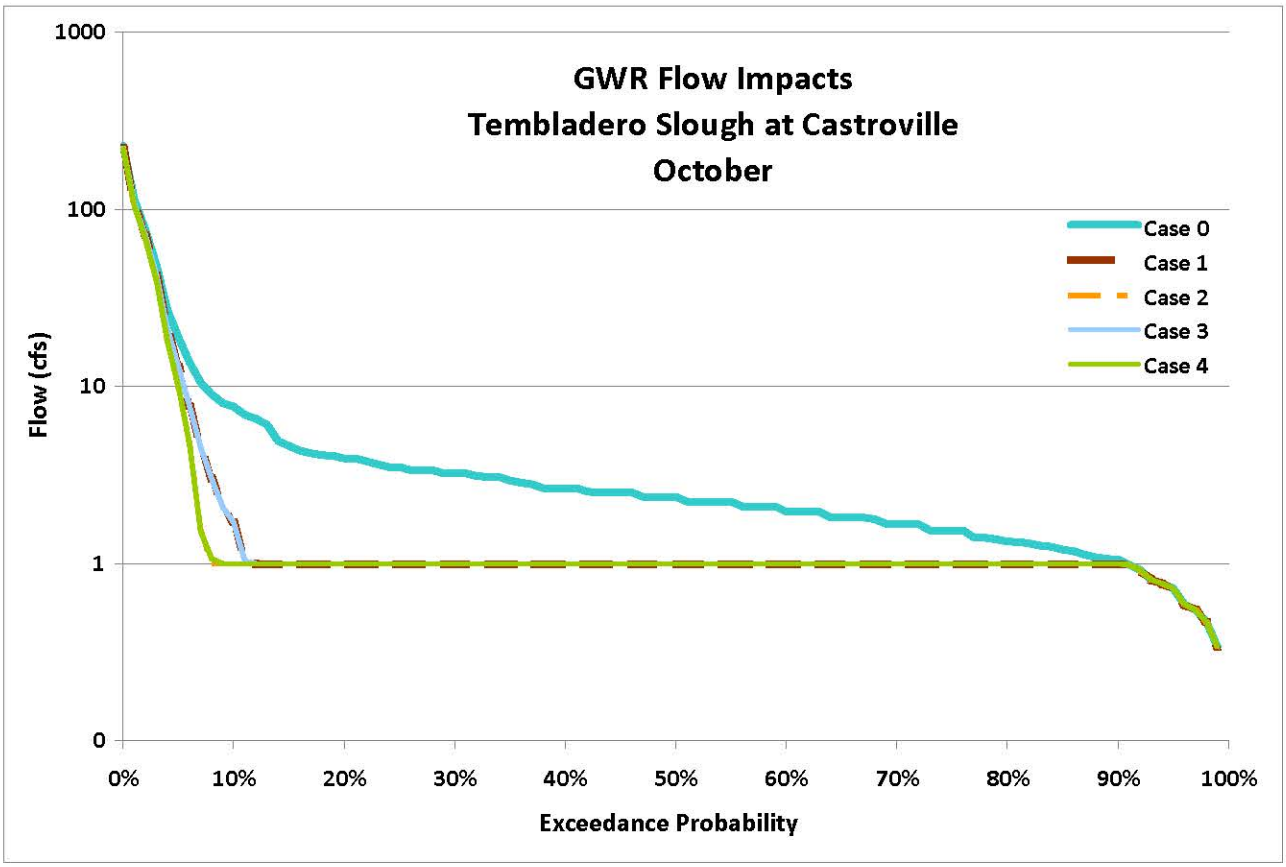
October Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	1.59	0.69	0.69	1.00	1.00
0.49	1.50	0.69	0.69	1.00	1.00
0.48	1.50	0.69	0.69	1.00	1.00
0.47	1.50	0.69	0.69	1.00	1.00
0.46	1.50	0.69	0.69	1.00	1.00
0.45	1.49	0.69	0.69	1.00	1.00
0.44	1.41	0.69	0.69	1.00	1.00
0.43	1.41	0.69	0.69	1.00	1.00
0.42	1.41	0.69	0.69	1.00	1.00
0.41	1.41	0.69	0.69	1.00	1.00
0.40	1.31	0.69	0.69	1.00	1.00
0.39	1.31	0.69	0.69	1.00	1.00
0.38	1.31	0.69	0.69	1.00	1.00
0.37	1.31	0.69	0.69	1.00	1.00
0.36	1.22	0.69	0.69	1.00	1.00
0.35	1.22	0.69	0.69	1.00	1.00
0.34	1.22	0.69	0.69	1.00	1.00
0.33	1.22	0.69	0.69	1.00	1.00
0.32	1.19	0.69	0.69	1.00	1.00
0.31	1.12	0.69	0.69	1.00	1.00
0.30	1.12	0.69	0.69	1.00	1.00
0.29	1.12	0.69	0.69	1.00	1.00
0.28	1.11	0.69	0.69	1.00	1.00
0.27	1.03	0.69	0.69	1.00	1.00
0.26	1.03	0.69	0.69	1.00	1.00
0.25	1.03	0.69	0.69	1.00	1.00
0.24	1.03	0.69	0.69	1.00	1.00
0.23	0.94	0.69	0.69	0.94	0.94
0.22	0.94	0.69	0.69	0.94	0.94
0.21	0.92	0.69	0.69	0.92	0.92
0.20	0.89	0.69	0.69	0.89	0.89
0.19	0.89	0.69	0.69	0.89	0.89
0.18	0.87	0.69	0.69	0.87	0.87
0.17	0.84	0.69	0.69	0.84	0.84
0.16	0.83	0.69	0.69	0.83	0.83
0.15	0.80	0.69	0.69	0.80	0.80
0.14	0.79	0.69	0.69	0.79	0.79
0.13	0.75	0.69	0.69	0.75	0.75
0.12	0.73	0.69	0.69	0.73	0.73
0.11	0.71	0.69	0.69	0.71	0.71
0.10	0.70	0.69	0.69	0.70	0.70
0.09	0.66	0.66	0.66	0.66	0.66
0.08	0.62	0.62	0.62	0.62	0.62
0.07	0.54	0.54	0.54	0.54	0.54
0.06	0.52	0.52	0.52	0.52	0.52
0.05	0.48	0.48	0.48	0.48	0.48
0.04	0.39	0.39	0.39	0.39	0.39
0.03	0.37	0.37	0.37	0.37	0.37
0.02	0.31	0.31	0.31	0.31	0.31
0.01	0.23	0.23	0.23	0.23	0.23

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

October Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	228.20	222.22	219.21	222.22	219.21
0.99	112.41	106.43	103.42	106.43	103.42
0.98	77.17	71.19	68.18	71.19	68.18
0.97	48.27	42.29	39.28	42.29	39.28
0.96	27.05	21.07	18.06	21.07	18.06
0.95	18.83	12.85	9.84	12.85	9.84
0.94	13.75	7.77	4.76	7.77	4.76
0.93	10.51	4.53	1.52	4.53	1.52
0.92	8.99	3.01	1.00	3.01	1.07
0.91	8.07	2.09	1.00	2.09	1.00
0.90	7.69	1.71	1.00	1.71	1.00
0.89	6.91	1.03	1.00	1.03	1.00
0.88	6.57	1.00	1.00	1.00	1.00
0.87	6.10	1.00	1.00	1.00	1.00
0.86	4.90	1.00	1.00	1.00	1.00
0.85	4.62	1.00	1.00	1.00	1.00
0.84	4.34	1.00	1.00	1.00	1.00
0.83	4.20	1.00	1.00	1.00	1.00
0.82	4.09	1.00	1.00	1.00	1.00
0.81	4.06	1.00	1.00	1.00	1.00
0.80	3.92	1.00	1.00	1.00	1.00
0.79	3.92	1.00	1.00	1.00	1.00
0.78	3.78	1.00	1.00	1.00	1.00
0.77	3.64	1.00	1.00	1.00	1.00
0.76	3.50	1.00	1.00	1.00	1.00
0.75	3.50	1.00	1.00	1.00	1.00
0.74	3.36	1.00	1.00	1.00	1.00
0.73	3.36	1.00	1.00	1.00	1.00
0.72	3.36	1.00	1.00	1.00	1.00
0.71	3.22	1.00	1.00	1.00	1.00
0.70	3.22	1.00	1.00	1.00	1.00
0.69	3.22	1.00	1.00	1.00	1.00
0.68	3.12	1.00	1.00	1.00	1.00
0.67	3.08	1.00	1.00	1.00	1.00
0.66	3.08	1.00	1.00	1.00	1.00
0.65	2.94	1.00	1.00	1.00	1.00
0.64	2.86	1.00	1.00	1.00	1.00
0.63	2.80	1.00	1.00	1.00	1.00
0.62	2.66	1.00	1.00	1.00	1.00
0.61	2.66	1.00	1.00	1.00	1.00
0.60	2.66	1.00	1.00	1.00	1.00
0.59	2.66	1.00	1.00	1.00	1.00
0.58	2.55	1.00	1.00	1.00	1.00
0.57	2.52	1.00	1.00	1.00	1.00
0.56	2.52	1.00	1.00	1.00	1.00
0.55	2.52	1.00	1.00	1.00	1.00
0.54	2.52	1.00	1.00	1.00	1.00
0.53	2.38	1.00	1.00	1.00	1.00
0.52	2.38	1.00	1.00	1.00	1.00
0.51	2.38	1.00	1.00	1.00	1.00

October Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	2.38	1.00	1.00	1.00	1.00
0.49	2.24	1.00	1.00	1.00	1.00
0.48	2.24	1.00	1.00	1.00	1.00
0.47	2.24	1.00	1.00	1.00	1.00
0.46	2.24	1.00	1.00	1.00	1.00
0.45	2.23	1.00	1.00	1.00	1.00
0.44	2.10	1.00	1.00	1.00	1.00
0.43	2.10	1.00	1.00	1.00	1.00
0.42	2.10	1.00	1.00	1.00	1.00
0.41	2.10	1.00	1.00	1.00	1.00
0.40	1.96	1.00	1.00	1.00	1.00
0.39	1.96	1.00	1.00	1.00	1.00
0.38	1.96	1.00	1.00	1.00	1.00
0.37	1.96	1.00	1.00	1.00	1.00
0.36	1.82	1.00	1.00	1.00	1.00
0.35	1.82	1.00	1.00	1.00	1.00
0.34	1.82	1.00	1.00	1.00	1.00
0.33	1.82	1.00	1.00	1.00	1.00
0.32	1.78	1.00	1.00	1.00	1.00
0.31	1.68	1.00	1.00	1.00	1.00
0.30	1.68	1.00	1.00	1.00	1.00
0.29	1.68	1.00	1.00	1.00	1.00
0.28	1.66	1.00	1.00	1.00	1.00
0.27	1.54	1.00	1.00	1.00	1.00
0.26	1.54	1.00	1.00	1.00	1.00
0.25	1.54	1.00	1.00	1.00	1.00
0.24	1.54	1.00	1.00	1.00	1.00
0.23	1.40	1.00	1.00	1.00	1.00
0.22	1.40	1.00	1.00	1.00	1.00
0.21	1.37	1.00	1.00	1.00	1.00
0.20	1.33	1.00	1.00	1.00	1.00
0.19	1.32	1.00	1.00	1.00	1.00
0.18	1.30	1.00	1.00	1.00	1.00
0.17	1.26	1.00	1.00	1.00	1.00
0.16	1.25	1.00	1.00	1.00	1.00
0.15	1.20	1.00	1.00	1.00	1.00
0.14	1.18	1.00	1.00	1.00	1.00
0.13	1.12	1.00	1.00	1.00	1.00
0.12	1.09	1.00	1.00	1.00	1.00
0.11	1.06	1.00	1.00	1.00	1.00
0.10	1.05	1.00	1.00	1.00	1.00
0.09	0.99	0.99	0.99	0.99	0.99
0.08	0.92	0.92	0.92	0.92	0.92
0.07	0.81	0.81	0.81	0.81	0.81
0.06	0.77	0.77	0.77	0.77	0.77
0.05	0.72	0.72	0.72	0.72	0.72
0.04	0.59	0.59	0.59	0.59	0.59
0.03	0.55	0.55	0.55	0.55	0.55
0.02	0.47	0.47	0.47	0.47	0.47
0.01	0.34	0.34	0.34	0.34	0.34


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
October
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
October
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

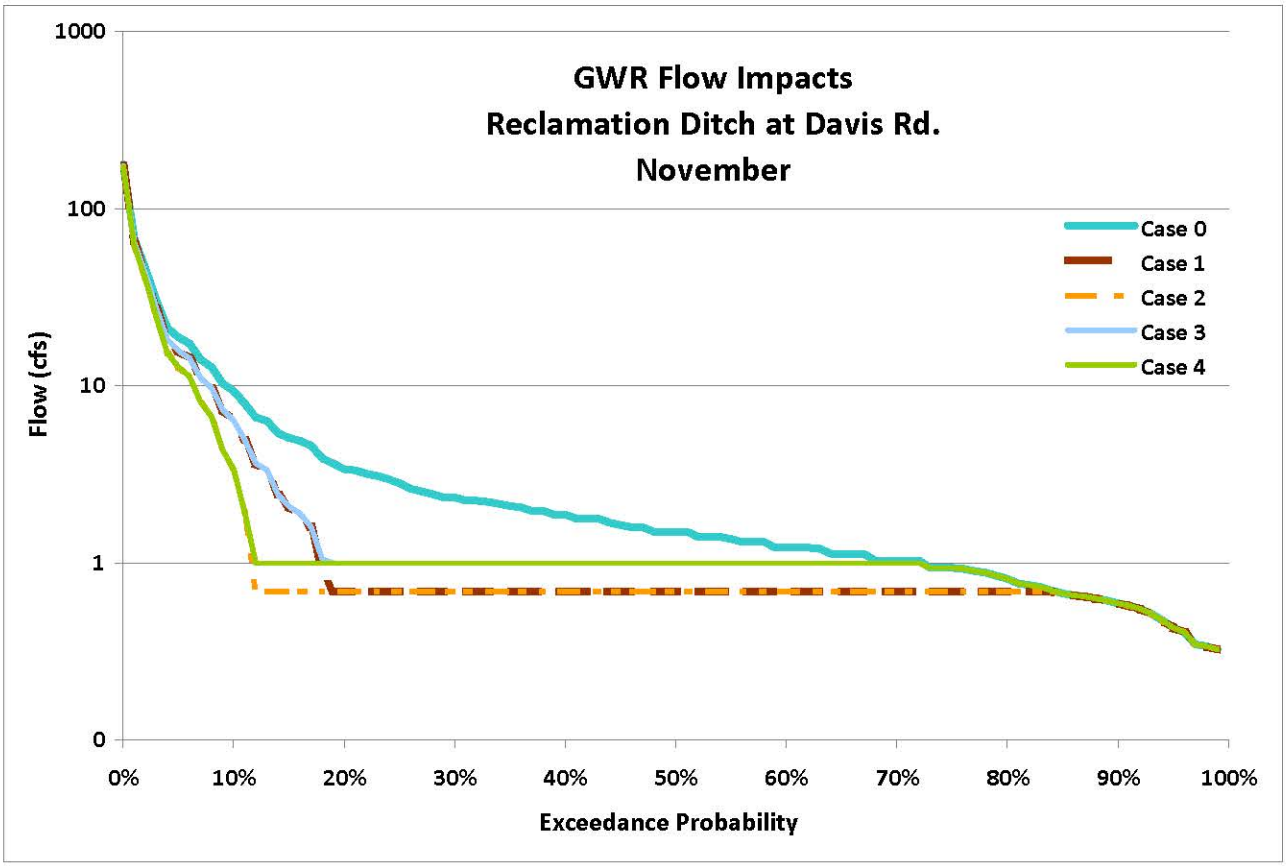
November Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	178.03	175.04	172.03	175.04	172.03
0.99	67.00	64.01	61.00	64.01	61.00
0.98	46.10	43.11	40.10	43.11	40.10
0.97	30.12	27.13	24.12	27.13	24.12
0.96	21.21	18.22	15.21	18.22	15.21
0.95	18.74	15.75	12.74	15.75	12.74
0.94	17.30	14.31	11.30	14.31	11.30
0.93	14.06	11.07	8.06	11.07	8.06
0.92	12.71	9.72	6.71	9.72	6.71
0.91	10.31	7.32	4.31	7.32	4.31
0.90	9.37	6.38	3.37	6.38	3.37
0.89	7.92	4.93	1.92	4.93	1.92
0.88	6.64	3.65	0.69	3.65	1.00
0.87	6.34	3.35	0.69	3.35	1.00
0.86	5.41	2.42	0.69	2.42	1.00
0.85	5.07	2.08	0.69	2.08	1.00
0.84	4.88	1.89	0.69	1.89	1.00
0.83	4.59	1.60	0.69	1.60	1.00
0.82	3.89	0.90	0.69	1.05	1.00
0.81	3.63	0.69	0.69	1.00	1.00
0.80	3.37	0.69	0.69	1.00	1.00
0.79	3.34	0.69	0.69	1.00	1.00
0.78	3.19	0.69	0.69	1.00	1.00
0.77	3.09	0.69	0.69	1.00	1.00
0.76	2.97	0.69	0.69	1.00	1.00
0.75	2.81	0.69	0.69	1.00	1.00
0.74	2.62	0.69	0.69	1.00	1.00
0.73	2.54	0.69	0.69	1.00	1.00
0.72	2.44	0.69	0.69	1.00	1.00
0.71	2.34	0.69	0.69	1.00	1.00
0.70	2.34	0.69	0.69	1.00	1.00
0.69	2.25	0.69	0.69	1.00	1.00
0.68	2.25	0.69	0.69	1.00	1.00
0.67	2.20	0.69	0.69	1.00	1.00
0.66	2.16	0.69	0.69	1.00	1.00
0.65	2.09	0.69	0.69	1.00	1.00
0.64	2.06	0.69	0.69	1.00	1.00
0.63	1.97	0.69	0.69	1.00	1.00
0.62	1.97	0.69	0.69	1.00	1.00
0.61	1.87	0.69	0.69	1.00	1.00
0.60	1.87	0.69	0.69	1.00	1.00
0.59	1.78	0.69	0.69	1.00	1.00
0.58	1.78	0.69	0.69	1.00	1.00
0.57	1.78	0.69	0.69	1.00	1.00
0.56	1.69	0.69	0.69	1.00	1.00
0.55	1.64	0.69	0.69	1.00	1.00
0.54	1.59	0.69	0.69	1.00	1.00
0.53	1.59	0.69	0.69	1.00	1.00
0.52	1.50	0.69	0.69	1.00	1.00
0.51	1.50	0.69	0.69	1.00	1.00

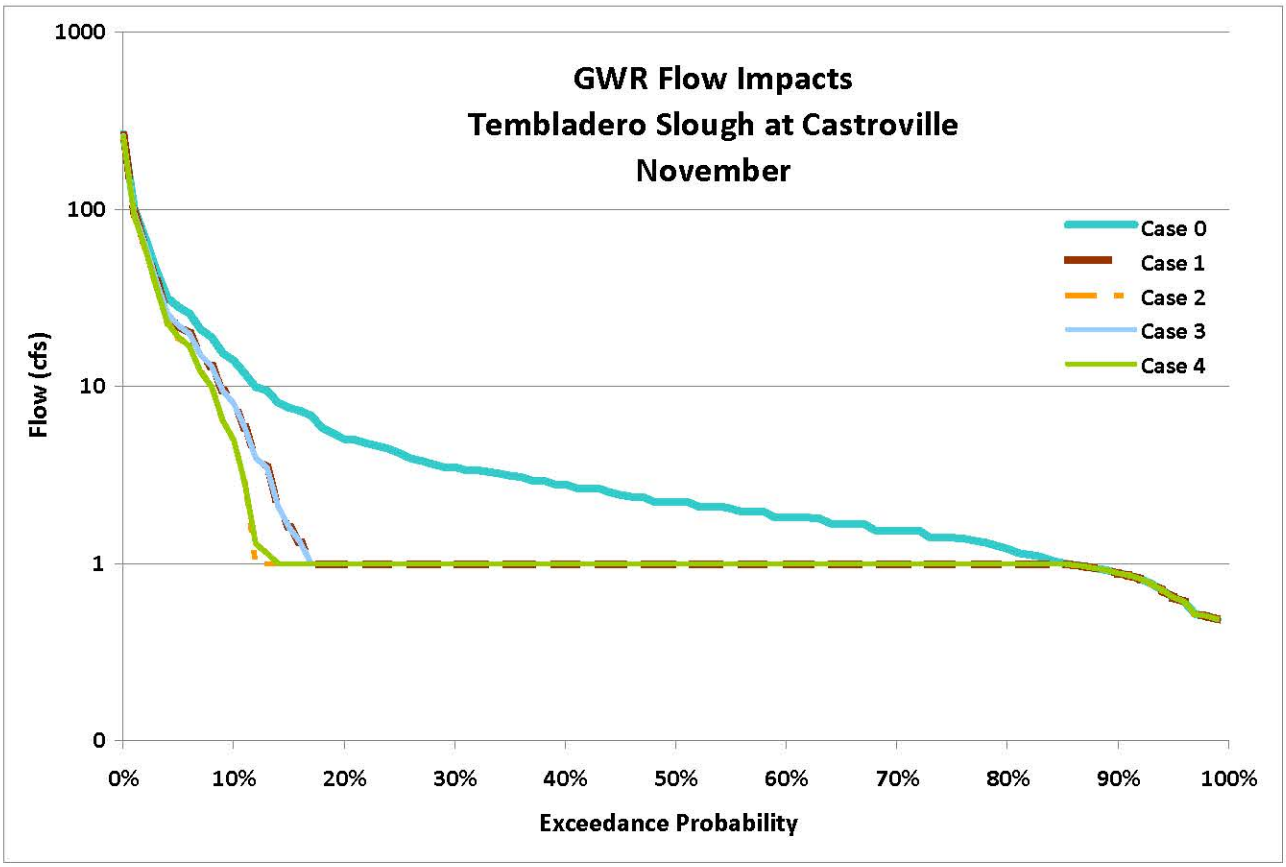
November Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	1.50	0.69	0.69	1.00	1.00
0.49	1.50	0.69	0.69	1.00	1.00
0.48	1.41	0.69	0.69	1.00	1.00
0.47	1.41	0.69	0.69	1.00	1.00
0.46	1.41	0.69	0.69	1.00	1.00
0.45	1.36	0.69	0.69	1.00	1.00
0.44	1.31	0.69	0.69	1.00	1.00
0.43	1.31	0.69	0.69	1.00	1.00
0.42	1.31	0.69	0.69	1.00	1.00
0.41	1.22	0.69	0.69	1.00	1.00
0.40	1.22	0.69	0.69	1.00	1.00
0.39	1.22	0.69	0.69	1.00	1.00
0.38	1.22	0.69	0.69	1.00	1.00
0.37	1.20	0.69	0.69	1.00	1.00
0.36	1.12	0.69	0.69	1.00	1.00
0.35	1.12	0.69	0.69	1.00	1.00
0.34	1.12	0.69	0.69	1.00	1.00
0.33	1.12	0.69	0.69	1.00	1.00
0.32	1.03	0.69	0.69	1.00	1.00
0.31	1.03	0.69	0.69	1.00	1.00
0.30	1.03	0.69	0.69	1.00	1.00
0.29	1.03	0.69	0.69	1.00	1.00
0.28	1.03	0.69	0.69	1.00	1.00
0.27	0.94	0.69	0.69	0.94	0.94
0.26	0.94	0.69	0.69	0.94	0.94
0.25	0.94	0.69	0.69	0.94	0.94
0.24	0.93	0.69	0.69	0.93	0.93
0.23	0.90	0.69	0.69	0.90	0.90
0.22	0.88	0.69	0.69	0.88	0.88
0.21	0.84	0.69	0.69	0.84	0.84
0.20	0.81	0.69	0.69	0.81	0.81
0.19	0.76	0.69	0.69	0.76	0.76
0.18	0.75	0.69	0.69	0.75	0.75
0.17	0.73	0.69	0.69	0.73	0.73
0.16	0.70	0.69	0.69	0.70	0.70
0.15	0.67	0.67	0.67	0.67	0.67
0.14	0.66	0.66	0.66	0.66	0.66
0.13	0.65	0.65	0.65	0.65	0.65
0.12	0.63	0.63	0.63	0.63	0.63
0.11	0.61	0.61	0.61	0.61	0.61
0.10	0.59	0.59	0.59	0.59	0.59
0.09	0.57	0.57	0.57	0.57	0.57
0.08	0.55	0.55	0.55	0.55	0.55
0.07	0.52	0.52	0.52	0.52	0.52
0.06	0.47	0.47	0.47	0.47	0.47
0.05	0.43	0.43	0.43	0.43	0.43
0.04	0.41	0.41	0.41	0.41	0.41
0.03	0.35	0.35	0.35	0.35	0.35
0.02	0.34	0.34	0.34	0.34	0.34
0.01	0.32	0.32	0.32	0.32	0.32

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

November Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	266.00	260.02	257.01	260.02	257.01
0.99	100.11	94.13	91.12	94.13	91.12
0.98	68.88	62.90	59.89	62.90	59.89
0.97	45.01	39.03	36.02	39.03	36.02
0.96	31.70	25.72	22.71	25.72	22.71
0.95	28.00	22.02	19.01	22.02	19.01
0.94	25.84	19.86	16.85	19.86	16.85
0.93	21.00	15.02	12.01	15.02	12.01
0.92	18.98	13.00	9.99	13.00	9.99
0.91	15.40	9.42	6.41	9.42	6.41
0.90	14.00	8.02	5.01	8.02	5.01
0.89	11.83	5.85	2.84	5.85	2.84
0.88	9.92	3.94	1.00	3.94	1.29
0.87	9.47	3.49	1.00	3.49	1.14
0.86	8.08	2.10	1.00	2.10	1.00
0.85	7.58	1.60	1.00	1.60	1.00
0.84	7.30	1.32	1.00	1.32	1.00
0.83	6.86	1.00	1.00	1.00	1.00
0.82	5.81	1.00	1.00	1.00	1.00
0.81	5.43	1.00	1.00	1.00	1.00
0.80	5.04	1.00	1.00	1.00	1.00
0.79	4.99	1.00	1.00	1.00	1.00
0.78	4.76	1.00	1.00	1.00	1.00
0.77	4.62	1.00	1.00	1.00	1.00
0.76	4.44	1.00	1.00	1.00	1.00
0.75	4.20	1.00	1.00	1.00	1.00
0.74	3.92	1.00	1.00	1.00	1.00
0.73	3.79	1.00	1.00	1.00	1.00
0.72	3.64	1.00	1.00	1.00	1.00
0.71	3.50	1.00	1.00	1.00	1.00
0.70	3.50	1.00	1.00	1.00	1.00
0.69	3.36	1.00	1.00	1.00	1.00
0.68	3.36	1.00	1.00	1.00	1.00
0.67	3.29	1.00	1.00	1.00	1.00
0.66	3.22	1.00	1.00	1.00	1.00
0.65	3.13	1.00	1.00	1.00	1.00
0.64	3.08	1.00	1.00	1.00	1.00
0.63	2.94	1.00	1.00	1.00	1.00
0.62	2.94	1.00	1.00	1.00	1.00
0.61	2.80	1.00	1.00	1.00	1.00
0.60	2.80	1.00	1.00	1.00	1.00
0.59	2.66	1.00	1.00	1.00	1.00
0.58	2.66	1.00	1.00	1.00	1.00
0.57	2.66	1.00	1.00	1.00	1.00
0.56	2.52	1.00	1.00	1.00	1.00
0.55	2.44	1.00	1.00	1.00	1.00
0.54	2.38	1.00	1.00	1.00	1.00
0.53	2.38	1.00	1.00	1.00	1.00
0.52	2.24	1.00	1.00	1.00	1.00
0.51	2.24	1.00	1.00	1.00	1.00

November Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	2.24	1.00	1.00	1.00	1.00
0.49	2.24	1.00	1.00	1.00	1.00
0.48	2.10	1.00	1.00	1.00	1.00
0.47	2.10	1.00	1.00	1.00	1.00
0.46	2.10	1.00	1.00	1.00	1.00
0.45	2.04	1.00	1.00	1.00	1.00
0.44	1.96	1.00	1.00	1.00	1.00
0.43	1.96	1.00	1.00	1.00	1.00
0.42	1.96	1.00	1.00	1.00	1.00
0.41	1.82	1.00	1.00	1.00	1.00
0.40	1.82	1.00	1.00	1.00	1.00
0.39	1.82	1.00	1.00	1.00	1.00
0.38	1.82	1.00	1.00	1.00	1.00
0.37	1.80	1.00	1.00	1.00	1.00
0.36	1.68	1.00	1.00	1.00	1.00
0.35	1.68	1.00	1.00	1.00	1.00
0.34	1.68	1.00	1.00	1.00	1.00
0.33	1.68	1.00	1.00	1.00	1.00
0.32	1.54	1.00	1.00	1.00	1.00
0.31	1.54	1.00	1.00	1.00	1.00
0.30	1.54	1.00	1.00	1.00	1.00
0.29	1.54	1.00	1.00	1.00	1.00
0.28	1.54	1.00	1.00	1.00	1.00
0.27	1.40	1.00	1.00	1.00	1.00
0.26	1.40	1.00	1.00	1.00	1.00
0.25	1.40	1.00	1.00	1.00	1.00
0.24	1.39	1.00	1.00	1.00	1.00
0.23	1.34	1.00	1.00	1.00	1.00
0.22	1.32	1.00	1.00	1.00	1.00
0.21	1.26	1.00	1.00	1.00	1.00
0.20	1.22	1.00	1.00	1.00	1.00
0.19	1.14	1.00	1.00	1.00	1.00
0.18	1.12	1.00	1.00	1.00	1.00
0.17	1.09	1.00	1.00	1.00	1.00
0.16	1.04	1.00	1.00	1.00	1.00
0.15	1.01	1.00	1.00	1.00	1.00
0.14	0.98	0.98	0.98	0.98	0.98
0.13	0.97	0.97	0.97	0.97	0.97
0.12	0.94	0.94	0.94	0.94	0.94
0.11	0.92	0.92	0.92	0.92	0.92
0.10	0.88	0.88	0.88	0.88	0.88
0.09	0.86	0.86	0.86	0.86	0.86
0.08	0.82	0.82	0.82	0.82	0.82
0.07	0.77	0.77	0.77	0.77	0.77
0.06	0.71	0.71	0.71	0.71	0.71
0.05	0.64	0.64	0.64	0.64	0.64
0.04	0.61	0.61	0.61	0.61	0.61
0.03	0.52	0.52	0.52	0.52	0.52
0.02	0.51	0.51	0.51	0.51	0.51
0.01	0.48	0.48	0.48	0.48	0.48


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
November
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
November
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

Reclamation Ditch at Davis Rd, Percentile Flows by Month (cfs)

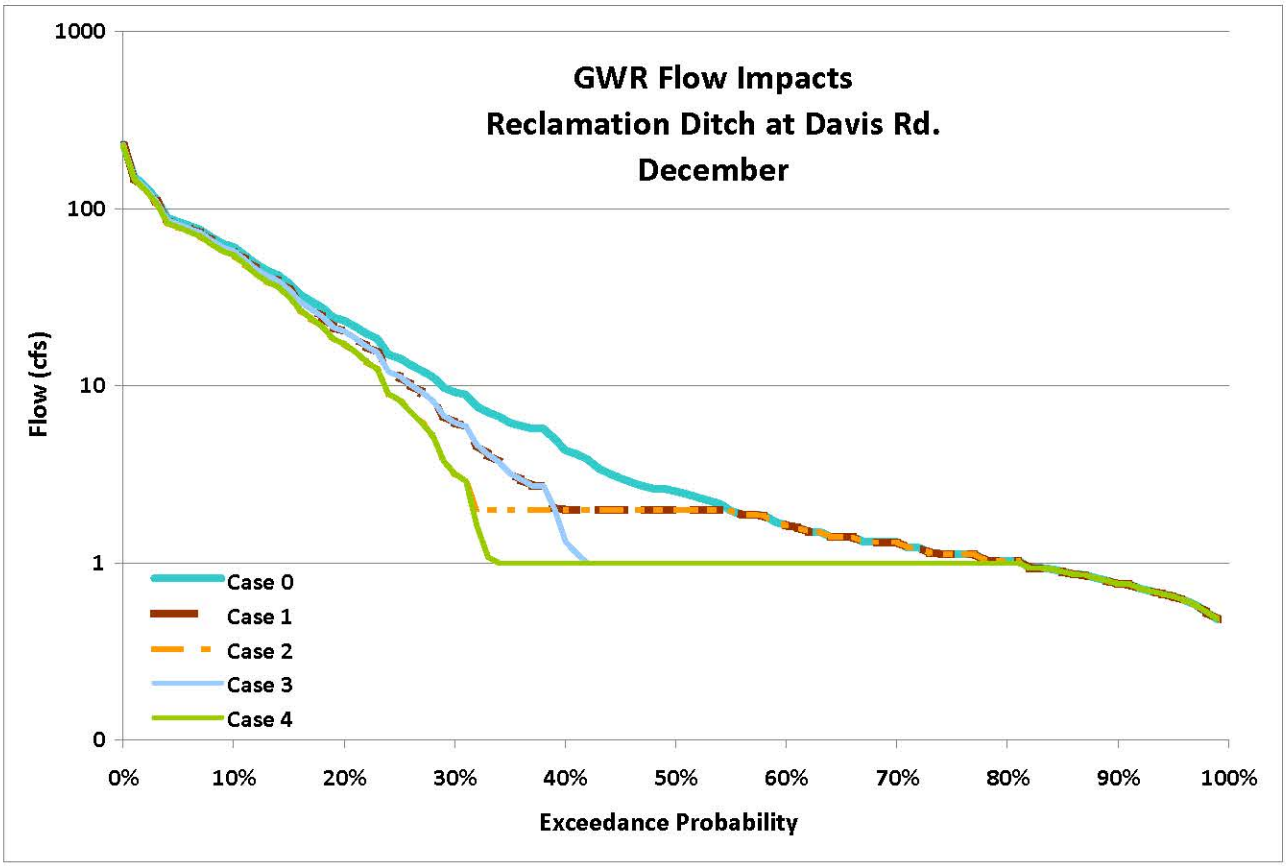
December Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	231.44	228.45	225.44	228.45	225.44
0.99	151.54	148.55	145.54	148.55	145.54
0.98	133.65	130.66	127.65	130.66	127.65
0.97	112.89	109.90	106.89	109.90	106.89
0.96	88.83	85.84	82.83	85.84	82.83
0.95	84.24	81.25	78.24	81.25	78.24
0.94	80.09	77.10	74.09	77.10	74.09
0.93	75.90	72.91	69.90	72.91	69.90
0.92	69.00	66.01	63.00	66.01	63.00
0.91	63.35	60.36	57.35	60.36	57.35
0.90	60.72	57.73	54.72	57.73	54.72
0.89	54.52	51.53	48.52	51.53	48.52
0.88	48.72	45.73	42.72	45.73	42.72
0.87	44.76	41.77	38.76	41.77	38.76
0.86	42.17	39.18	36.17	39.18	36.17
0.85	37.81	34.82	31.81	34.82	31.81
0.84	32.80	29.81	26.80	29.81	26.80
0.83	29.98	26.99	23.98	26.99	23.98
0.82	27.59	24.60	21.59	24.60	21.59
0.81	24.36	21.37	18.36	21.37	18.36
0.80	23.24	20.25	17.24	20.25	17.24
0.79	21.55	18.56	15.55	18.56	15.55
0.78	19.68	16.69	13.68	16.69	13.68
0.77	18.43	15.44	12.43	15.44	12.43
0.76	14.99	12.00	8.99	12.00	8.99
0.75	14.29	11.30	8.29	11.30	8.29
0.74	13.12	10.13	7.12	10.13	7.12
0.73	12.18	9.19	6.18	9.19	6.18
0.72	11.24	8.25	5.24	8.25	5.24
0.71	9.75	6.76	3.75	6.76	3.75
0.70	9.18	6.19	3.18	6.19	3.18
0.69	8.90	5.91	2.90	5.91	2.90
0.68	7.62	4.63	2.00	4.63	1.62
0.67	7.08	4.09	2.00	4.09	1.08
0.66	6.71	3.72	2.00	3.72	1.00
0.65	6.18	3.19	2.00	3.19	1.00
0.64	5.94	2.95	2.00	2.95	1.00
0.63	5.72	2.73	2.00	2.73	1.00
0.62	5.72	2.73	2.00	2.73	1.00
0.61	5.02	2.05	2.00	2.03	1.00
0.60	4.31	2.00	2.00	1.32	1.00
0.59	4.12	2.00	2.00	1.13	1.00
0.58	3.84	2.00	2.00	1.00	1.00
0.57	3.42	2.00	2.00	1.00	1.00
0.56	3.19	2.00	2.00	1.00	1.00
0.55	3.01	2.00	2.00	1.00	1.00
0.54	2.84	2.00	2.00	1.00	1.00
0.53	2.72	2.00	2.00	1.00	1.00
0.52	2.62	2.00	2.00	1.00	1.00
0.51	2.62	2.00	2.00	1.00	1.00

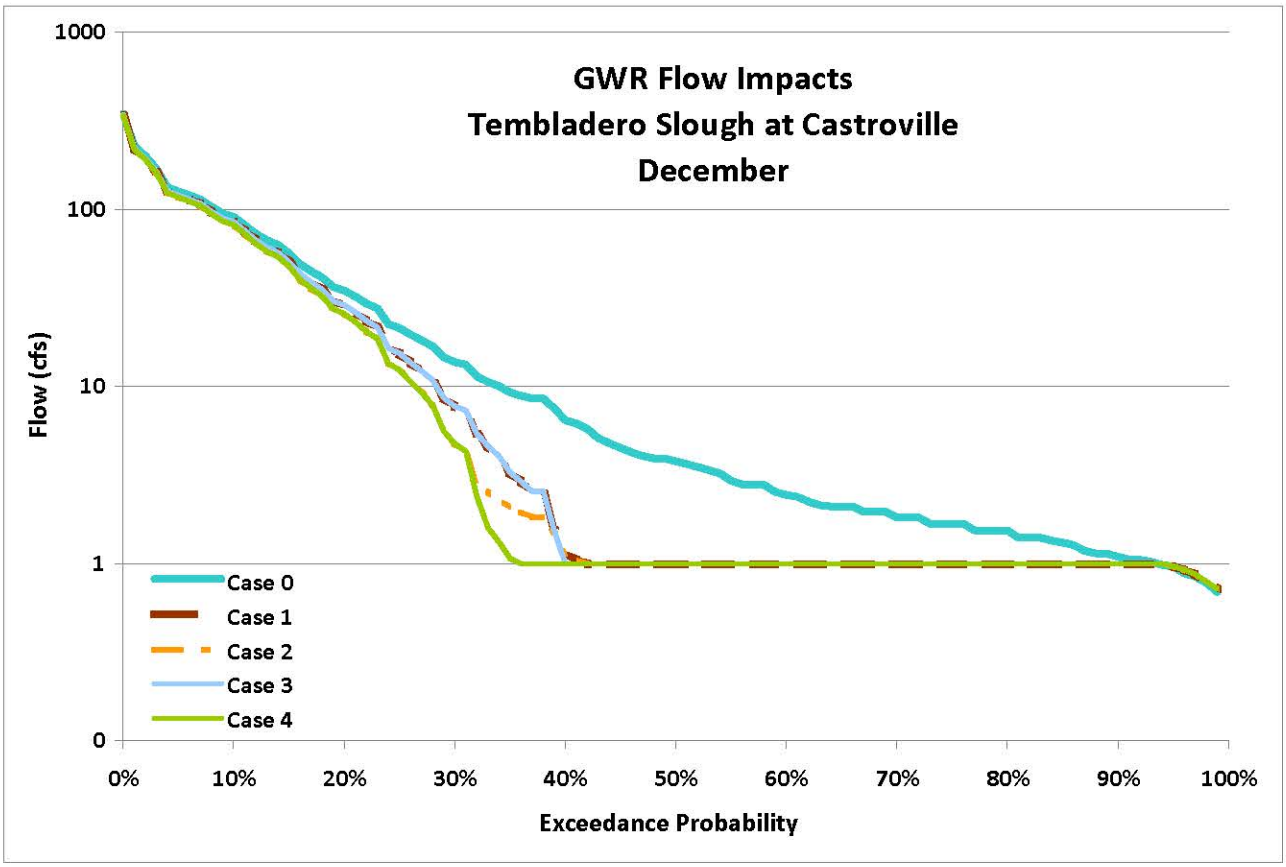
December Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	2.53	2.00	2.00	1.00	1.00
0.49	2.44	2.00	2.00	1.00	1.00
0.48	2.34	2.00	2.00	1.00	1.00
0.47	2.25	2.00	2.00	1.00	1.00
0.46	2.16	2.00	2.00	1.00	1.00
0.45	1.96	1.96	1.96	1.00	1.00
0.44	1.87	1.87	1.87	1.00	1.00
0.43	1.87	1.87	1.87	1.00	1.00
0.42	1.86	1.86	1.86	1.00	1.00
0.41	1.70	1.70	1.70	1.00	1.00
0.40	1.63	1.63	1.63	1.00	1.00
0.39	1.59	1.59	1.59	1.00	1.00
0.38	1.50	1.50	1.50	1.00	1.00
0.37	1.50	1.50	1.50	1.00	1.00
0.36	1.41	1.41	1.41	1.00	1.00
0.35	1.41	1.41	1.41	1.00	1.00
0.34	1.41	1.41	1.41	1.00	1.00
0.33	1.31	1.31	1.31	1.00	1.00
0.32	1.31	1.31	1.31	1.00	1.00
0.31	1.31	1.31	1.31	1.00	1.00
0.30	1.31	1.31	1.31	1.00	1.00
0.29	1.22	1.22	1.22	1.00	1.00
0.28	1.22	1.22	1.22	1.00	1.00
0.27	1.14	1.14	1.14	1.00	1.00
0.26	1.12	1.12	1.12	1.00	1.00
0.25	1.12	1.12	1.12	1.00	1.00
0.24	1.12	1.12	1.12	1.00	1.00
0.23	1.12	1.12	1.12	1.00	1.00
0.22	1.03	1.03	1.03	1.00	1.00
0.21	1.03	1.03	1.03	1.00	1.00
0.20	1.03	1.03	1.03	1.00	1.00
0.19	1.03	1.03	1.03	1.00	1.00
0.18	0.94	0.94	0.94	0.94	0.94
0.17	0.94	0.94	0.94	0.94	0.94
0.16	0.92	0.92	0.92	0.92	0.92
0.15	0.89	0.89	0.89	0.89	0.89
0.14	0.86	0.86	0.86	0.86	0.86
0.13	0.85	0.85	0.85	0.85	0.85
0.12	0.82	0.82	0.82	0.82	0.82
0.11	0.79	0.79	0.79	0.79	0.79
0.10	0.76	0.76	0.76	0.76	0.76
0.09	0.76	0.76	0.76	0.76	0.76
0.08	0.72	0.72	0.72	0.72	0.72
0.07	0.69	0.69	0.69	0.69	0.69
0.06	0.67	0.67	0.67	0.67	0.67
0.05	0.65	0.65	0.65	0.65	0.65
0.04	0.62	0.62	0.62	0.62	0.62
0.03	0.58	0.58	0.58	0.58	0.58
0.02	0.53	0.53	0.53	0.53	0.53
0.01	0.48	0.48	0.48	0.48	0.48

Tembladero Slough at Castroville, Percentile Flows by Month (cfs)

December Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
1.00	345.80	339.82	336.81	339.82	336.81
0.99	226.42	220.44	217.43	220.44	217.43
0.98	199.70	193.72	190.71	193.72	190.71
0.97	168.67	162.69	159.68	162.69	159.68
0.96	132.72	126.74	123.73	126.74	123.73
0.95	125.86	119.88	116.87	119.88	116.87
0.94	119.67	113.69	110.68	113.69	110.68
0.93	113.40	107.42	104.41	107.42	104.41
0.92	103.10	97.12	94.11	97.12	94.11
0.91	94.65	88.67	85.66	88.67	85.66
0.90	90.72	84.74	81.73	84.74	81.73
0.89	81.47	75.49	72.48	75.49	72.48
0.88	72.80	66.82	63.81	66.82	63.81
0.87	66.88	60.90	57.89	60.90	57.89
0.86	63.00	57.02	54.01	57.02	54.01
0.85	56.49	50.51	47.50	50.51	47.50
0.84	49.00	43.02	40.01	43.02	40.01
0.83	44.80	38.82	35.81	38.82	35.81
0.82	41.22	35.24	32.23	35.24	32.23
0.81	36.40	30.42	27.41	30.42	27.41
0.80	34.72	28.74	25.73	28.74	25.73
0.79	32.20	26.22	23.21	26.22	23.21
0.78	29.40	23.42	20.41	23.42	20.41
0.77	27.54	21.56	18.55	21.56	18.55
0.76	22.40	16.42	13.41	16.42	13.41
0.75	21.35	15.37	12.36	15.37	12.36
0.74	19.60	13.62	10.61	13.62	10.61
0.73	18.20	12.22	9.21	12.22	9.21
0.72	16.80	10.82	7.81	10.82	7.81
0.71	14.57	8.59	5.58	8.59	5.58
0.70	13.72	7.74	4.73	7.74	4.73
0.69	13.29	7.31	4.30	7.31	4.30
0.68	11.38	5.40	2.77	5.40	2.39
0.67	10.58	4.60	2.51	4.60	1.59
0.66	10.02	4.04	2.32	4.04	1.32
0.65	9.24	3.26	2.07	3.26	1.07
0.64	8.88	2.90	1.95	2.90	1.00
0.63	8.54	2.56	1.83	2.56	1.00
0.62	8.54	2.56	1.83	2.56	1.00
0.61	7.51	1.54	1.49	1.53	1.00
0.60	6.44	1.14	1.14	1.00	1.00
0.59	6.16	1.05	1.05	1.00	1.00
0.58	5.74	1.00	1.00	1.00	1.00
0.57	5.11	1.00	1.00	1.00	1.00
0.56	4.76	1.00	1.00	1.00	1.00
0.55	4.49	1.00	1.00	1.00	1.00
0.54	4.25	1.00	1.00	1.00	1.00
0.53	4.06	1.00	1.00	1.00	1.00
0.52	3.92	1.00	1.00	1.00	1.00
0.51	3.92	1.00	1.00	1.00	1.00

December Percentile	Case 0:	Case 1:	Case 2:	Case 3:	Case 4:
0.50	3.78	1.00	1.00	1.00	1.00
0.49	3.64	1.00	1.00	1.00	1.00
0.48	3.50	1.00	1.00	1.00	1.00
0.47	3.36	1.00	1.00	1.00	1.00
0.46	3.22	1.00	1.00	1.00	1.00
0.45	2.93	1.00	1.00	1.00	1.00
0.44	2.80	1.00	1.00	1.00	1.00
0.43	2.80	1.00	1.00	1.00	1.00
0.42	2.77	1.00	1.00	1.00	1.00
0.41	2.54	1.00	1.00	1.00	1.00
0.40	2.44	1.00	1.00	1.00	1.00
0.39	2.38	1.00	1.00	1.00	1.00
0.38	2.24	1.00	1.00	1.00	1.00
0.37	2.14	1.00	1.00	1.00	1.00
0.36	2.10	1.00	1.00	1.00	1.00
0.35	2.10	1.00	1.00	1.00	1.00
0.34	2.10	1.00	1.00	1.00	1.00
0.33	1.96	1.00	1.00	1.00	1.00
0.32	1.96	1.00	1.00	1.00	1.00
0.31	1.96	1.00	1.00	1.00	1.00
0.30	1.82	1.00	1.00	1.00	1.00
0.29	1.82	1.00	1.00	1.00	1.00
0.28	1.82	1.00	1.00	1.00	1.00
0.27	1.68	1.00	1.00	1.00	1.00
0.26	1.68	1.00	1.00	1.00	1.00
0.25	1.68	1.00	1.00	1.00	1.00
0.24	1.68	1.00	1.00	1.00	1.00
0.23	1.54	1.00	1.00	1.00	1.00
0.22	1.54	1.00	1.00	1.00	1.00
0.21	1.54	1.00	1.00	1.00	1.00
0.20	1.54	1.00	1.00	1.00	1.00
0.19	1.40	1.00	1.00	1.00	1.00
0.18	1.40	1.00	1.00	1.00	1.00
0.17	1.40	1.00	1.00	1.00	1.00
0.16	1.35	1.00	1.00	1.00	1.00
0.15	1.31	1.00	1.00	1.00	1.00
0.14	1.27	1.00	1.00	1.00	1.00
0.13	1.18	1.00	1.00	1.00	1.00
0.12	1.14	1.00	1.00	1.00	1.00
0.11	1.13	1.00	1.00	1.00	1.00
0.10	1.09	1.00	1.00	1.00	1.00
0.09	1.06	1.00	1.00	1.00	1.00
0.08	1.05	1.00	1.00	1.00	1.00
0.07	1.02	1.00	1.00	1.00	1.00
0.06	0.98	1.00	1.00	1.00	1.00
0.05	0.96	0.97	0.97	0.97	0.97
0.04	0.88	0.92	0.92	0.92	0.92
0.03	0.84	0.87	0.87	0.87	0.87
0.02	0.78	0.79	0.79	0.79	0.79
0.01	0.69	0.72	0.72	0.72	0.72


GWR Flow Impacts
Reclamation Ditch at Davis Rd.
December
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4


GWR Flow Impacts
Tembladero Slough at Castroville
December
Flow (cfs)
1000
100
10
1
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Exceedance Probability
Case 0
Case 1
Case 2
Case 3
Case 4

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