

# SQUAW VALLEY PUBLIC SERVICE DISTRICT



## 2013 WATER AND SEWER SYSTEM REPORT

Prepared April 2014

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and  
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# Squaw Valley Public Service District Annual Report 2013

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## 2014 Through 2018 Tentative Projects

I	Water Supply Enhancement	\$1,000,000
I	Easement Abatement Project	\$60,000
I	Mutual Water Company Intertie 50% Share	\$60,000
I	Replace 1998 Ford Ranger	\$27,000
I	SSMP Audit/ Update	\$7,500
I	Long Range Property Master Plan	\$10,000
I	SCADA Upgrade/ Master Plan	\$60,000
II	Replace 1997 Ford Explorer	\$30,000
II	Replace 2" Steel Water Mains	\$400,000
II	Replace Truckee River Siphon	\$500,000
II	Televise Sewer System	\$125,000
II	Replace Roof Utility Garage	\$60,000
II	Replace Roof Old Admin. 1810	\$40,000
II	Replace 1994 JCB Backhoe	\$90,000
III	East Facility LED Lighting Retrofit	\$20,000
III	Replace 1999 Ford F-250 Utility	\$32,000
III	Install Sewer Meters	\$150,000
III	Sierra Crest/ Winding Creek Sewer Rehabilitation	\$193,000
III	Develop a Water System Operations Plan	\$25,000
III	Replace Squaw Creek Siphon	\$250,000
IV	Garbage Facility Design	\$30,000
IV	Re-grade East Facility Parking Lot	\$45,000

**TOTAL = \$3,214,500**

I	Needed Now	II	Needed Soon
III	Improves Efficiency	IV	Needs Consideration

## General Improvements 2013

### Water System Improvements

- Resort 4" Water Meter \$4,950
- East Booster & HZ Well Upgrades \$8,888
- Creek/ Aquifer Interaction Study SVRE
- Well 4R Safety Modification SVRE

### Sewer System Improvements

- Televis 25% of Sewer System \$37,240
- Patch Paving Project (Water and Sewer) \$16,382

### Building and Office Improvements

- VueWorks Implementation \$30,000
- Check Scanner \$7,905

### Vehicles and Equipment

- Trimble GPS Equipment \$9,200
- Vac-Con Tool Box Upgrade \$6,104

### Grant Funded Projects

- Bike Trail Snow Removal Project \$64,078

**TOTAL = \$184,747**



## II. Leaks, Repairs, and Maintenance

### A. Water

1. New meters installed: 6
2. Water meters replaced: 11
3. Water meter upgrades: 1
4. Customer service water meters turned on or off: 29
5. Routine leak detection notification: 157
6. Customer requested leak detection services performed: 39
7. No water responses: 14
8. Fire hydrants flushed: 135
9. Blow-offs flushed: 24
10. Valves exercised: 61
11. Repair/Replace service line: 4
12. Repair leak on water main: 6
13. Backflow devices tested: 486
14. Test District backflows: 8
15. Quarterly vault inspections on Well 1R and Well 3: 8
16. Water tank inspections: 6
17. Water quality complaints serviced: 0
18. Tested commercial meters: 13
19. Replaced Air/Vac breakers: 2
20. Water samples collected:
  - Bacteriological: 24
  - Nitrate: 4
  - VOC's: 4
  - Primary: 1
  - Secondary: 1
  - Gross Alpha: 2
  - Radium 228: 1

### B. Sewer

1. Sanitary sewer overflows: 1
2. Main line repairs: 2
3. Service line repairs: 1
4. Sewer cleanout repair: 2
5. Manhole repairs: 9
6. Manhole grouting: 0
7. Cleaning:
  - Spring and fall cleaning of high priority lines
  - Main sewer lines cleaned: 236
8. Inspections:
  - Sewer code related inspections: 8
  - Pre-remodel inspections: 15
  - Fixture counts: 10
  - Finals inspections: 11
  - USA locations: 137

### **III. Building and Grounds Maintenance and Repair**

#### **A. 305 Squaw Valley Road Fire Department and Administration**

1. Continued monthly service and maintenance of facility and equipment.

#### **B. 1810 Squaw Valley Road District Equipment Garage**

1. Continued monthly service and maintenance of facility and equipment.

### **IV. Vehicles and Equipment**

#### **A. Vehicles**

1. All vehicles received an annual service, with the exception of the Ford Ranger and Ford Explorer which received biannual services.

#### **B. Equipment**

1. All small equipment received an annual service.

### **V. Administrative**

#### **A. Hanson data input.**

#### **B. Vue Works migration from Hanson.**

### **VI. Operation & Maintenance Projects**

#### **A. Assisted with Mutual Water District main line water replacements.**

#### **B. Assisted with sewer repair and installation at Squaw Valley Prep.**

#### **C. Water box staking and insulation replacement project.**

#### **D. Horizontal Well communication line and drain line repair.**

#### **E. Abandonment of water line in Granite Chief subdivision.**

### **VII. Summary**

The Operations Department had a challenging year in 2013. Due to injuries and illnesses, the Department had to catch up from the previous year. The District's crew was able to get to some of the projects that had been postponed due to lack of crew and time. This season the District was able to make many repairs to damaged assets.

### **VIII. Safety Training**

1/4/2013 Celebrating Safely, SDRMA Safety Booklet  
Jesse, Josh, Brandon, Schel, John

1/11/2013 Safe Winter Driving, SDRMA Safety Booklet  
Jesse, Josh, Brandon, Schel, John

2/8/2013 Communication Breakdown, SDRMA Safety Booklet  
Jesse, Josh, Brandon, Schel, John

3/8/2013 Stairways and Ladders, SDRMA Safety Booklet  
Jesse, Josh, Brandon, Schel, John

4/12/2013 Ergonomics, SDRMA Safety Booklet  
Jesse, Josh, Brandon, Schel, John

6/13/2013 Heat Stress, SDRMA Safety Booklet  
Brandon, Jason, Josh, Jesse

7/26/2013 Hazcom, SDRMA Safety Booklet  
Jason, Schel, Josh, Brandon, Jesse

- 8/9/2013 Customer Service, SDRMA Safety Booklet  
Brandon, Josh, Jason, Schel, John, Blaine
- 8/23/2013 Recognizing Drug and Alcohol Abuse, SDRMA Safety Booklet  
Brandon, Josh, Jason, John, Schel, Blaine
- 10/4/2013 Sexual Harassment for Supervisors (CA AB 1825) Online SDRMA  
Blaine, Jason, Schel
- 10/18/2013 Water Main Installation, SDRMA Online  
Jason, Josh, Schel, Brandon, Blaine
- 11/27/2013 Street Smarts, SDRMA Safety Booklet  
Brandon, Josh, Jason, Jesse, Schel, John, Blaine
- 12/13/2013 Respect for People, SDRMA Safety Booklet  
Brandon, Josh, Schel, Jesse, John, Blaine, Jason
- 12/20/2013 Slips Trips and Falls, SDRMA Safety Booklet  
Brandon, Josh, Jason, Jesse, Schel, John, Blaine

**IX. Occupational Training**

- 2/1/2013 Excel 2010-part 1, New Horizons  
Brandon, John, Jesse
- 4/2013 Collections Systems Operations and Maintenance Vol.1, OWP  
Schel
- 4/18/2013 Certified Utility Locator, UTA  
John, Brandon
- 5/1/2013 SSO Health Risks, CWEA Safety Day  
Schel, Josh
- 5/1/2013 Hot and Cold Weather Awareness, CWEA Safety Day  
Schel, Josh
- 5/1/2013 GHS: Hazcom, CWEA Sierra Section  
Schel, Josh
- 5/10/2013 PACP Pipeline Assessment, Nassco  
Brandon, John
- 7/2013 Water Treatment Plant Operations Vol. 1, OWP  
Josh
- 8/19/2013 Cla-Val, Automatic Control Valves, Hydec Corp.  
Jason, Josh, Blaine, Brandon, Jesse, John, Mike
- 9/6/2013 Backflow Prevention Tester Review, B and L  
Blaine
- 10/18/2013 Backflow Tester Certification (40 hour), B and L  
Josh
- 10/23/2013 Northern Safety Day, CWEA  
Josh, Jason, Schel, Blaine
- 12/4/2013 Water System Security, CRWA  
John, Brandon
- 12/5/2013 Cyber System Security, CRWA  
Brandon, Jesse, John



# Water System Inventory – 2013

## Part I

1. Water Well #1R – 400 GPM
2. Water Well #2R – 350 GPM Max (230 GPM Summer)
3. Water Well #3 – 90 GPM
4. Water Well #4 – (Not in Service)
5. Water Well #5R – 405 GPM
6. Horizontal Well – 10 GPM Current Total Capacity – 1,255 GPM
7. (1) 1,150,000 Gallon Water Tank
8. (1) 500,000 Gallon Water Tank
9. (1) 135,000 Gallon Water Tank Total Storage – 1,780,000 Gallons
10. 2 Booster Pumping Stations
11. 783 Water Meters connected per Billing
12. 127 Fire Hydrants
13. 28 Air Release Valves
14. 495 Backflow Prevention Devices
15. 386 Gate Valves
16. 17 Butterfly Valves
17. 26 Blow Off Assemblies
18. 7 Altitude Valves
19. 3 Transducer Stations (West Tank, East Tank, and Zone Three Tank)
20. 9 Remote Terminal Units (RTU), SCADA Telemetry System

## Water System Inventory – 2013

### Part II

21. 12,761 Feet 12" Water Distribution Main
22. 10,752 Feet 10" Water Distribution Main
23. 27,819 Feet 8" Water Distribution Main
24. 21,618 Feet 6" Water Distribution Main
25. 696 Feet 4" Water Distribution Main
26. 990 Feet 2" Water Distribution Main
27. 404 Feet 6" Water Service Line
28. 240 Feet 4" Water Service Line
29. 2,053 Feet 2" Water Service Line
30. 254 Feet 1.25" Water Service Line
31. 39 Feet 1.5" Water Service Line
32. 2,920 Feet 1" Water Service Line
33. 128 Feet  $\frac{3}{4}$ " Water Service Line

Total Water Main = 74,636 Feet = 14.14 Miles

Total Water Services = 6,038 Feet = 1.14 Miles

Combined Total = 80,674 Feet = 15.28 Miles

# Squaw Valley Public Service District - Year End Water Audit Report

Report Date: April 10, 2014      Performed By: Brandon Burks

Year: 2013

Begin Audit Period: 12/31/12 12:00 AM  
 End Audit Period: 1/2/14 12:00 AM

Total Metered Consumption for audit period specified (including hydrant meters): 97,861,314

Additional Consumption - Unmetered

Fire Department Use:	29,200
Hydrant Flushing:	940,375
Blow-Off Flushing:	12,052
Sewer Cleaning:	81,000
Street Cleaning:	
Well Flushing:	
Tank Overflows:	40,000
Unread Meter Estimated Reads:	
Other:	

Total Unmetered Consumption (for audit period specified): 1,102,627

Estimated Unknown Loss - Unmetered

Known Theft:	
Known Illegal Connections:	
Total Estimated leaks that have been repaired:	50,000
Total Estimated Unmetered (for audit period specified):	50,000

Total Production for audit period specified: 134,968,783

Total Metered/Unmetered Consumption for audit period specified: 98,988,382

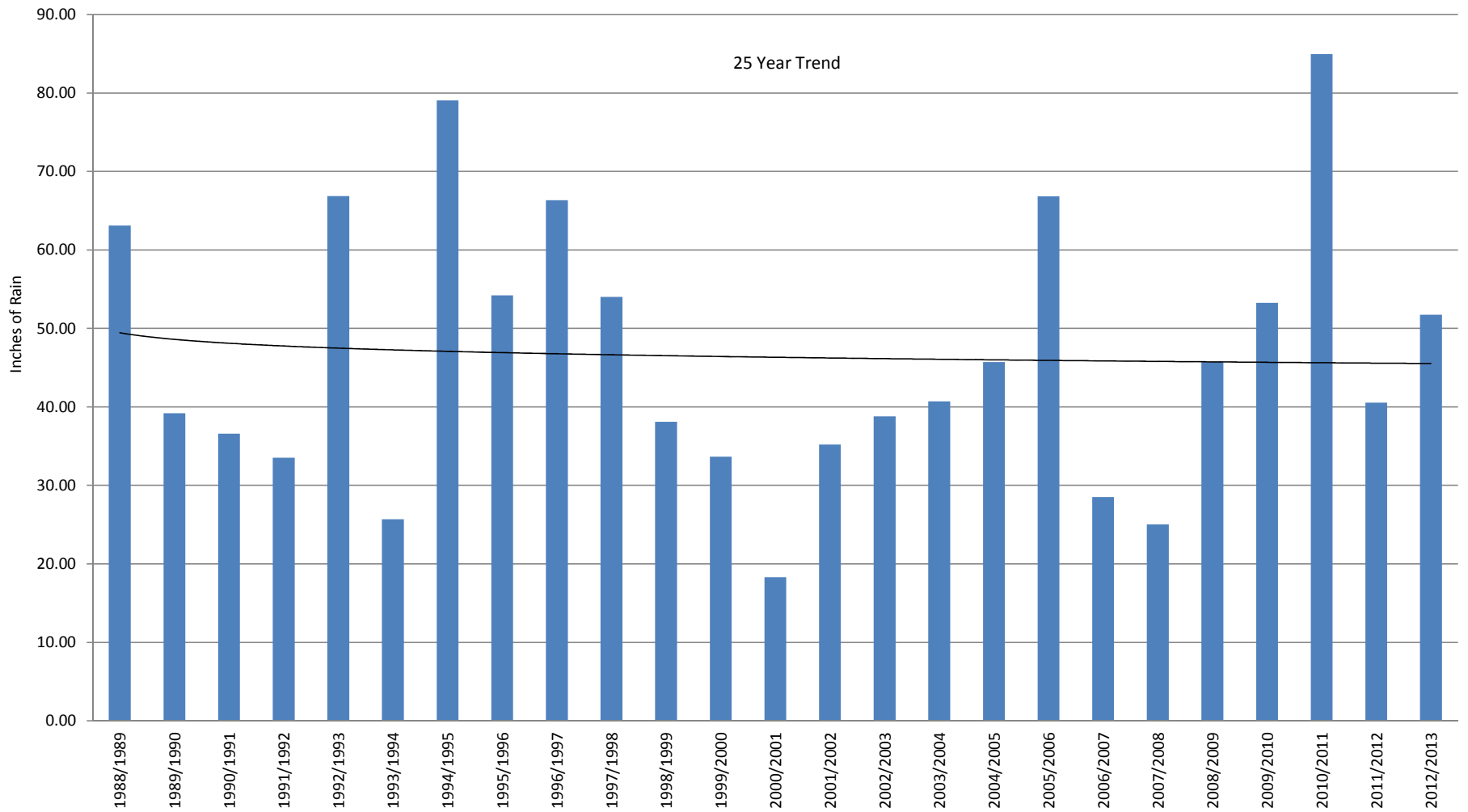
**Total Water Loss (Production - Consumption):** 35,980,401  
**Loss Percentage:** 26.7% \*\*\*

**Comments:** The production totals are different than the annual report due to a different time frame being used. The water audit uses the meter reading schedule dates.

\* Note - All Production & Consumption Totals In U.S. Gallons \*

\*\*\* Note - Total Water Loss Percentage included theft, Illegal Connections or Leaks that have been repaired

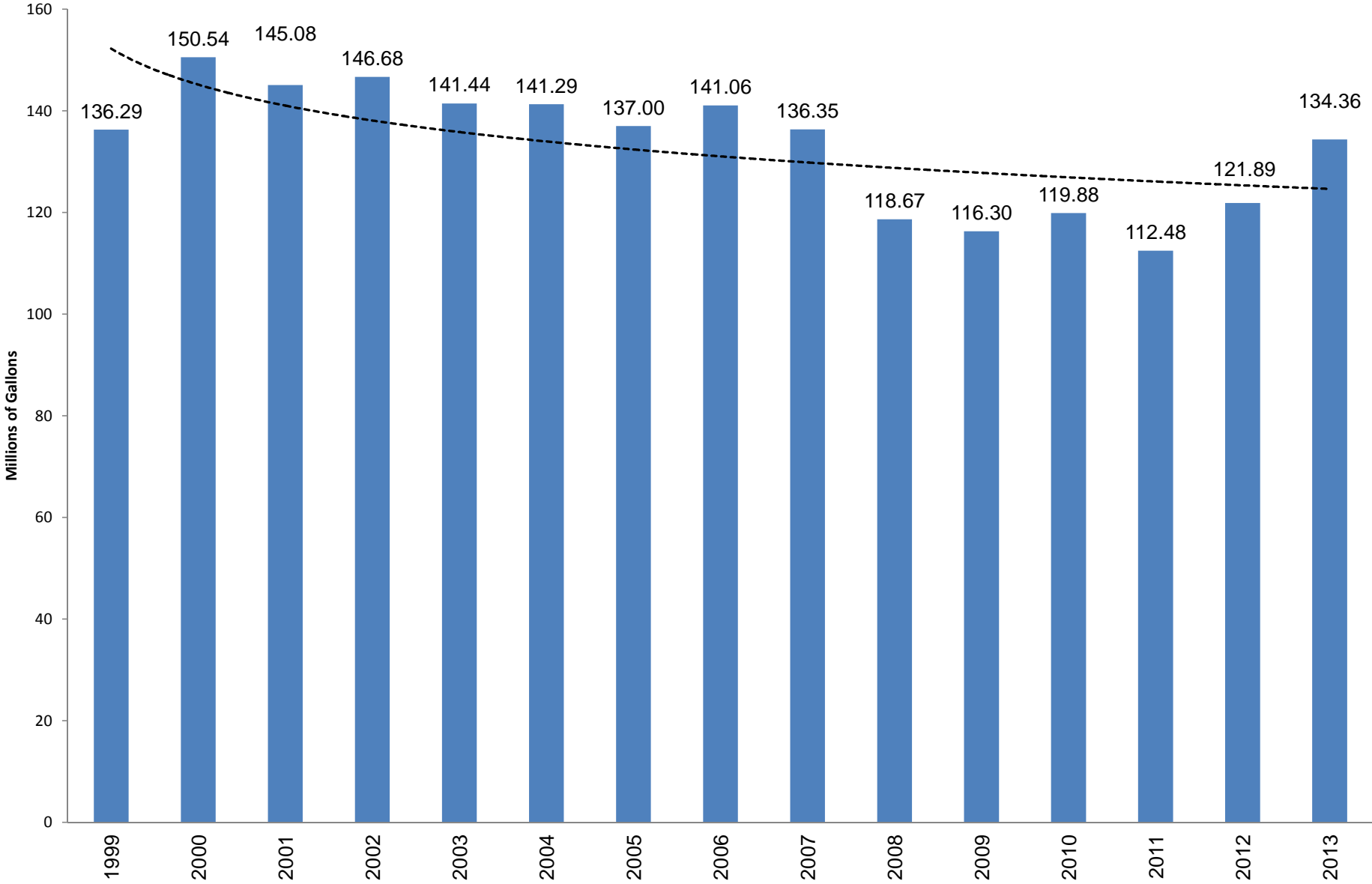
# Squaw Valley Public Service District Precipitation



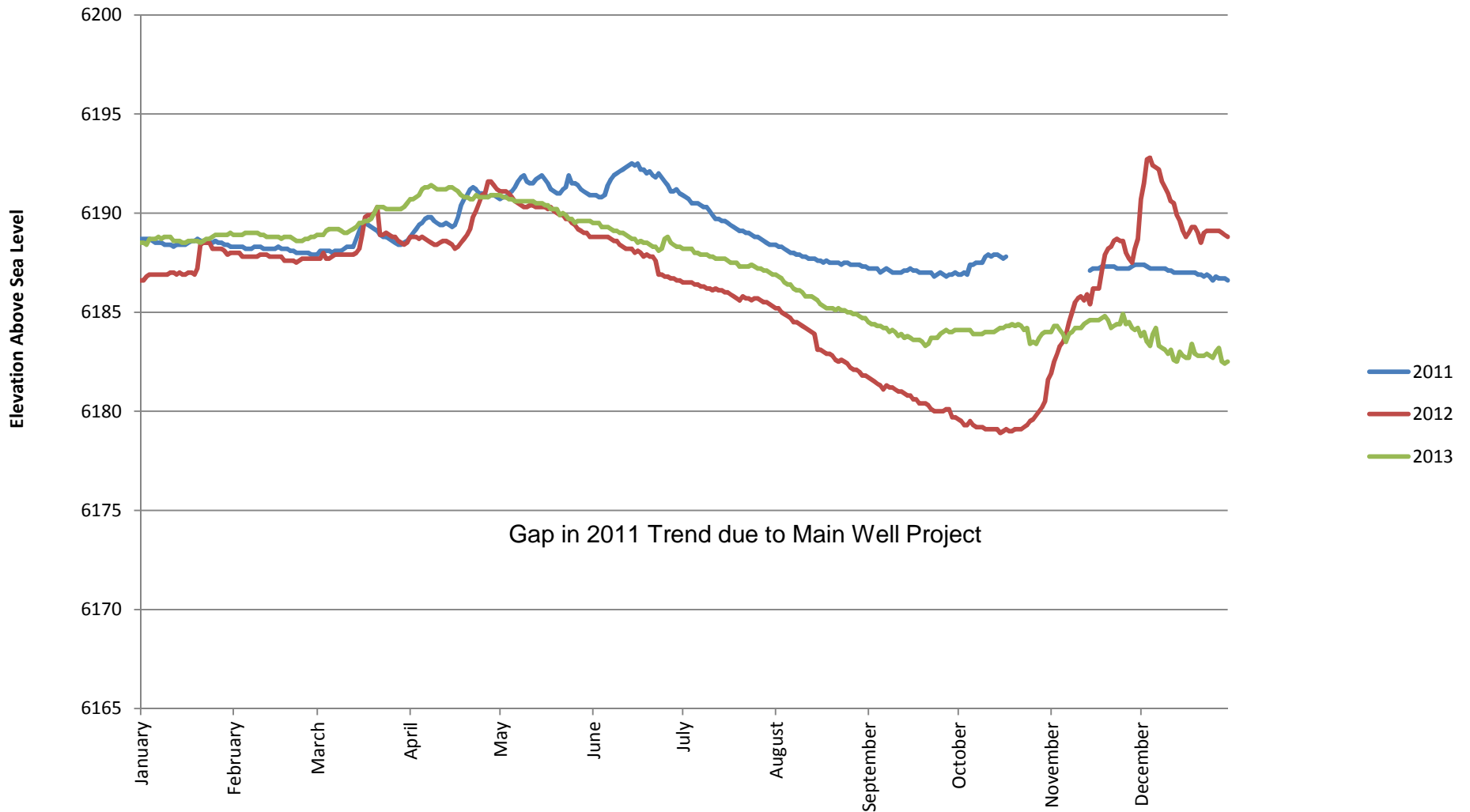
All Rain Years are Calculated from October 1st to September 30th

# SVPSD 15 Year Water Production Trend

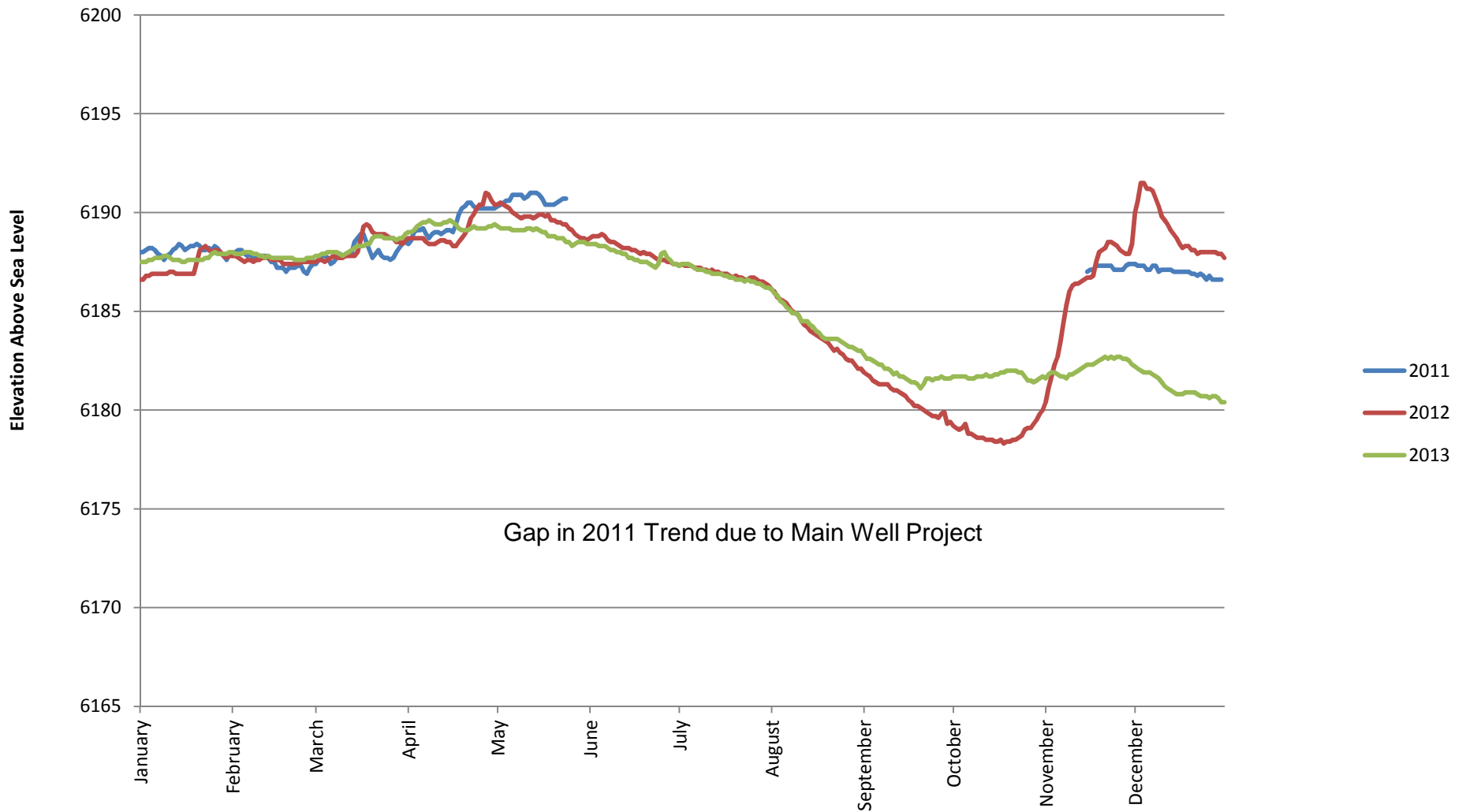
■ Millions of Gallons



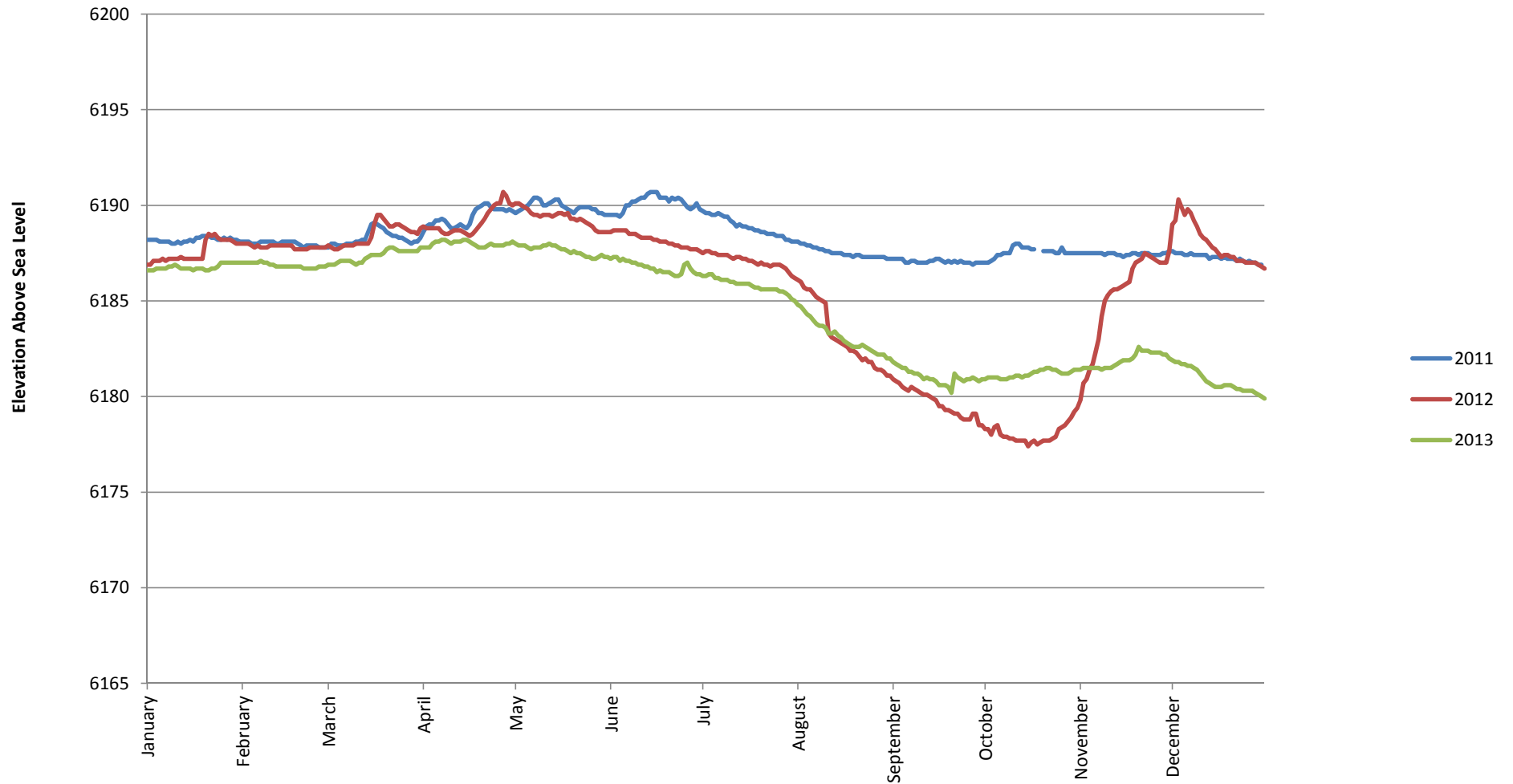
# SVPSD Water Well 1R 3 Year Aquifer Trend



# SVPSD Water Well 2R 3 Year Aquifer Trend



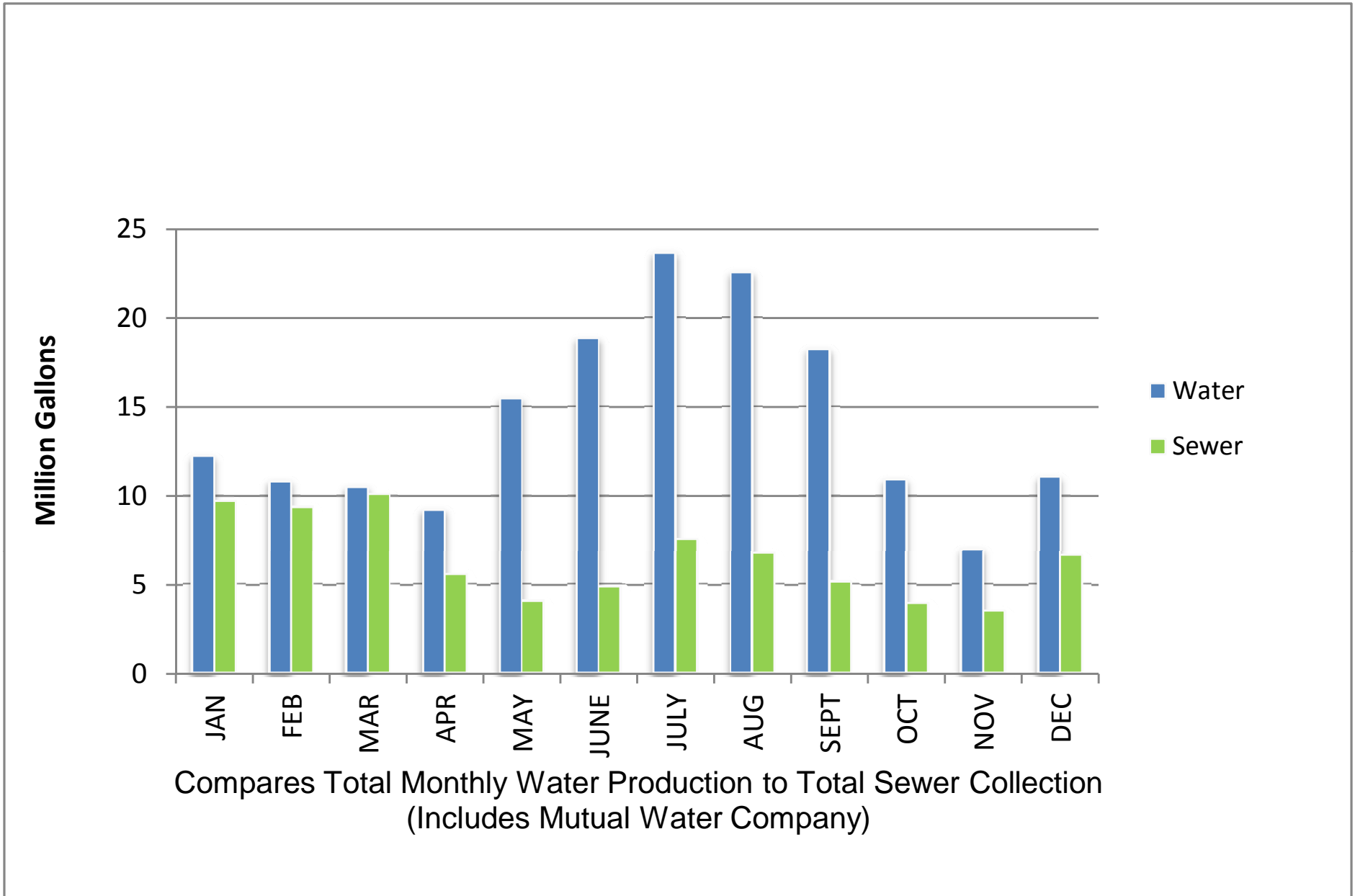
# SVPSD Water Well 5R 3 Year Aquifer Trend





<b>Pump Run Hours</b>							
	<b>Well #1R</b>	<b>Well #2</b>	<b>Well #3</b>	<b>Well #5R</b>	<b>E Boost</b>	<b>Zone-3 #1</b>	<b>Zone-3 #2</b>
<b>Year Installed</b>	2005	1991	2008	1999	1992	1990	1990
1990						30	30
1991		1680				98	66
1992		2863				112	84
1993		3528			121	120	99
1994		3249			489	136	146
1995		2221			1273	223	160
1996		1919			208	363	145
1997		1950	100		405	538	338
1998		2107	1418		376	438	352
1999		2936	0	106	1649	612	264
2000		2276	7	2097	1504	527	640
2001		1969	0	2019	698	631	573
2002		2007	325	2198	1545	493	514
2003		1613	1719	2007	1440	509	503
2004		1796	1820	1866	1646	541	550
2005	209	2100	2101	2174	1169	486	473
2006	1868	1877	1877	1681	1853	455	468
2007	1796	1803	1797	1696	467	1677	438
2008	1552	1545	529	1574	1255	477	460
2009	1546	1539	1548	1568	1249	477	460
2010	1633	1666	1638	1432	1363	381	362
2011	1866	687	620	1983	1169	353	344
2012	1563	1561	1452	1681	1492	510	482
2013	1927	1923	0	1884	1481	417	408
<b>Total Hours</b>	<b>13960</b>	<b>46815</b>	<b>16951</b>	<b>25966</b>	<b>22852</b>	<b>10604</b>	<b>8359</b>

# 2013 Water Sewer Comparison



<b>Water and Sewer Production 2013</b>					
	<b>WATER</b>	<b>WATER</b>	<b>WATER</b>	<b>SEWER</b>	
	<b>SVPSD</b>	<b>MUTUAL</b>	<b>TOTAL</b>	<b>TOTAL</b>	
JAN	10.44	1.78	12.22	9.70	
FEB	9.52	1.31	10.83	9.37	
MAR	8.99	1.51	10.50	10.09	
APR	7.64	1.59	9.23	5.58	
MAY	11.87	3.62	15.49	4.08	
JUNE	14.11	4.74	18.85	4.88	
JULY	18.21	5.46	23.67	7.57	
AUG	16.98	5.56	22.54	6.78	
SEPT	13.37	4.87	18.24	5.16	
OCT	8.49	2.41	10.90	3.94	
NOV	5.78	1.22	7.00	3.50	
DEC	8.96	2.10	11.06	6.65	
	134.36	36.18	170.54	77.31	Million Gallons

## SEWER SYSTEM INVENTORY – 2013

1. 428 Sanitary Manhole per Hansen
2. 2 Siphons (6"-10")
3. 5 Sewer Flow Meter
  - Mag Meter, Painted Rock Siphon T-45A - District owned
  - Mag Meter, Mountain Run - Ski Corp owned
  - Mag Meter, HWY 89 - T-TSA owned
  - Flume Meter, HWY 89 - T-TSA owned (Not in Service)
  - Flume Meter, Victor - District owned (Not in Service)
4. 172 Feet 16" Sewer Main
5. 11,791 Feet 15" Sewer Main
6. 2,689 Feet 12" Sewer Main
7. 9,245 Feet 10" Sewer Main
8. 17,957 Feet 8" Sewer Main
9. 51,364 Feet 6" Sewer Main
10. 6,687 Feet 4" Sewer Main
11. 43,200 Feet 4" Sewer Lateral (Estimated)
12. 1038 Sewer Connections, per Billing
13. 2 Remote Terminal Units (RTU)

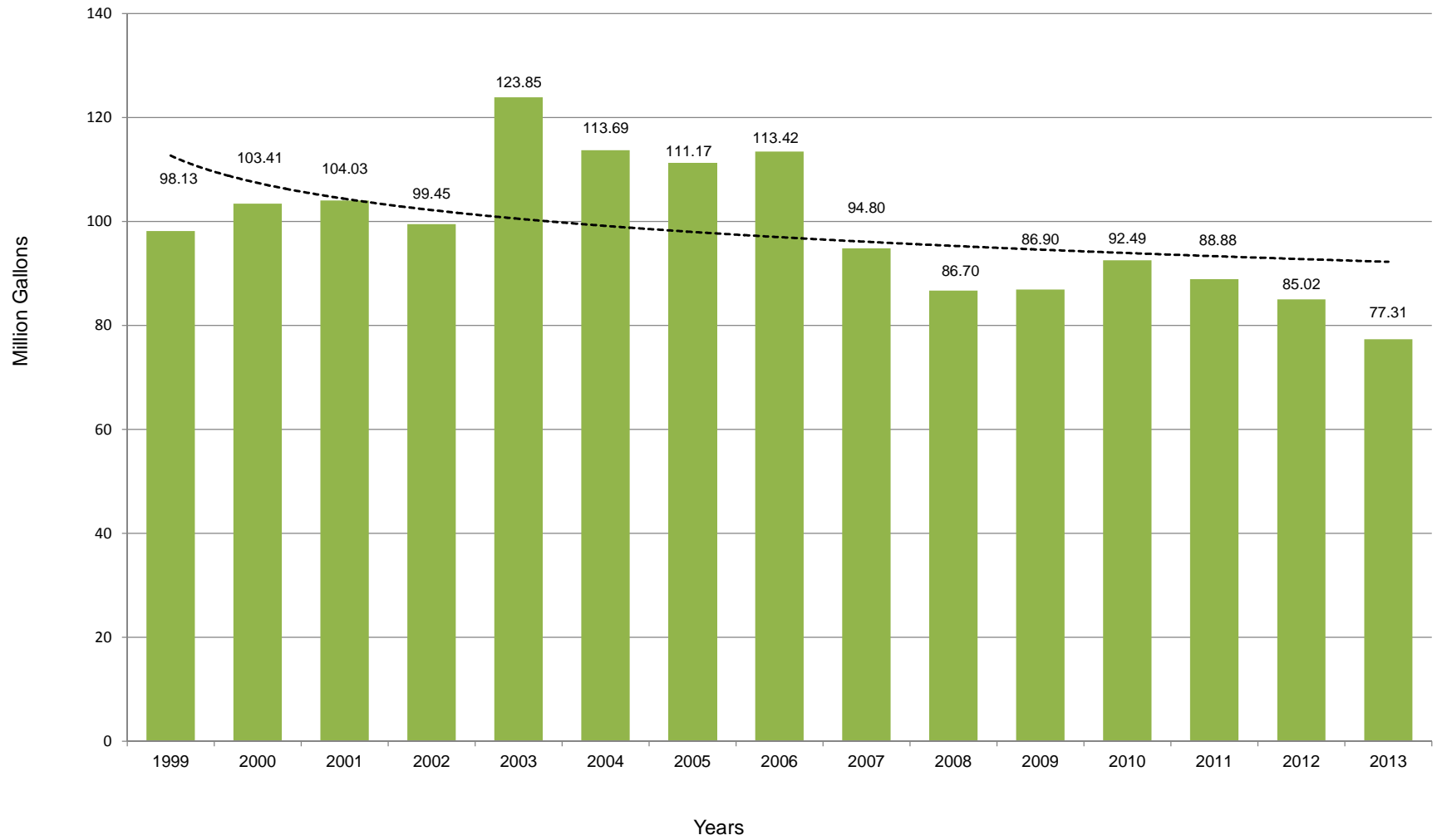
Total Sewer Main = 99,907 Feet = 18.92 Miles per Hansen

Total Sewer Laterals = 43,200 Feet = 8.18 Miles (Estimated)

Combined Totals = 143,107 Feet = 27.10 Miles

Footage revised according to Hansen database except where estimated.

### 15 YEAR SEWER FLOW TREND



# SVPSD - ANNUAL WATER SYSTEM REPORT



REPORTING PERIOD
1/1/2013 12:00 AM
1/1/2014 12:00 AM

## WELLS - MONTHLY PRODUCTION TOTALS (Mgal)

Monthly Report Periods		Well 1R	Well 2R	Well 3	Well 5R	Horizontal Well	Monthly Subtotal
1/1/2013 12:00 AM	2/1/2013 12:00 AM	3.373	3.168	0.000	3.261	0.642	10.444
2/1/2013 12:00 AM	3/1/2013 12:00 AM	3.174	2.994	0.000	2.826	0.378	9.371
3/1/2013 12:00 AM	4/1/2013 12:00 AM	3.019	2.849	0.000	2.851	0.343	9.061
4/1/2013 12:00 AM	5/1/2013 12:00 AM	2.467	2.318	0.000	2.456	0.322	7.564
5/1/2013 12:00 AM	6/1/2013 12:00 AM	3.832	3.625	0.000	3.721	0.621	11.800
6/1/2013 12:00 AM	7/1/2013 12:00 AM	4.835	4.584	0.000	4.053	0.541	14.013
7/1/2013 12:00 AM	8/1/2013 12:00 AM	5.879	5.598	0.000	5.772	1.053	18.302
8/1/2013 12:00 AM	9/1/2013 12:00 AM	5.482	5.239	0.000	5.352	0.949	17.023
9/1/2013 12:00 AM	10/1/2013 12:00 AM	4.718	3.450	0.000	4.568	0.674	13.410
10/1/2013 12:00 AM	11/1/2013 12:00 AM	3.071	2.193	0.000	2.963	0.426	8.653
11/1/2013 12:00 AM	12/1/2013 12:00 AM	2.018	1.440	0.000	1.935	0.244	5.636
12/1/2013 12:00 AM	1/1/2014 12:00 AM	3.186	2.291	0.000	3.109	0.382	8.967
<b>Annual Site Totals (Mgal):</b>		<b>45.054</b>	<b>39.748</b>	<b>0.000</b>	<b>42.868</b>	<b>7.437</b>	

Annual Total (Mgal): 134.243

## BOOSTERS - MONTHLY FLOW TOTALS (Mgal)

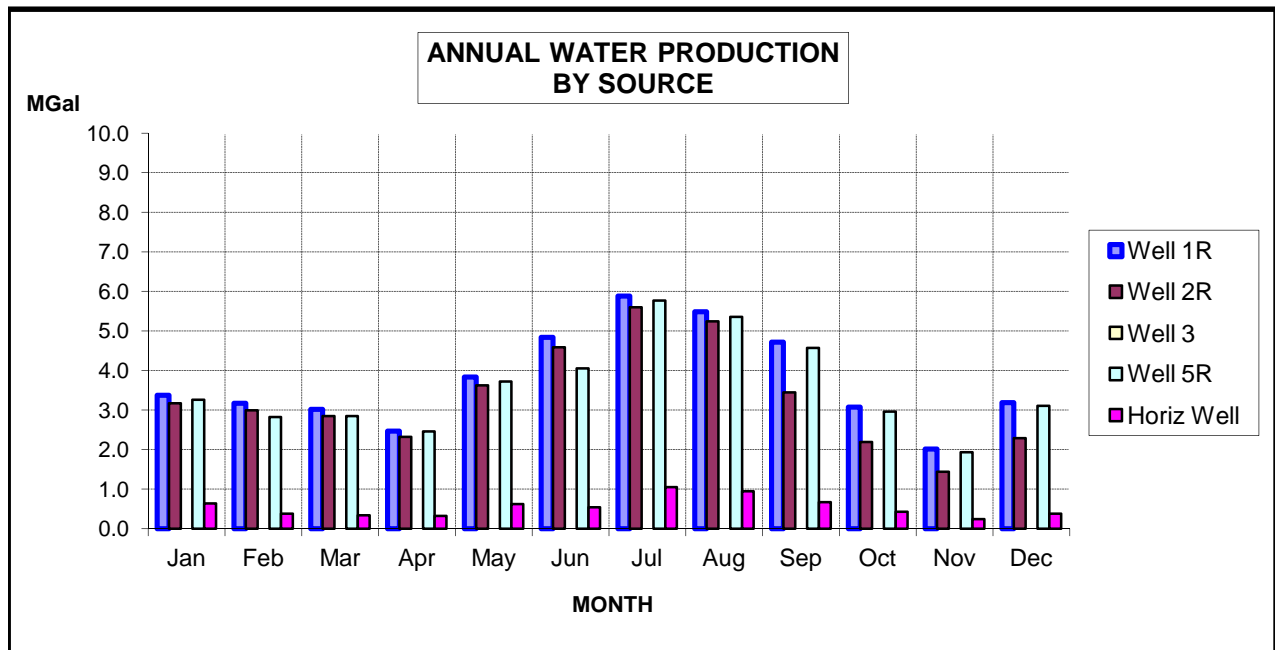
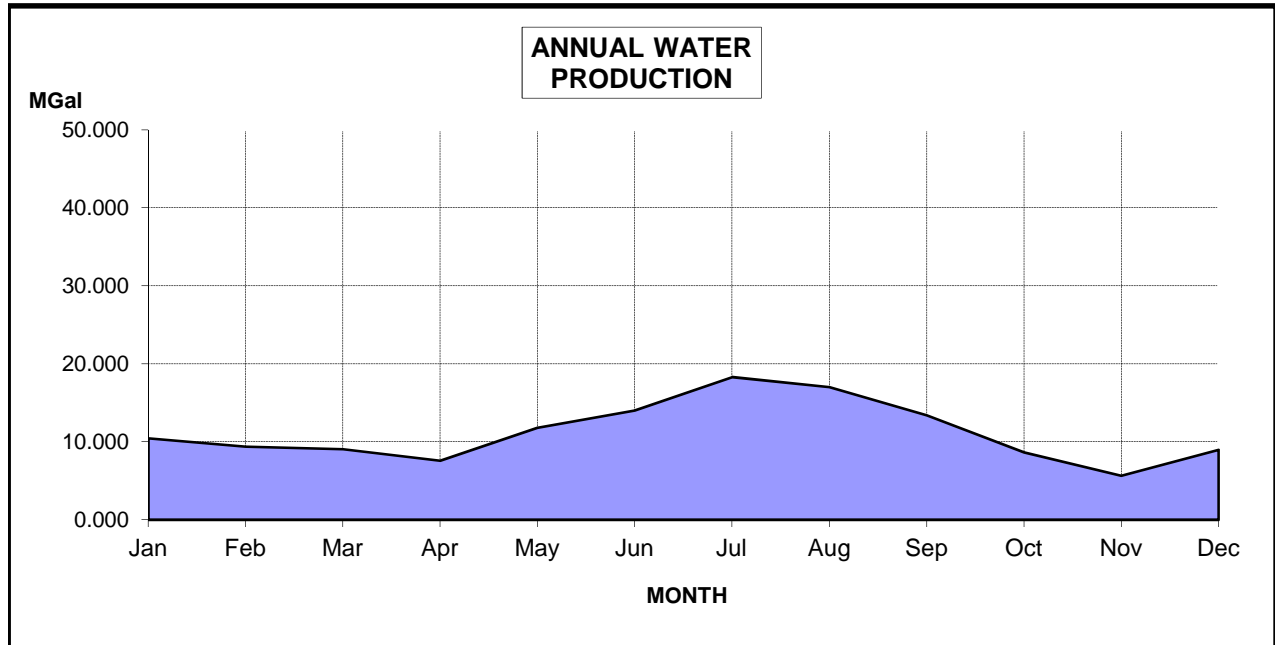
Monthly Report Periods		East Booster	Zone 3 Booster	Monthly Subtotal
1/1/2013 12:00 AM	1/1/2013 12:00 AM	1.670	0.131	1.801
2/1/2013 12:00 AM	2/1/2013 12:00 AM	1.105	0.086	1.191
3/1/2013 12:00 AM	3/1/2013 12:00 AM	1.080	0.096	1.176
4/1/2013 12:00 AM	4/1/2013 12:00 AM	0.729	0.129	0.858
5/1/2013 12:00 AM	5/1/2013 12:00 AM	1.266	0.749	2.015
6/1/2013 12:00 AM	6/1/2013 12:00 AM	1.899	0.853	2.751
7/1/2013 12:00 AM	7/1/2013 12:00 AM	2.536	1.013	3.549
8/1/2013 12:00 AM	8/1/2013 12:00 AM	2.305	1.205	3.510
9/1/2013 12:00 AM	9/1/2013 12:00 AM	1.846	0.991	2.836
10/1/2013 12:00 AM	10/1/2013 12:00 AM	1.248	0.534	1.782
11/1/2013 12:00 AM	11/1/2013 12:00 AM	0.693	0.083	0.776
12/1/2013 12:00 AM	12/1/2013 12:00 AM	1.292	0.477	1.769
<b>Annual Site Totals (Mgal):</b>		<b>17.666</b>	<b>6.348</b>	

Annual Total (Mgal): 24.014

# SVPSD - ANNUAL WATER SYSTEM REPORT



REPORTING PERIOD
1/1/2013 12:00 AM
1/1/2014 12:00 AM



# SVPSD - ANNUAL WATER SYSTEM REPORT



REPORTING PERIOD
1/1/2013 12:00 AM
1/1/2014 12:00 AM

## WELLS - MAXIMUM STATIC MONTHLY WATER ELEVATIONS (FT)

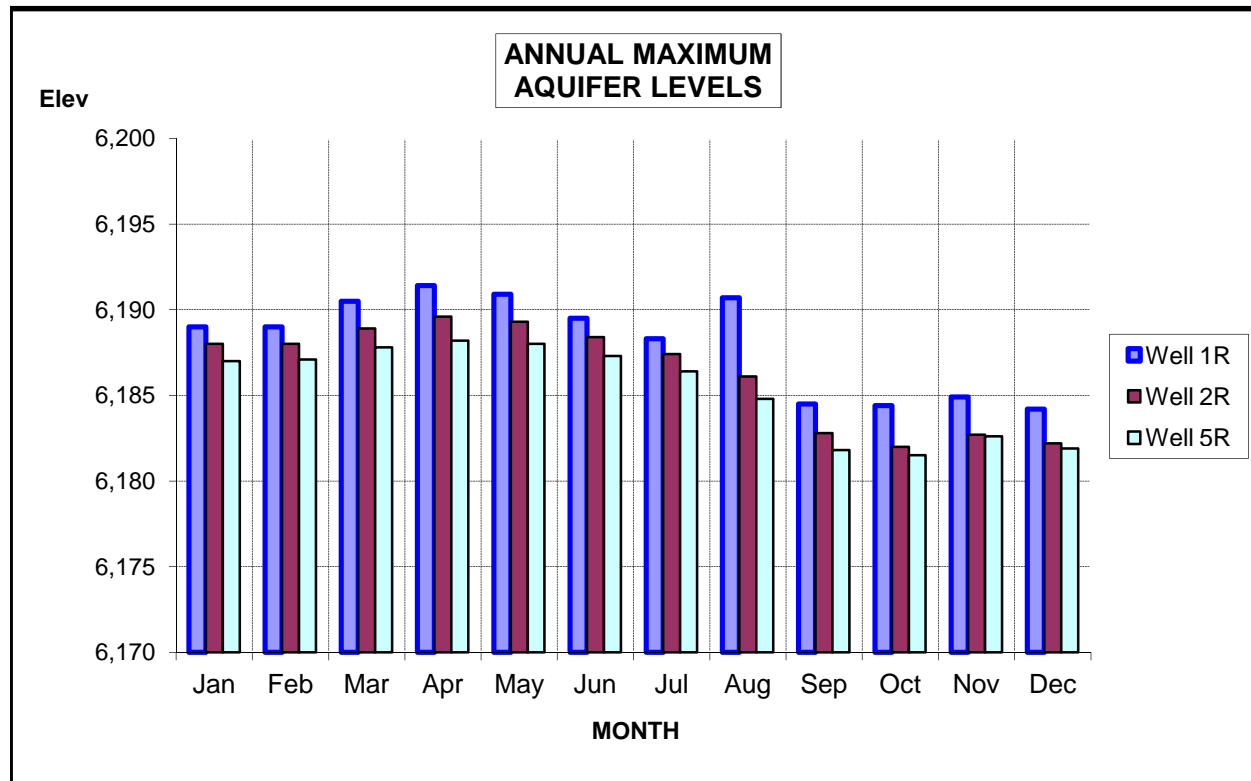
Monthly Report Periods		Well 1R	Well 2	Well 3	Well 5
1/1/2013 12:00 AM	2/1/2013 12:00 AM	6,189.0	6,188.0	6,136.8	6,187.0
2/1/2013 12:00 AM	3/1/2013 12:00 AM	6,189.0	6,188.0	6,136.8	6,187.1
3/1/2013 12:00 AM	4/1/2013 12:00 AM	6,190.5	6,188.9	6,136.8	6,187.8
4/1/2013 12:00 AM	5/1/2013 12:00 AM	6,191.4	6,189.6	6,136.8	6,188.2
5/1/2013 12:00 AM	6/1/2013 12:00 AM	6,190.9	6,189.3	6,136.8	6,188.0
6/1/2013 12:00 AM	7/1/2013 12:00 AM	6,189.5	6,188.4	6,136.8	6,187.3
7/1/2013 12:00 AM	8/1/2013 12:00 AM	6,188.3	6,187.4	6,136.8	6,186.4
8/1/2013 12:00 AM	9/1/2013 12:00 AM	6,190.7	6,186.1	6,136.8	6,184.8
9/1/2013 12:00 AM	10/1/2013 12:00 AM	6,184.5	6,182.8	6,136.8	6,181.8
10/1/2013 12:00 AM	11/1/2013 12:00 AM	6,184.4	6,182.0	6,136.8	6,181.5
11/1/2013 12:00 AM	12/1/2013 12:00 AM	6,184.9	6,182.7	6,136.8	6,182.6
12/1/2013 12:00 AM	1/1/2014 12:00 AM	6,184.2	6,182.2	6,136.8	6,181.9
<b>Annual Maximum:</b>		<b>6,191.4</b>	<b>6,189.6</b>	<b>6,136.8</b>	<b>6,188.2</b>



# SVPSD - ANNUAL WATER SYSTEM REPORT



REPORTING PERIOD
1/1/2013 12:00 AM
1/1/2014 12:00 AM



# SVPSD - ANNUAL WATER SYSTEM REPORT



REPORTING PERIOD	
1/1/2013 12:00 AM	
1/1/2014 12:00 AM	

## TANKS - AVERAGE TANK LEVEL (FT)

Monthly Report Periods		West Tank	East Tank	Zone 3 Tank
1/1/2013 12:00 AM	2/1/2013 12:00 AM	36.2	27.1	12.6
2/1/2013 12:00 AM	3/1/2013 12:00 AM	36.1	27.1	12.7
3/1/2013 12:00 AM	4/1/2013 12:00 AM	36.2	27.2	12.6
4/1/2013 12:00 AM	5/1/2013 12:00 AM	36.2	27.3	12.6
5/1/2013 12:00 AM	6/1/2013 12:00 AM	36.1	27.2	12.8
6/1/2013 12:00 AM	7/1/2013 12:00 AM	36.1	27.0	12.9
7/1/2013 12:00 AM	8/1/2013 12:00 AM	36.1	27.1	12.9
8/1/2013 12:00 AM	9/1/2013 12:00 AM	36.1	27.2	12.8
9/1/2013 12:00 AM	10/1/2013 12:00 AM	36.1	26.5	12.9
10/1/2013 12:00 AM	11/1/2013 12:00 AM	36.2	26.4	12.8
11/1/2013 12:00 AM	12/1/2013 12:00 AM	36.2	26.1	12.6
12/1/2013 12:00 AM	1/1/2014 12:00 AM	36.2	26.1	12.8

## TANKS - AVERAGE STORAGE (KGAL)

Monthly Report Periods		West Tank	East Tank	Zone 3 Tank
1/1/2013 12:00 AM	2/1/2013 12:00 AM	1,042	465	107
2/1/2013 12:00 AM	3/1/2013 12:00 AM	1,041	465	107
3/1/2013 12:00 AM	4/1/2013 12:00 AM	1,043	466	107
4/1/2013 12:00 AM	5/1/2013 12:00 AM	1,042	468	107
5/1/2013 12:00 AM	6/1/2013 12:00 AM	1,039	466	109
6/1/2013 12:00 AM	7/1/2013 12:00 AM	1,039	463	110
7/1/2013 12:00 AM	8/1/2013 12:00 AM	1,040	465	109
8/1/2013 12:00 AM	9/1/2013 12:00 AM	1,039	466	109
9/1/2013 12:00 AM	10/1/2013 12:00 AM	1,039	455	110
10/1/2013 12:00 AM	11/1/2013 12:00 AM	1,041	452	109
11/1/2013 12:00 AM	12/1/2013 12:00 AM	1,041	447	107
12/1/2013 12:00 AM	1/1/2014 12:00 AM	1,042	447	109

# SVPSD - ANNUAL WATER SYSTEM REPORT



REPORTING PERIOD
1/1/2013 12:00 AM
1/1/2014 12:00 AM

## PUMPS - MONTHLY STARTS

Monthly Report Periods		Well 1R	Well 2	Well 3	Well 5	East Booster	Zone 3 Booster 1	Zone 3 Booster 2	Horizontal Well
1/1/2013 12:00 AM	2/1/2013 12:00 AM	67	65	0	64	58	5	4	58
2/1/2013 12:00 AM	3/1/2013 12:00 AM	60	60	0	58	37	2	3	37
3/1/2013 12:00 AM	4/1/2013 12:00 AM	64	63	0	59	36	3	2	36
4/1/2013 12:00 AM	5/1/2013 12:00 AM	67	62	0	55	25	2	3	20
5/1/2013 12:00 AM	6/1/2013 12:00 AM	72	72	0	71	35	16	15	30
6/1/2013 12:00 AM	7/1/2013 12:00 AM	72	72	0	67	39	15	15	24
7/1/2013 12:00 AM	8/1/2013 12:00 AM	91	91	0	90	54	16	15	47
8/1/2013 12:00 AM	9/1/2013 12:00 AM	92	91	0	88	43	15	16	43
9/1/2013 12:00 AM	10/1/2013 12:00 AM	72	73	0	72	31	15	15	31
10/1/2013 12:00 AM	11/1/2013 12:00 AM	58	58	0	56	31	13	10	29
11/1/2013 12:00 AM	12/1/2013 12:00 AM	44	44	0	39	26	3	2	26
12/1/2013 12:00 AM	1/1/2014 12:00 AM	60	59	0	57	45	11	12	45
ANNUAL TOTALS:		819	810	0	776	460	116	112	426

## PUMPS - MONTHLY RUNTIMES (HRS)

Monthly Report Periods		Well 1R	Well 2	Well 3	Well 5	East Booster	Zone 3 Booster 1	Zone 3 Booster 2	Horizontal Well
1/1/2013 12:00 AM	2/1/2013 12:00 AM	143	143	0	142	140	9	7	140
2/1/2013 12:00 AM	3/1/2013 12:00 AM	135	134	0	124	93	5	7	92
3/1/2013 12:00 AM	4/1/2013 12:00 AM	129	128	0	124	90	7	5	91
4/1/2013 12:00 AM	5/1/2013 12:00 AM	105	105	0	108	62	5	11	48
5/1/2013 12:00 AM	6/1/2013 12:00 AM	162	162	0	162	106	50	46	87
6/1/2013 12:00 AM	7/1/2013 12:00 AM	205	204	0	176	159	50	58	81
7/1/2013 12:00 AM	8/1/2013 12:00 AM	250	250	0	252	212	68	61	181
8/1/2013 12:00 AM	9/1/2013 12:00 AM	236	236	0	236	193	73	78	193
9/1/2013 12:00 AM	10/1/2013 12:00 AM	202	202	0	202	155	65	62	153
10/1/2013 12:00 AM	11/1/2013 12:00 AM	133	133	0	133	105	36	33	103
11/1/2013 12:00 AM	12/1/2013 12:00 AM	87	87	0	86	58	6	6	59
12/1/2013 12:00 AM	1/1/2014 12:00 AM	140	139	0	139	108	43	34	108
ANNUAL TOTALS:		1,927	1,923	0	1,884	1,481	417	408	1,336

# SVPSD - ANNUAL WASTEWATER SYSTEM REPORT



REPORTING PERIOD
1/1/2013 12:00 AM
1/1/2014 12:00 AM

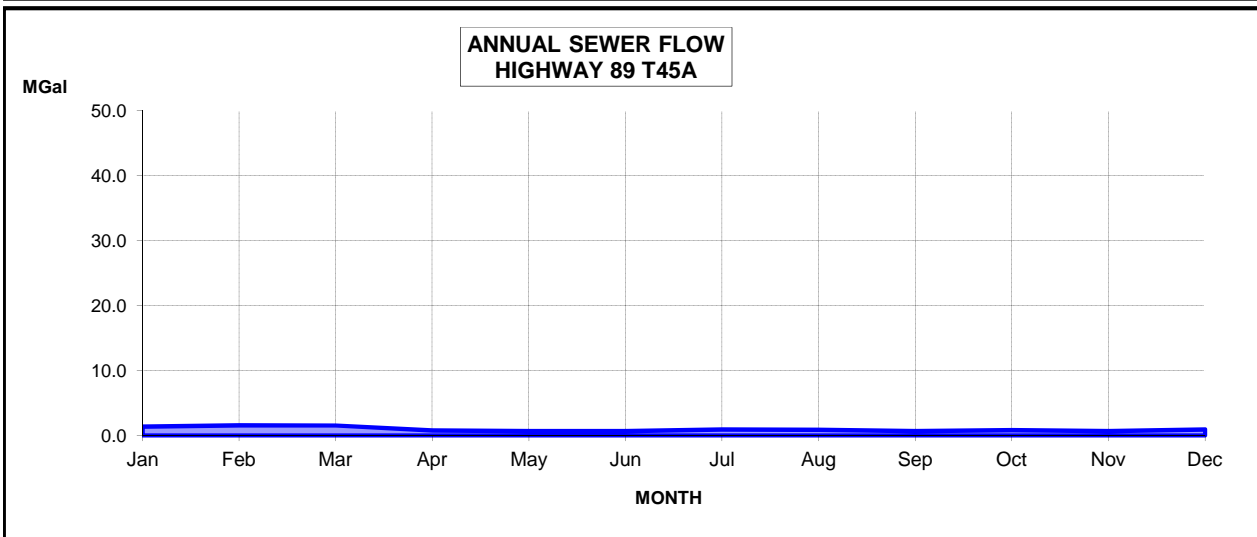
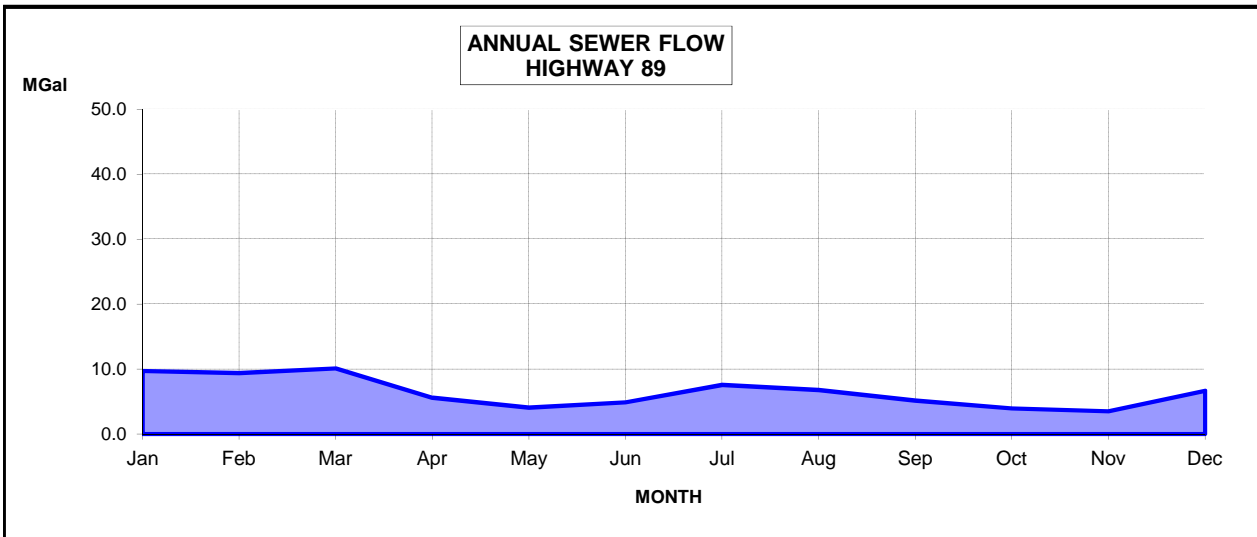
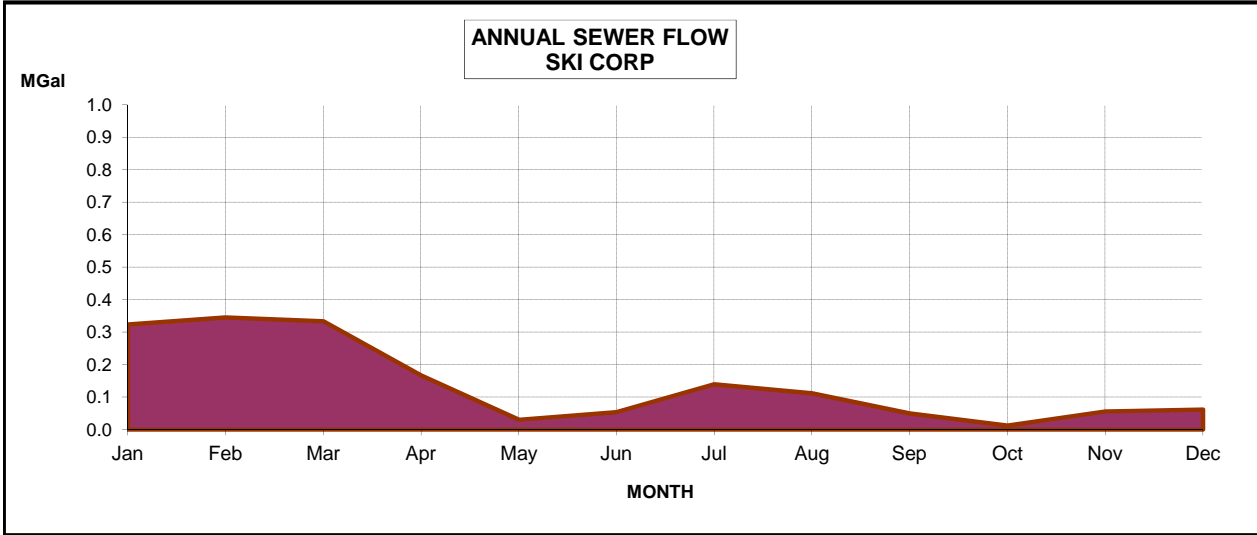
## FLOWMETERS - MONTHLY TOTALS (Mgal)

Monthly Report Periods		Ski Corp	Highway 89	Highway 89 T45A
1/1/2013 12:00 AM	2/1/2013 12:00 AM	0.323	9.699	1.345
2/1/2013 12:00 AM	3/1/2013 12:00 AM	0.345	9.374	1.556
3/1/2013 12:00 AM	4/1/2013 12:00 AM	0.333	10.093	1.528
4/1/2013 12:00 AM	5/1/2013 12:00 AM	0.167	5.584	0.775
5/1/2013 12:00 AM	6/1/2013 12:00 AM	0.031	4.076	0.653
6/1/2013 12:00 AM	7/1/2013 12:00 AM	0.054	4.876	0.664
7/1/2013 12:00 AM	8/1/2013 12:00 AM	0.140	7.566	0.895
8/1/2013 12:00 AM	9/1/2013 12:00 AM	0.112	6.777	0.868
9/1/2013 12:00 AM	10/1/2013 12:00 AM	0.050	5.162	0.679
10/1/2013 12:00 AM	11/1/2013 12:00 AM	0.013	3.944	0.799
11/1/2013 12:00 AM	12/1/2013 12:00 AM	0.056	3.500	0.666
12/1/2013 12:00 AM	1/1/2014 12:00 AM	0.062	6.655	0.927
<b>Annual Site Totals (Mgal):</b>		<b>1.685</b>	<b>77.305</b>	<b>11.356</b>

# SVPSD - ANNUAL WASTEWATER SYSTEM REPORT



REPORTING PERIOD
1/1/2013 12:00 AM
1/1/2014 12:00 AM



# SVPSD - ANNUAL POWER SYSTEM REPORT



REPORTING PERIOD
1/1/2013 12:00 AM
1/1/2014 12:00 AM

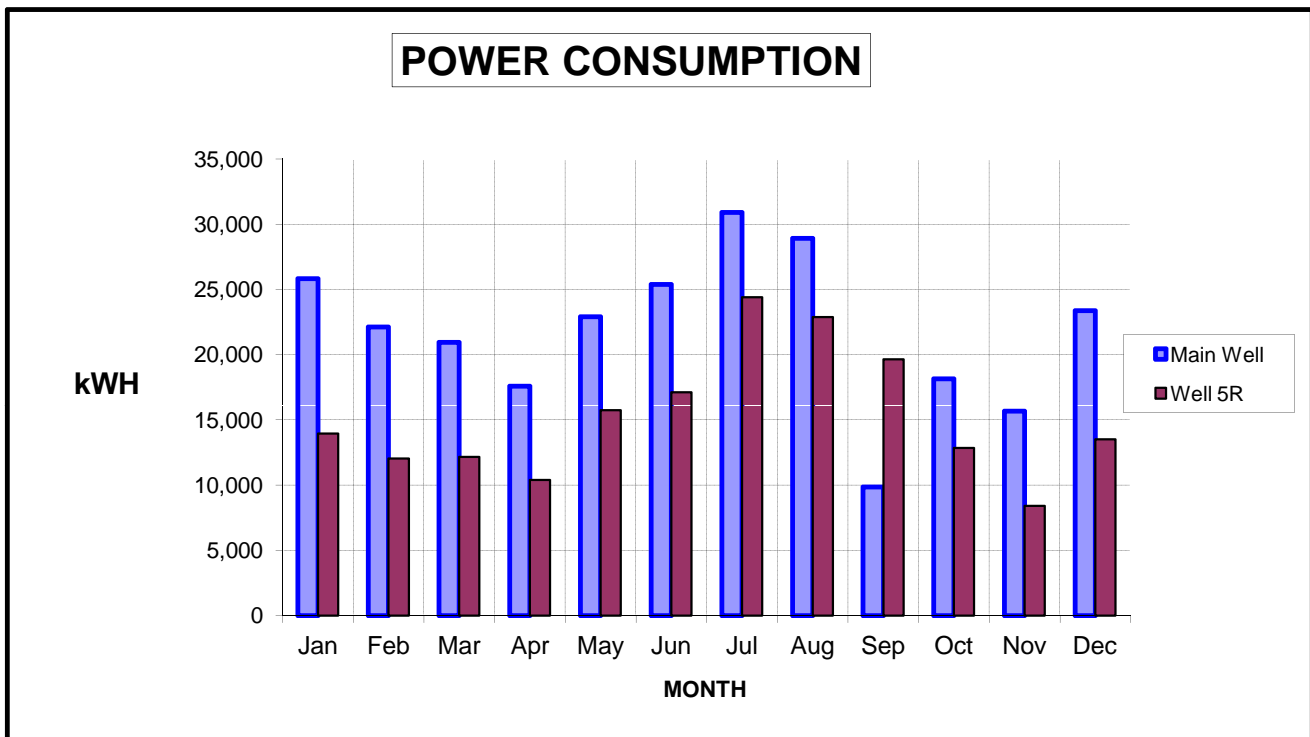
## POWER CONSUMPTION (kWH)

Monthly Report Periods		Main Well	Well 5R
1/1/2013 12:00 AM	2/1/2013 12:00 AM	25,822	13,964
2/1/2013 12:00 AM	3/1/2013 12:00 AM	22,121	12,029
3/1/2013 12:00 AM	4/1/2013 12:00 AM	20,941	12,168
4/1/2013 12:00 AM	5/1/2013 12:00 AM	17,581	10,392
5/1/2013 12:00 AM	6/1/2013 12:00 AM	22,919	15,752
6/1/2013 12:00 AM	7/1/2013 12:00 AM	25,383	17,122
7/1/2013 12:00 AM	8/1/2013 12:00 AM	30,911	24,398
8/1/2013 12:00 AM	9/1/2013 12:00 AM	28,913	22,896
9/1/2013 12:00 AM	10/1/2013 12:00 AM	9,865	19,654
10/1/2013 12:00 AM	11/1/2013 12:00 AM	18,154	12,841
11/1/2013 12:00 AM	12/1/2013 12:00 AM	15,665	8,408
12/1/2013 12:00 AM	1/1/2014 12:00 AM	23,384	13,509
ANNUAL TOTALS:		261,659	183,131

# SVPSD - ANNUAL POWER SYSTEM REPORT



REPORTING PERIOD
1/1/2013 12:00 AM
1/1/2014 12:00 AM



## 2014 Annual Report on District Fleet

It is management's goal at the Squaw Valley Public Service District to have a robust emergency ready fleet capable of supporting a high level of maintenance and repair of the water and sewer infrastructure in Squaw Valley. Annual review of the fleet is integral to supporting this goal and provides a tool for making budgetary decisions for both the annual budget and the 10 year CIP.

Due to recessionary budget cuts the past four to six years, the overall age of the District fleet is increasing rapidly and is now 12.5 years. The District has foregone vehicle and equipment replacements four of the past six years. The result is that fleet replacement is falling behind and as shown in the attached graphic maintenance costs continue to rise. The 2003 Ford ¾ ton service truck was approved for replacement in 2013 due to maintenance and safety concerns; however there are two vehicles exceeding 15 years of age to be considered for replacement in 2014 and the backhoe is passing the 20 year mark.

The attached spreadsheet summarizes District vehicle and equipment by year, model, mileage, age, replacement schedule, and remaining service life. Additionally there are maintenance and cost projections for the coming budget year. Maintenance costs to date exceed 2013 projections by \$2,765 as discussed later in this report.

As management looks forward to the next few years of fleet management there are vehicles and equipment that should be analyzed and considered for replacement as follows:

**1997 Ford Explorer:** This vehicle is 17 years old and exceeds 115,000 miles. The vehicle began having major problems this past year beginning with replacement of the heater control box, the ball joints in the front end were replaced to correct shimmy, and repair of a leaking 4WD shaft pinion seal was needed just this past week. Internet research shows the first two failures are very common and that timing chain failure is also common. The present value of the vehicle according to Kelly Blue Book is as low as \$682. A new vehicle of the same class will get up to 10 MPG increase in fuel economy, estimated to save the District \$650 annually. This vehicle is recommended for replacement as soon as possible.

**1998 Ford Ranger:** The Ranger is 16 years old with over 100,000 miles. The condition of this vehicle is less than satisfactory with plastic parts in the interior cracking and breaking, the passenger seat handles broke off and the drive train is making noise. This vehicle is used for on call duty since it gets the best gas mileage, however a replacement vehicle will get at least 5 MPG better mileage saving an estimated \$500 annually.



**2003 Ford F250 (TV Truck):** This vehicle is already budgeted for replacement, I am recommending it be replaced with a king cab style truck that can be used for training travel. I am waiting for the 2014 California State Vehicle Purchase Plan numbers in order to get the best price; they should be available in March 2014.

**1994 JCB Backhoe:** The backhoe is 20 years old with 2,785 hours. Although the equipment was envisioned to last more than 20 years, I am projecting some potentially serious problems if replacement is delayed. There is a leak in the valve body that was cost estimated by both JCB and John Deere to be about \$6,000 to repair. There have been failures of the front spindles which are likely to reoccur and there is a problem developing with the rear drive axel; which is loose and making noise. The JCB will need a new set of tires this year.

The JCB dealer in Reno closed their doors several years ago and their mobile mechanic now comes from Sacramento making even minor repairs problematic; obsolescence due to age means parts must come from overseas or Canada. The JCB is a lightweight and low power alternative that cost far less than comparable equipment when purchased. The Utility Department would benefit from a heavier and slightly more powerful replacement such as a John Deere 410 or CAT 416. I am recommending replacement of this vehicle for the 2014 budget cycle.

**1999 Ford F250 Utility Truck:** This vehicle is 15 years old with 45,000 miles. This vehicle is in good condition with no known problems. I am recommending the service be extended and replacement scheduled in 2015.

**Replacement Timeline:** Attached is a 10 year timeline for vehicle and equipment replacement with estimated costs.

#### **Recommendation:**

I am recommending the District rethink the strategy of arbitrarily extending a vehicles service life. Instead, vehicles should be evaluated upon their individual merit. It may be that a rugged heavy duty vehicle with low mileage can be maintained longer economically but a light duty vehicle that is old and has high mileage is likely to have higher maintenance costs. Those costs include the cost to transport a vehicle to and from the shop, management cost, and opportunity cost such as higher gas mileage, and then there is the cost of the repairs and the down time. Down time is the time spent just having to stop work, switch gears and deal with the loss of the equipment while it is down.

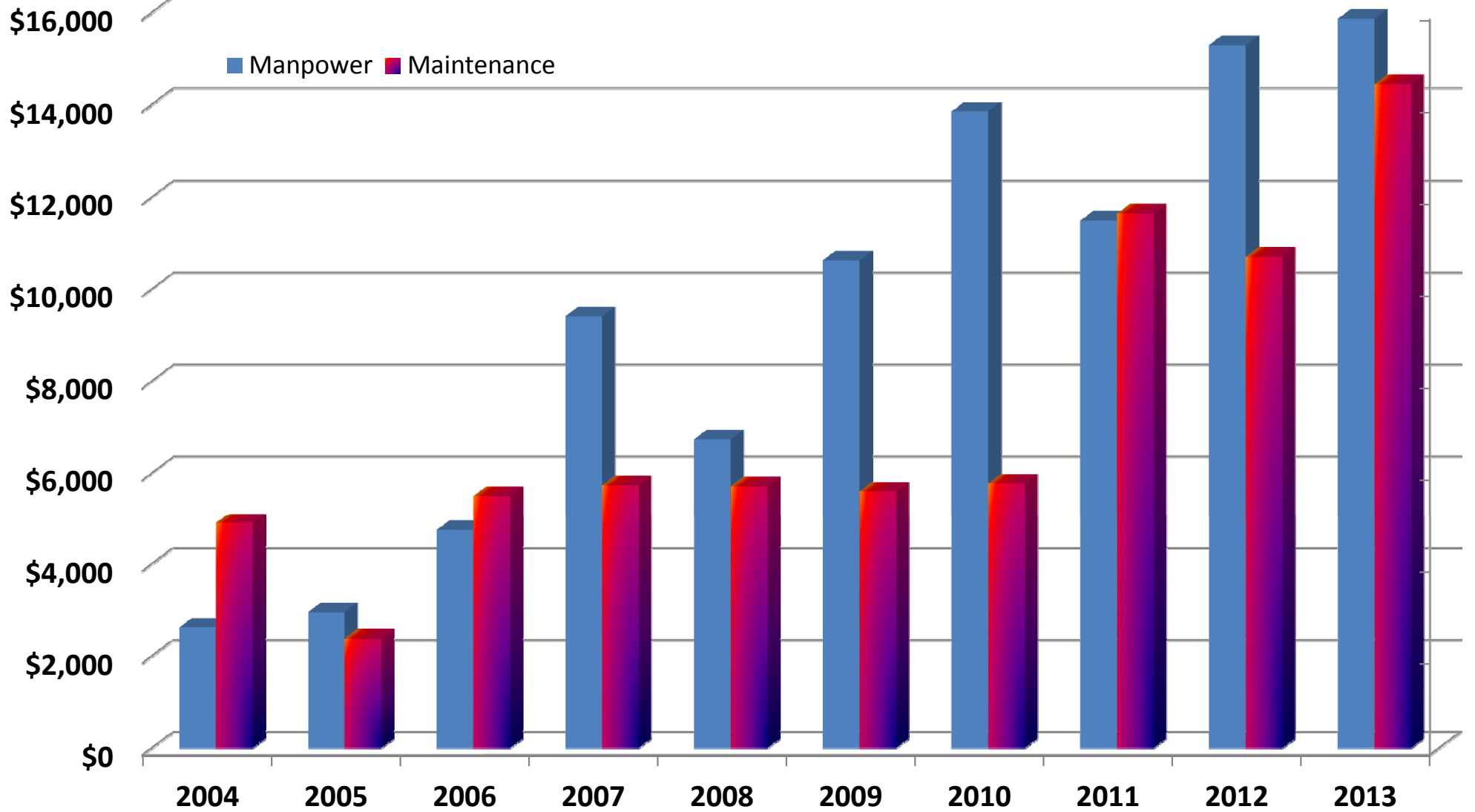
I am recommending the District embark upon a comprehensive vehicle and equipment maintenance and replacement program as outlined in the attached draft SVPSD Fleet Management Program. In the meantime, the three older vehicles described above should be considered a liability.

# Annual Report on District Fleet

2014

Vehicle/Equipment	Mileage Hours	Age	Replacement Schedule	Service Life	Annual Use	Maintenance Performed	2013 2014	Maintenance Due	2014 2015
2008 Ford 1 Ton 4x4 Flat	22,264	6	15	9	4,017	Annual Service	\$125	Annual Service	\$125
						Seat Cover	\$150	New Tires	\$1,300
1999 Ford Utility 4x4	44,895	15	15	0	5,028	Annual Service	\$125	Annual Service	\$125
						Trouble Shooting/Repair	\$211	60K Service	\$200
2003 Ford F250 TV Truck	26,755	11	15	4	2,434	Annual Service	\$125	Annual Service	\$125
1997 Ford Explorer	114,073	17	15	-2	10,905	2x Annual Service	\$250	2x Annual Service	\$250
						Heater Repair/Frnt End Repair	\$1,649	20K, 100K Service	\$200
1998 Ford Ranger 4x4	100,705	16	15	-1	17,710	2x Annual Service	\$250	2x Annual Service	\$250
						Tranny Filter and Gasket/New Tires	\$722	30K, 100K Service	\$200
2008 F-750 Dump Truck	5,173	6	25	19	668	Annual Service	\$125	Annual Service	\$125
1998 JD 444H Loader	2,993	16	25	9	107	Annual Service	\$125	Annual Service	\$125
						Fork Repair/Cylinder Repair	\$2,431		
1994 JCB Backhoe	2,781	20	25	5	71	Annual Service	\$125	Annual Service	\$125
								Tire Replacement/Hyd. Vlv Repair	\$7,000
1998 JD Air Compressor	334	16	25	9	13	Annual Service	\$125	Annual Service	\$125
2007 New Holland Westa Sno Blower	337	7	25	18	27	Annual Service	\$125	Annual Service	\$125
			20	13		Drain Plug Gasket	\$1		
						Coolant and Coolant Filter	\$200		
2009 Vac-Con Hydro-Vac	5,887	5	25	20	884	Annual Service	\$125	Annual Service	\$125
Power Take Off (PTO)	158	5	25	20	40	Bulbs	\$16		
2009 Duetz Rear Engine	339	5	25	20	97	Annual Service	\$125	Annual Service	\$125
6" Trash Pump (2000)	34	14	30	16	9	Annual Service	\$125	Annual Service	\$125
						New Battery	\$178		
2010 Prowler Easement	26.8	4	20	16	4	Annual Service	\$125	Annual Service	\$125
Well House Generator (1993)	205.1	21	40	19	15	Annual Service	\$125	Annual Service	\$125
1810 Generator (1991)	763.3	23	40	17	3	Annual Service	\$125	Annual Service	\$125
305 Generator (2004)	135.3	10	40	30	4	Annual Service	\$125	Annual Service	\$125
						New Batteries	\$292	New Coolant	\$200
Miscellaneous Shop Supplies						Rags,Cleaning supp. Ect.	\$238	Rags, Cleaning Supp. Ect.	\$600
<b>Total</b>	<b>Fleet Ave.</b>	<b>12.9</b>					<b>\$8,463</b>		<b>\$ 12,075</b>

# Vehical Manpower and Maintenance Costs



## **SVPSD Fleet Management Program (Draft)**

As the Operations Manager of the Squaw Valley Public Service District it is my goal to establish a cost effective fleet management program. When I assumed this responsibility some years ago I took on the job of updating a fleet that was obsolete and under maintained. I attempted to implement a replacement policy of 10 years/ 100,000 miles and with my background as an aircraft mechanic I implemented a fleet maintenance program using the Hansen Maintenance Management software. The result has been an average fleet age as low as 8.3 years and high vehicle reliability while operating in one of the nation's harshest climates. The problem is the program was never laid out in a written format that could be approved by upper management or followed by my successor. Much like the sewer system SSMP and the water system Operations Plan, the District will benefit from a fleet management program to include a fleet replacement plan.

In preparing for the fleet planning effort I've had some trouble figuring out how to pass on the knowledge and education I received in aircraft maintenance. I have sought out training opportunities for my staff, but trade schools are lengthy and fleet training is not available locally. I have recently filled some of the education gap for myself using the internet and in doing so I have joined an organization "Government Fleet" a magazine for managing public sector fleets and "Repair Pal" a private sector company that is a resource for tracking and solving vehicle maintenance problems. I will continue to seek out resources that can provide additional insight into evaluating vehicle maintenance requirements, serviceability, and life cycle analysis. Through my research I have selected several articles of benefit to establishing a fleet program including; "Establishing a Cost Effective Fleet Replacement Program", Sal Balboa 2003, and "How to be a Top Public Sector Fleet Manager", Steve Kibler 2012. The following are key points in establishing a cost effective fleet management program:

### **Strike a balance between capitalizing fleet cost and operating costs:**

A fleet manager should analyze all aspects of the financial impact of extending a vehicles service life to include replacement cost over initial cost, depreciation and present value, fuel economy, maintenance records, and obsolescence.

### **Put in place and asset replacement program for funding vehicle and equipment purchase:**

The District is well aware of the virtues of preparing in advance to replace assets and infrastructure. A fleet replacement program is essential to providing efficient maintenance of the sewer and water systems. The asset replacement program should be fully funded and have a pay-back clause if monies are diverted during times with constrained budgets. Salvage funds recouped from sale of an asset should be returned to the asset replacement fund.

**Plan and execute a comprehensive preventive maintenance program:**

A preventive maintenance program reduces the overall cost of vehicle maintenance and repair, enables vehicles to reach their economic service life, increases the residual or salvage value, and enhances the credibility and professionalism of the fleet department.

**Leverage technology in both maintenance management and fleet replacement strategies:**

Today's technology provides vast opportunities for sharing information and managing infrastructure. The District VueWorks program may be leveraged for asset management. Technological advances in engineering provide opportunities for fuel savings, safety features, and a host of data sharing opportunities for improving fleet management.

**Develop a decision process for vehicle and equipment replacement:**

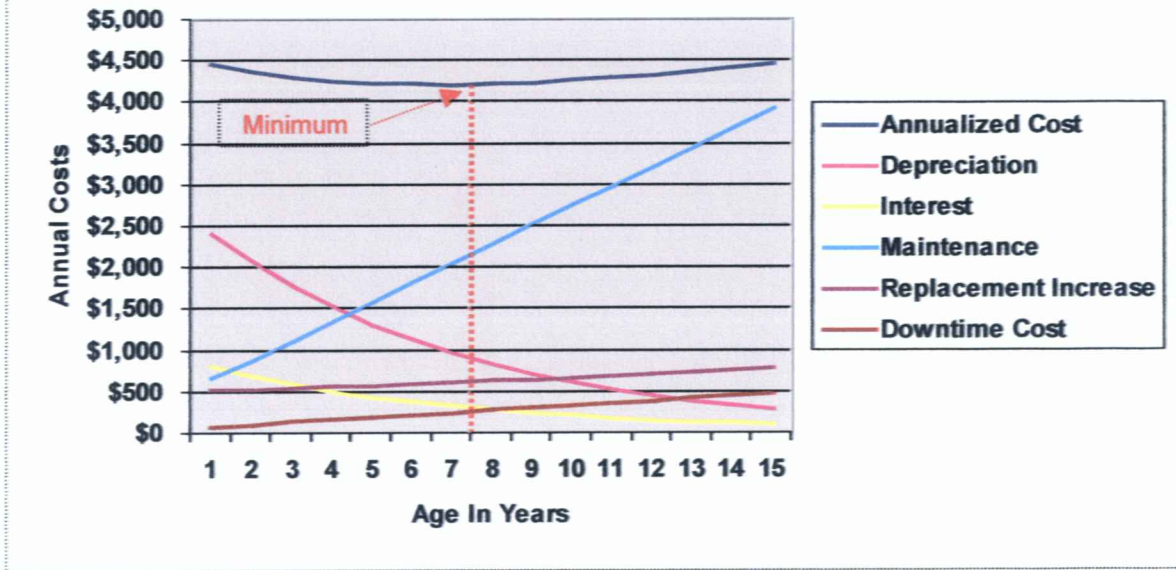
Make sure the vehicle is being fully utilized; should it be upgraded or can it be downgraded. What is the vehicles condition, what problems may be forecast by benchmarking maintenance records from other sources, investigate manufacturers recall problems, are there safety considerations.

Attached is an example of a decision matrix used to establish the life cycle of a light duty truck using annualized costs. I read an article where a large utility decided to extend the fleet replacement milestone from 100,000 miles to 104,000 miles. The consultant determined the breakpoint where annual costs were subsidizing capital costs was 105,000 miles. Another article was about why the city of Vacaville switched from ownership to leasing light duty vehicles. They determine that the policy of 10 years/ 100,000 miles was costing more than leasing light duty vehicles and rolling them over much sooner.

**Recommendation:**

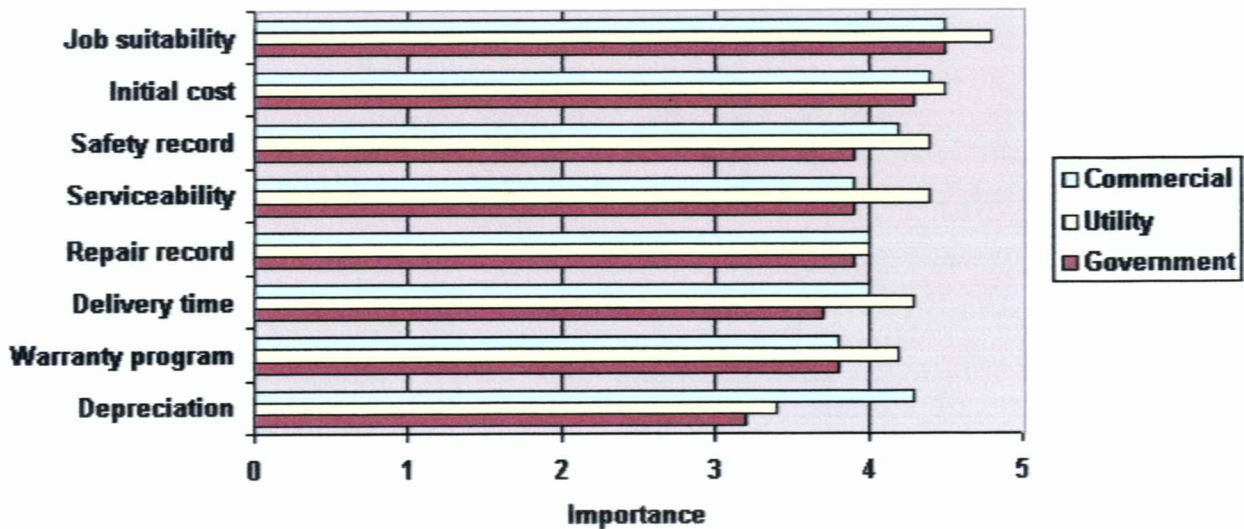
I recommend the District embark upon a Fleet Management Program beginning in 2015; which may be reflected in future budget strategies. In the meantime, policies that are already in motion will be improved and staff will strive to implement those that are not. The strategies listed above will help to ensure the District has a cost effective method for vehicle maintenance and replacement.

**Exhibit 3: Sample Life Cycle Cost Analysis For Light Trucks**



In the lifecycle cost analysis example in this chart, seven years was determined to be the life span that produces the lowest total cost.

**Exhibit 4: Ranking of Vehicle Selection Factors**  
(Source NAFA: "2002 Model Year New Vehicle Acquisition Survey")



This chart shows that job suitability is the highest rated factor in acquiring vehicles for commercial, utility and government fleets.

## Vehicle and Equipment Replacement Timeline Ten Year CIP

Vehicle	Year	Cost
1997 Ford Explorer	2013	\$32,000
1994 JCB Backhoe	2014	\$85,000
1998 Ford Ranger	2014	\$27,000
1999 F-250 Utility	2015	\$32,000
Add Utility Truck	2017	\$32,000
Vac-Con Rear Engine Retrofit	2018	\$12,000
1998 JD 444H Loader	2019	\$100,000
1998 JD Air Compressor	2020	\$18,000
1810 Generator (1991)	2021	\$60,000
Well House Generator (1993)	2023	\$80,000
		<b>Total \$478,000</b>

# SVPSD Operations Department 10 Year Fuel Usage Trend

