Grand Water & Sewer
Service Agency

Annual Report 2012

President's Message

Grand Water & Sewer Service Agency is pleased to present its Annual Report for the year 2012. It is hoped that this synopsis of the Agency's activities in 2012 will give all those interested a better understanding of the functions the Agency performs and the issues it faces. This year we have updated the format for the annual report. We hope you find the changes useful.

The Board and Staff of the Agency appreciate the opportunity to serve the citizens of Spanish Valley.

Dan Pyatt
President

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Mike Holyoak, Operating Comm.
Pat Holyoak, Operating Comm.
Rex Tanner, Operating Comm.
Dale Weiss, Operating Comm.
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Mike Holyoak, Vice Chair
Kyle Bailey
Pat Holyoak
Tom Stengel

Project and Program Report

Interconnect Project

In September 2012 the Agency completed the George White booster pump and interconnect. This project began in 2008 as a way to provide redundancy to the culinary water system by interconnecting the George White wells with the three million gallon tank in the event of a failure of the Chapman well and included the installation of an emergency generator at the Chapman well site. A benefit of the project included a substantial power cost savings from using the George White wells instead of the larger Chapman well in the winter. This project won the Rural Water Association's "System Resource Efficiency Award" at the Rural Water Conference in February 2013.

Rehabilitation of Betty Shumaker Upper Well

The Betty Schumaker Upper Well was inspected by video camera, cleaned, and rehabilitated by Mike Zimmerman Well Service in the summer of 2012. The well produces approximately 300 gpm with 130 feet of drawdown. The casing screens were brushed twice and a motor shroud was installed prior to the reassembly.

SCADA Upgrades – George White Wells
The Agency updated old telemetry technology at the George White Wells concurrent to the interconnect project.

Equipment Program
A total of 937 hours of equipment time was used in 2012. Average vehicle mileage was 19,086.

Sewer Inspection and Maintenance Program
The demand for service personnel in the water and irrigation departments delayed the sewer inspection program in 2012. Staff will resume the program in 2013.

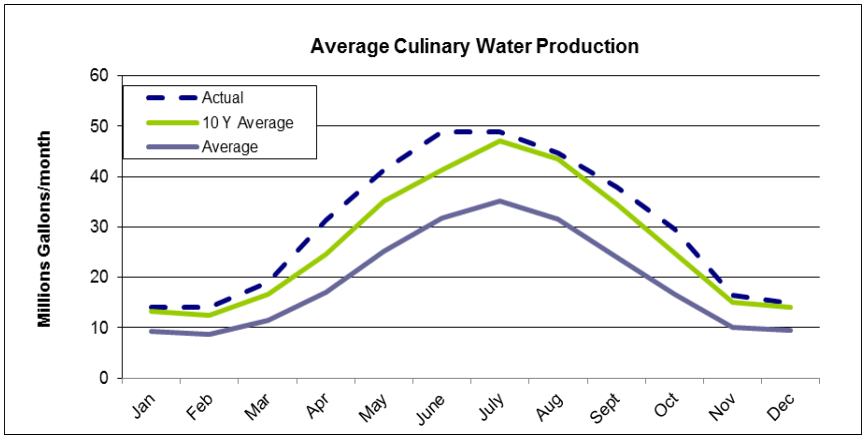
Operator Hours Tracking by Service
Total Hours: 5729

Water: 3781.5 Hours or 66%
Sewer: 255 Hours or 4%
Irrigation: 1205.50 or 21%
Other: 487.00 or 9%
Operators completed 724 customer service orders

Culinary Water System

2012 Culinary Water Production

	Production 2011	Production 2012
January	11,442,000	14,039,000
February	10,430,000	13,995,000
March	13,467,000	19,115,000
April	20,815,000	31,290,000
May	28,800,000	41,367,000
June	39,658,000	48,807,000
July	38,594,000	48,961,000
August	37,560,000	44,779,000
September	33,855,000	37,979,000
October	22,269,000	29,563,000
November	12,088,000	16,369,000
December	8,761,000	14,909,000
TOTALS	277,739,000	361,173,000
Monthly Average	23,144,917	30,097,750



*January and July are averaged

Culinary Water Production Cost

Water Produced 361,173,000 gal. or 1108.23 AF

Treatment & Power Costs $0.23 per 1000 gal. or $74.80 per AF

Historical Production costs per 1,000 gallons

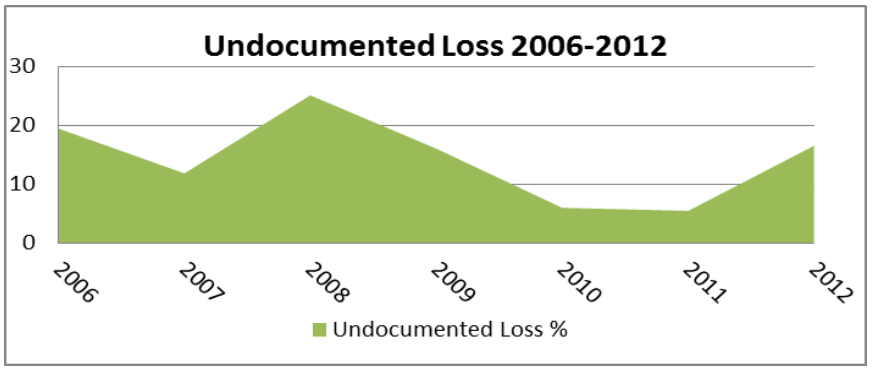
2009	2010	2011	2012
$0.23	$0.27	$0.20	$0.23

2012 Culinary Water Metered Use

Month	Gallons 2011	Gallons 2012
January	9,164,000	9,041,000
February	8,845,000	8,887,000
March	10,363,000	9,314,000
April	17,166,000	22,020,000
May	25,729,000	34,738,000
June	31,762,000	40,667,000
July	38,407,000	44,168,000
August	36,769,000	42,735,000
September	35,951,000	34,995,000
October	23,374,000	28,394,000
November	11,893,000	12,371,000
December	8,088,000	8,616,000
Total	**257,511,000**	**295,946,000**

Water Audit

2012 Metered Use	295,946,000	gallons
Water in Storage	4,000,000	gallons
2012 Production	361,173,000	gallons
2012 Lost water	61,227,000	gallons
Documented Loss	1,459,000	gallons
Undocumented Loss	59,768,000	gallons
% of Water Lost	16.55%	



Lost water due to leaks, fire flow, un-metered use and meter malfunction.

Compliance with Safe Drinking Water Act

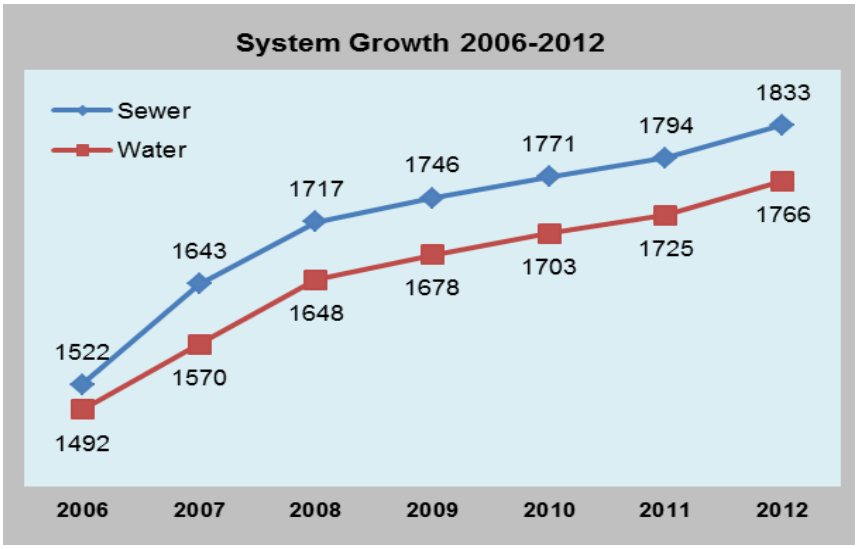
2012 saw no violations of the Safe Drinking Water Act occur on the culinary water system.

Consumer Confidence Report

The 2012 Consumer Confidence Report is included in *Appendix A*.

System Growth

	Water	Sewer
New Residential Connections	31	29
New Commercial Connections	1	1
New 2012 MDU Connections	9	9
Total Residential Connections	1640	1701
Total Commercial Connections	117	123
Total MDU Connections	12	12
Total 2012 Connections	**1766**	**1833**
Average Active Connections/Month	1686	1733
Average % of Connections Active	96%	95%
2012 System Percent Growth	**2.38%**	**2.17%**

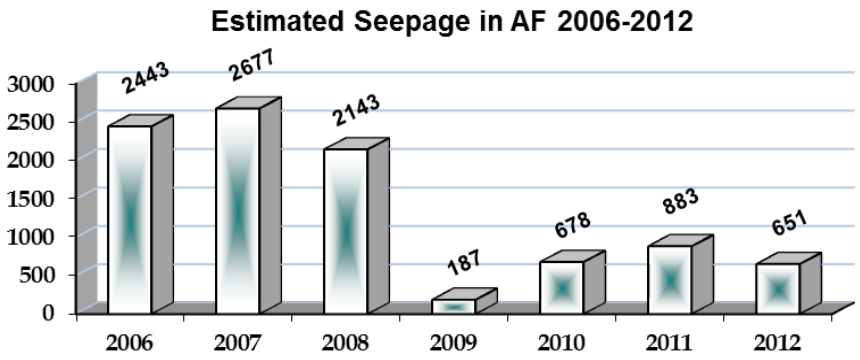


Ken's Lake Irrigation System

Estimate of 2012 Ken's Lake Seepage

Amount in storage at end of 2011	1569 AF
Amount diverted to Ken's Lake	1282 AF*
Amount delivered to Irrigation pipeline	1782 AF
Evaporation Estimate	200 AF
Amount in storage at end of 2012	218 AF
Estimated seepage	651 AF

*Six months of diverted water to Ken's Lake were estimated due to meter malfunction or frozen conditions.



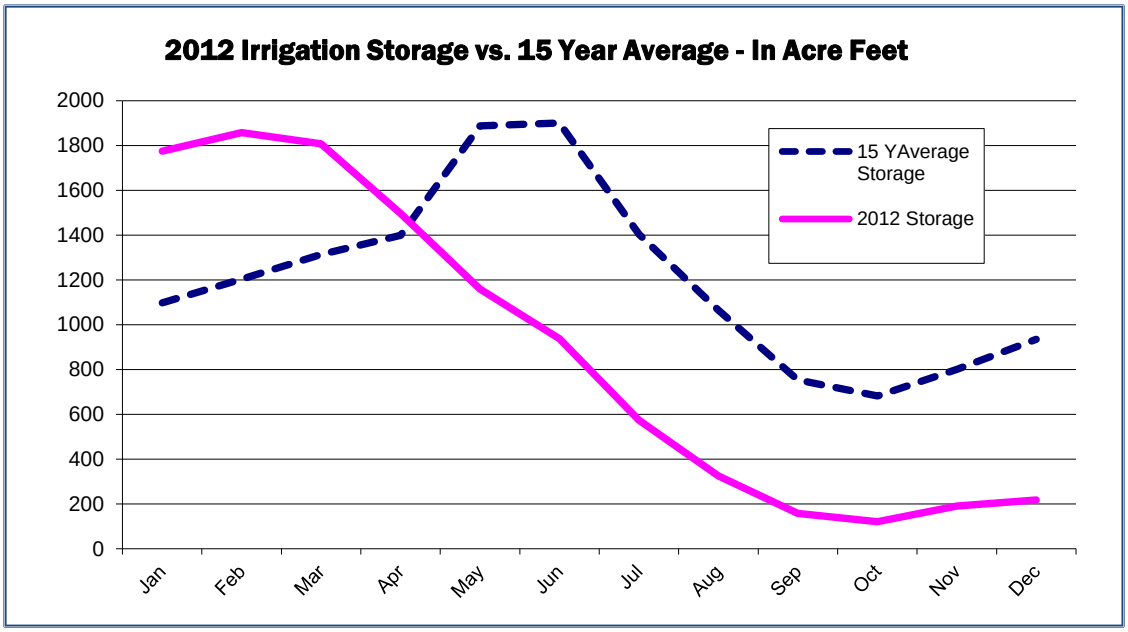
Ken's Lake Water Diverted

2012 Water Diverted Through Sheley Tunnel			
Month	**15 Year Average**	**Diverted 2012**	**% of Average**
	AF	AF	
January	200	227	114%
February	175	91	52%
March	231	142	61%
April	426	282	66%
May	1127	240	21%
June	991	127	13%
July	438	27	6%
August	251	4	2%
September	137	29	21%
October	182	0	0%
November	169	83	49%
December	176	31	18%

*Jan.- May and Sept. were estimated due to meter malfunction and/or frozen conditions.

Ken's Lake Storage

Ken's Lake Storage Vs. 15 Year Average				
Month	**15 Year Average**	**2012 Storage**	**% of Average**	**% of Capacity**
	AF	AF		
January	1123	1775	158%	68%
February	1220	1858	152%	71%
March	1323	1808	137%	69%
April	1378	1496	109%	57%
May	1776	1159	65%	44%
June	1813	938	52%	36%
July	1354	573	42%	22%
August	1038	325	31%	12%
September	701	157	22%	6%
October	612	120	20%	5%
November	711	190	27%	7%
December	848	218	26%	8%
Total Capacity is 2610 AF				



Review of Water Management and Conservation Plan

An updated Conservation Plan was submitted in 2009. The primary goal of the Plan is to reduce the 19 year average use per connection per month of 18,762 gallons by 25% or 5% below the state average of 183 gpcd or 174 gpcd.

Conservation Oriented Water Rate

0-8,000 gallons = $0.60/1 kgal
8,001-15,000 gallons = $1.40/1 kgal
15,001 and up = $2.00/1 kgal

Connections The average use per month per connection from 1985 - 2004 was 17,953 gallons.

Year	Average Active Connections	Average Monthly Use Per Connection
2005	1370	15,350
2006	1464	15,011
2007	1516	16,715
2008	1602	14,655
2009	1645	13,617
2010	1666	13,055
2011	1690	12,698
2012	1686	14,627

Per Capita Use Calculation

Population est.= 3750 GPD use = 810,811 gallons

216 Gallons per capita per day use

Conclusion

Due to the number of vacation homes and condominiums compared to year-round resident occupied housing units the data is skewed for both “per connection” and “per capita” use calculations. The use per connection method includes many connections that are not occupied by residents. This causes the use to appear less per connection. Conversely, the use per capita calculation includes use by the seasonal residents who are not counted in the census. This causes the use per person to increase.

Spring of 2012 was very warm and turned into a hot summer in Moab. Water use during the hottest months (Jun-Aug) was above average with many of the remaining months near average. 2012 was a drought year for the Ken’s Lake irrigation system. Water users were restricted to 60% of their allotment and the system was turned off in September. Many lawn and garden users resorted to using culinary water to keep their landscaping alive after the irrigation system was shut off.

Education

Educational flyers, previously mailed to all GWSSA customers, are available at the Agency office. These flyers, suggesting practices for indoor and outdoor water conservation, are given to all new customers at time of application for water service.

The Agency’s website – www.grandwater.org is an excellent source of conservation information and provides links to water professionals statewide. The conservation education information is updated seasonally. The Agency directs customers to the website via messages on the monthly billings.

Water Audit

The water audit is located in the ***Culinary Water System*** portion of this report. The audit indicates undocumented lost water on the system of 16.55%.

Outdoor Watering Restrictions

Watering during the heat of the day between 10:00 a.m. and 6:00 p.m. is recognized as inefficient use of outside water. The Agency shall ask all users of water to restrict outside watering during that time period. Water users shall be informed periodically by use of mailings, billing messages, brochures, and/or news media.

Appendix A

2012 Annual Drinking Water Quality Report

Grand Water & Sewer Service Agency

We're pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water sources have been determined to be from groundwater. Our water sources are George White Well #4, George White Well #5, Chapman Well and the Spanish Valley Well. The wells draw water from the Glen Canyon Aquifer.

The Drinking Water Source Protection Plan for Grand Water & Sewer Service Agency (GWSSA) is available for your review. It contains information about source protection zones, potential contamination sources and management strategies to protect our drinking water. Our sources have been determined to have a low level of susceptibility from potential contamination from sources such as septic tanks, roads, residential or industrial development. We have also developed management strategies to further protect our sources from contamination. Please contact us if you have questions or concerns about our source protection plan.

There are many connections to our water distribution system. When connections are properly installed and maintained, the concerns are very minimal. However, unapproved and improper piping changes or connections can adversely affect not only the availability, but also the quality of the water. A cross connection may let polluted water or even chemicals mingle into the water supply system when not properly protected. This not only compromises the water quality but can also affect your health. So, what can you do? Do not make or allow improper connections at your homes. Even that unprotected garden hose lying in the puddle next to the driveway is a cross connection. The unprotected lawn sprinkler system after you have fertilized or sprayed is also a cross connection. When the cross connection is allowed to exist at your home, it will affect you and your family first. If you'd like to learn more about helping to protect the quality of our water, call us for further information about ways you can help.

This report shows our water quality and what it means to you our customer.

If you have any questions about this report or concerning your water utility, please contact Mark Sovine at 435-259-8121**.** We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the first and third Thursday of each month at 7:00 p.m. at the GWSSA office.

GWSSA routinely monitors for constituents in our drinking water in accordance with the Federal and Utah State laws. The following table shows the results of our monitoring for the period of January 1st to December 31st, 2012**.** All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

ND/Low - High - For water systems that have multiple sources of water, the Utah Division of Drinking Water has given water systems the option of listing the test results of the constituents in one table, instead of multiple tables. To accomplish this, the lowest and highest values detected in the multiple sources are recorded in the same space in the report table.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter (ug/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Maximum Contaminant Level (MCL) - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) - The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Date- Because of required sampling time frames i.e. yearly, 3 years, 4 years and 6 years, sampling dates may seem outdated.

TEST RESULTS							
Contaminant	Violation Y/N	Level Detected ND/Low-High	Unit Measurement	MCLG	MCL	Date Sampled	Likely Source of Contamination
Microbiological Contaminants							
Turbidity for Ground Water	N	.05-.26	NTU	N/A	5	2012	Soil runoff
Inorganic Contaminants							
Arsenic	N	ND-1.5	ppb	0	10	2012	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	N	ND-43	ppb	2000	2000	2012	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	N	ND-4	ppb	100	100	2012	Discharge from steel and pulp mills; erosion of natural deposits
Copper a. 90% results b. # of sites that exceed the **AL**	N	a. 88 b.0	ppb	1300	AL=1300	2011	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	N	140-300	ppb	4000	4000	2012	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Lead a. 90% results b. # of sites that exceed the **AL**	N	a. 1 b.0	ppb	0	AL=15	2011	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	N	300-500	ppb	10000	10000	2012	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	N	ND-5	ppb	50	50	2012	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium	N	9-18	ppm	None set by EPA	None set by EPA	2012	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills.
Sulfate	N	42-87	ppm	1000	1000	2012	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland
TDS (Total Dissolved solids)	N	162-252	ppm	2000	2000	2012	Erosion of natural deposits
Chlorine	N	67	ppb	4000	4000	2012	Water additive used to control microbes
Radioactive Contaminants							
Alpha emitters	N	1-2	pCi/1	0	15	2008	Erosion of natural deposits
Radium 228	N	ND-3	pCi/1	0	5	2008	Erosion of natural deposits

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. GWSSA is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

As you can see by the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or man-made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We at GWSSA work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.