

**Table 2. 2011 Fort Huachuca GW Storage Change Liability Calculator**

Description	Input or Calculated Values	Units	Source/Notes
<b>2011 SIERRA VISTA (SV) + FORT HUACHUCA (FH) PER CAPITA GROUNDWATER DEMAND (Using most recent available data)</b>			
SV Population Including FH Residential Population	43,888	Persons	2010 City of Sierra Vista U.S. Census
FH Residential Population	9,440	Persons	Sep 2011 Post Population Survey from Table 1
Total Sierra Vista Population Minus FH Residential Population On Post	34,448	Persons	Calculated Difference
SV Pumping	7,080	acre-feet	2011 City of SV (43,888 people x 144 gpcd x 365/325,829 gal/af)
FH Pumping	1,031	acre-feet	2011 Fort Huachuca Water Usage Report
Total Pumping	8,111	acre-feet	Calculated Value (sum)
<b>Incorporated Area Water Demand in Acre-Feet Per Person</b>	<b>0.185</b>	<b>afap</b>	Calculated (Total Pumping/SV Population including FH Residential)
Incorporated Area Water Demand in Gallons	165	gpcd	Conversion from afap to gpcd
<b>2005 Unincorporated Population in Sierra Vista Subwatershed (SVS)</b>			
SVS Total Population	77,273	Persons	USGS based on 2010 US Census (email 8-4-2011)
SVS Unincorporated Population	33,385	Persons	Calculated SVS Total Population minus SV Population
% of Population in SVS Unincorporated Areas	43%		
<b>Unincorporated Area Water Demand Per Person</b>	<b>0.132</b>	<b>afap</b>	Groundwater Users Advisory Council of Prescott AMA (2006)
Gallons per capita per day (gpcd)	118	gpcd	Conversion from afap to gpcd
<b>TOTAL 2011 FORT HUACHUCA GROUNDWATER DEMAND</b>			
FH Direct and Indirect Personnel	27,326	Persons	Sep 2011 Post Population Survey from Table 1
FH unincorporated area population	7,727	Persons	Calculated Value based on % in unincorp off-post pop
FH incorporated area population	19,598	Persons	Calculated Difference
FH Induced Personnel	7,296	Persons	Sep 2011 Post Population Survey from Table 1
FH unincorporated area population	3,152	Persons	Calculated Value based on % in unincorp induced pop
FH incorporated area population	4,144	Persons	Calculated Difference
Total FH Unincorporated Area Population	10,879	Persons	Sum of Direct, Indirect, and Induced
Total FH Incorporated Area Population	23,742	Persons	Sum of Direct, Indirect, and Induced
Total FH Responsible Population in SVS	34,622	Persons	Calculated Value
Total SVS Population	77,273	Persons	USGS based on 2010 US Census (email 8-4-2011)
Percentage of Total SVS Population Attributable to FH	45%		Calculated value (FH portion/Total SVS Population)
Total Industrial Demand In SVS (2002-2010)	1,350	afa	2010 Section 321 Report (USGS) (for 2009)
Industrial Demand in SVS Attributable to FH	605	afa	Calculated Value (Total Industrial Demand x Percentage Attributable to FH)
FH Unincorporated Area Groundwater Demand	1,436	afa	Calculated Value (# of persons in unincorp x afap)
FH Incorporated Area Groundwater Demand	4,388	afa	Calculated Value (# of persons in incorp x afap)
Industrial Demand in SVS Atributable to FH	605	afa	Calculated Value (sum)
<b>Total 2011 FH Groundwater Demand</b>	<b>5,824</b>	<b>afa</b>	Calculated Value (sum of unincorp and incorp)
Total 2005 FH Groundwater Demand	5,926	afa	2006 Biological Assessment
<b>Net Change in FH Groundwater Demand from 2005 Due to Conservation</b>	<b>-102</b>	<b>afa</b>	Calculated Difference

**Table 2. 2011 Fort Huachuca GW Storage Change Liability Calculator**

Description	Input or Calculated Values	Units	Source/Notes
<b>TOTAL FH ATTRIBUTABLE RECHARGE</b>			
<b>Fort Huachuca Artificial Recharge</b>			
Fort Huachuca Stormwater Recharge	13	afa	USGS Calculated Basin Infiltration 2011
Fort Huachuca Effluent Recharge	256	afa	Conversion of 85,590,000 gallons to afa reduced by 2.5% evap
Irrigation Return Flow at Golf Course and Parade Grounds	55	afa	2002 est ADWR (2005) App F
<b>Total Artificial Recharge on Fort Huachuca</b>	<b>324</b>	afa	Calculated Value -- sum of three
<b>Sierra Vista Recharge</b>			
Stormwater (Urban-Enhanced)	2,300	afa	2010 Section 321 Report (for 2009)
Treated Effluent	2,587	afa	2009 City of Sierra Vista
<b>Total SV Recharge (excluding septic systems)</b>	<b>4,887</b>	afa	Calculated Value -- sum of Stormwater plus Treated Effluent
Percentage of SV Recharge Attributable to FH	42%		Calculated Value - FH Incorporated Area Population Minus On-Post/SV Population Minus On-Post
<b>SV Recharge Attributable to Fort Huachuca</b>	<b>2,029</b>	afa	Calculated Value -- Total SV Recharge x %
<b>Recharge from Septic Systems</b>			
Recharge from SV Septic Systems (assumed to be 5% of SV Recharge)	244	afa	
Percentage of Septic Flow Recharged	70%		Kevin Lansey, 2006 pers comm; also used by USPP
Percentage of SV Recharge Attributable to FH	42%		Calculated Value - FH Incorporated Area Population Minus On-Post/SV Population Minus On-Post
Recharge from SV Septic Systems Attributable to FH	71	afa	Calculated Value -- Total SV Recharge x % Recharged x % Attrib to FH
Recharge from Unincorporated Area Septic Systems	430		2006 Biological Assessment
<b>Recharge from Septic Systems Attributable to FH</b>	<b>501</b>		Calculated Value -- Sum of Recharge from SV and Unincorp Septic Systems
<b>Total FH Attributable Recharge</b>	<b>2,854</b>		Calculated Value -- Sum of three Recharge values
Total 2005 FH Attributable Recharge	2,398		2006 Biological Assessment
<b>Net Change in FH Attributable Recharge</b>	<b>456</b>		Calculate Difference
<b>FH NET STORAGE CHANGE</b>			
Total 2011 FH Groundwater Demand	5,824		Total 2011 FH Groundwater Demand from Page 1
Total FH Attributable Recharge	2,854		Total FH Attributable Recharge from Page 2
Net 2011 FH Groundwater Demand	2,969		Calculated Difference
% of GW pumping from GW Storage	55%		Goode and Maddock (2000); Corell, etal (1996), Freethey, etal (1982), Vionnet (1992)
<b>Total 2011 FH Net Storage Change</b>	<b>1,633</b>		Calculated Value -- Net 2011 FH GW Demand x % of GW Pumping
Total 2005 FH Net Storage Change	1,942		2006 Biological Assessment
<b>Net Change in FH Net Storage Change from 2005</b>	<b>-309</b>		Calculated Difference
<b>PREDICTED NET STORAGE CHANGE ATTRIBUTABLE TO FH IN 2016</b>			
2016 FH Attributable Groundwater Demand	5,708		Total 2011 FH GW Demand from Page 1 minus 116 afa in planned cons meas
2011 Total FH Attributable Recharge	2,854		2011 Total FH Attributable Recharge from above
Planned Increase in Recharge of Effluent and Stormwater	836		2006 Biological Assessment
<b>2011 Predicted Net Storage Change Attributable to FH in 2016</b>	<b>2,017</b>		Calculated Value -- GW Demand minus two Recharge Values
2005 Predicted Net Storage Change Attributable to FH in 2016	1,418		2006 Biological Assessment
<b>Net Change in Predicted Net Storage Attributable to FH in 2016</b>	<b>599</b>		Calculated Difference