

NWS FORM E-19 (COVER)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

REPORT ON RIVER GAGE STATION

REVISED, PRINTED DATES: 11/18/2010, 11/18/2010

LOCATION: Woodfords
STREAM: West Fork Carson River
BASIN: West Fork Carson River HSA: REV

REFERENCES:

CA DWR: Carson River Atlas, 12/1991
Correspondence w/ Alpine Co. Sheriff
Correspondence w/Douglas Co. Emergency Mgr.
Correspondence w/Douglas Co. Sheriff Office
Correspondence w/USGS NV District Office Personnel
NV Bureau of Mines & Geology, Special Publication 23 "The 1997 New Years Floods in Western Nevada"
NV Dept. of Cons. & Nat. Resources: Carson River Chronology: 4/1997
NV Dept of Cons & Nat. Resources: The Flood of 1997; 5/1/1997
NWS Coop. Stn Reports (Forms B44); Woodfords CA; 10/1/67-4/15/2010
USCE Jan 97 Flood Assessment: E. Sierra/WNV, Alpine&Douglas Counties, 9/1997
USDA SCS; NV DC&NR; CA Resources Agency:Flood Chronology,Carson Basin; 1861-1976: 9/1977
USDA SCS;NV DC&NR; CA Resources Agency: Water & Related Land Resources:Central Lahontan Basin: 7/1975
USGS Description of Gaging Station, 1/20/2010
USGS Fact Sheet 183-97 Flood of Jan. 1997, Carson River Basin; 12/1997
USGS Listing of Peak Flows for Station; 1890-2009
USGS Peak Flow Frequency Analysis, W Fk Carson R @ Woodfords, 1890-2006, Prep 4/25/2007
USGS Smith Valley NV-CA 1:100,000 Scale Topographic Map, 1985
USGS Water Resources Data for Nevada, 1938-2009
USGS Woodfords CA 1:24000 Scale Topographic Map
USGS SURFACE WATER SUPPLY OF THE U.S., PART 10, GREAT BASIN, 1951-1960
USGS COMPILATION OF SURFACE WATERS OF THE U.S. THROUGH 9/1950
USGS FLOODS OF DECEMBER 1964 IN THE FAR WESTERN STATES
USGS FLOODS OF JAN-FEB 1963 IN CA & NV

ABBREVIATIONS:

BM - bench mark	EPA - Environmental Protection Agency
DS - downstream	IBWC - International Boundary and Water Comm.
US - upstream	MSRC - Mississippi River Commission
HW - high water	MORC - Missouri River Commission
LW - low water	NOAA - National Oceanic and Atmospheric Admin.
RB - right bank	NOS - National Ocean Survey
LB - left bank	NWS - National Weather Service
MGL - mean gulf level	TVA - Tennessee Valley Authority
MLW - mean low water	USACE - U.S. Army Corps of Engineers
MSL - mean sea level	USBR - U.S. Bureau of Reclamation
MLT - mean low tide	USGS - U.S. Geological Survey
MT - mean tide	USWB - U.S. Weather Bureau
WQ - water quality	NGVD - National Geodetic Vertical Datum
RM - reference mark	NAD - North American Datum
RP - reference point	

LOCATION IDENTIFICATION: WOOC1
NWS INDEX NUMBER: 04-9777-03
USGS NUMBER: 10310000

MAP 1 OF GAGE LOCATION

Including locations of other USGS gages on the East Fork and Mainstem Carson River

LATITUDE: 38 46 11N LONGITUDE: 119 49 58W

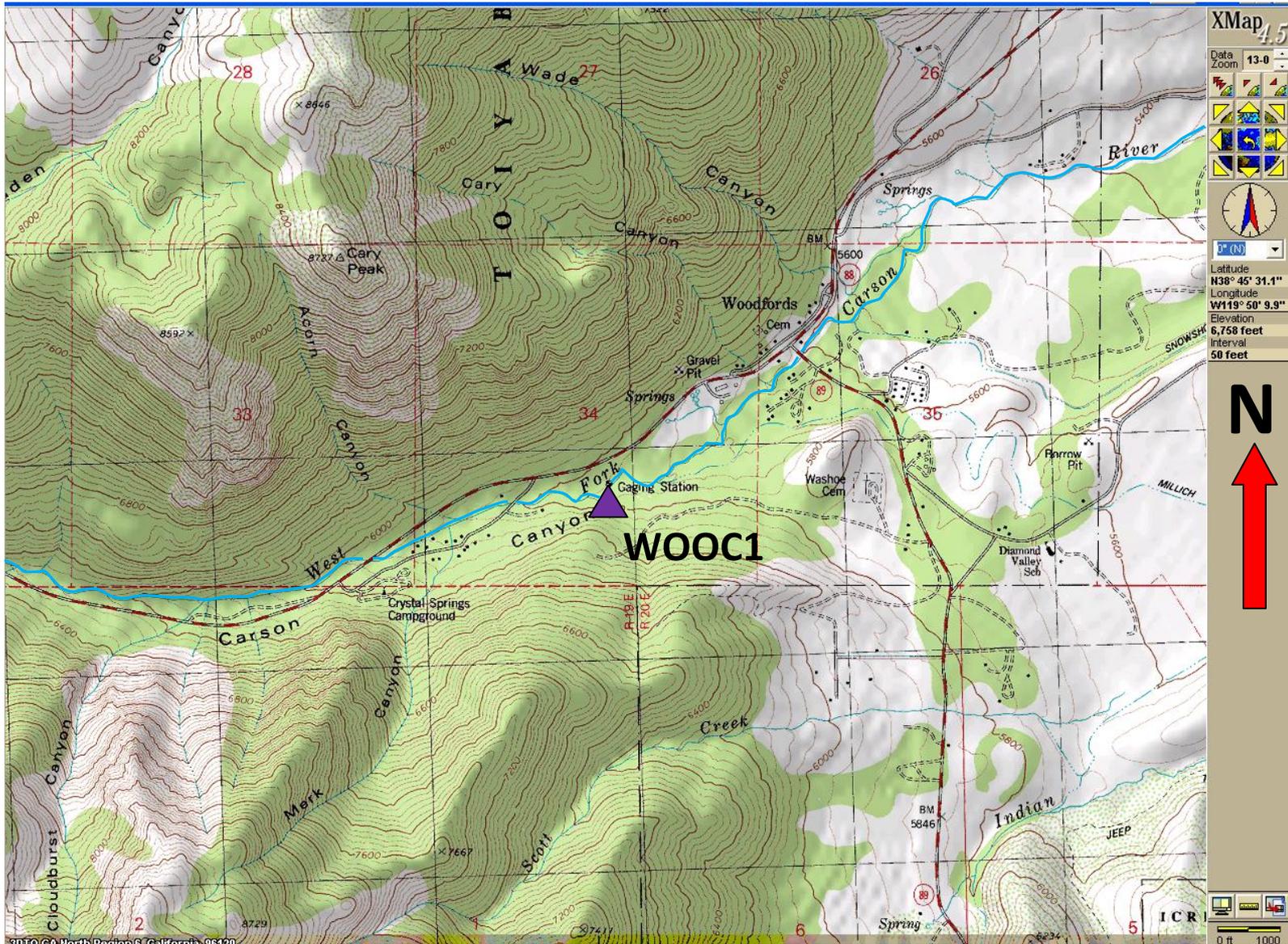
Map Source: <http://upload.wikimedia.org/wikipedia/commons/e/ec/Carsonrivermap.png>



MAP 1 OF GAGE LOCATION

LATITUDE: 38 46 11N LONGITUDE: 119 49 58W

SOURCE: USGS Water Resources Data; Woodfords CA 1:24000 Scale Topographic Map



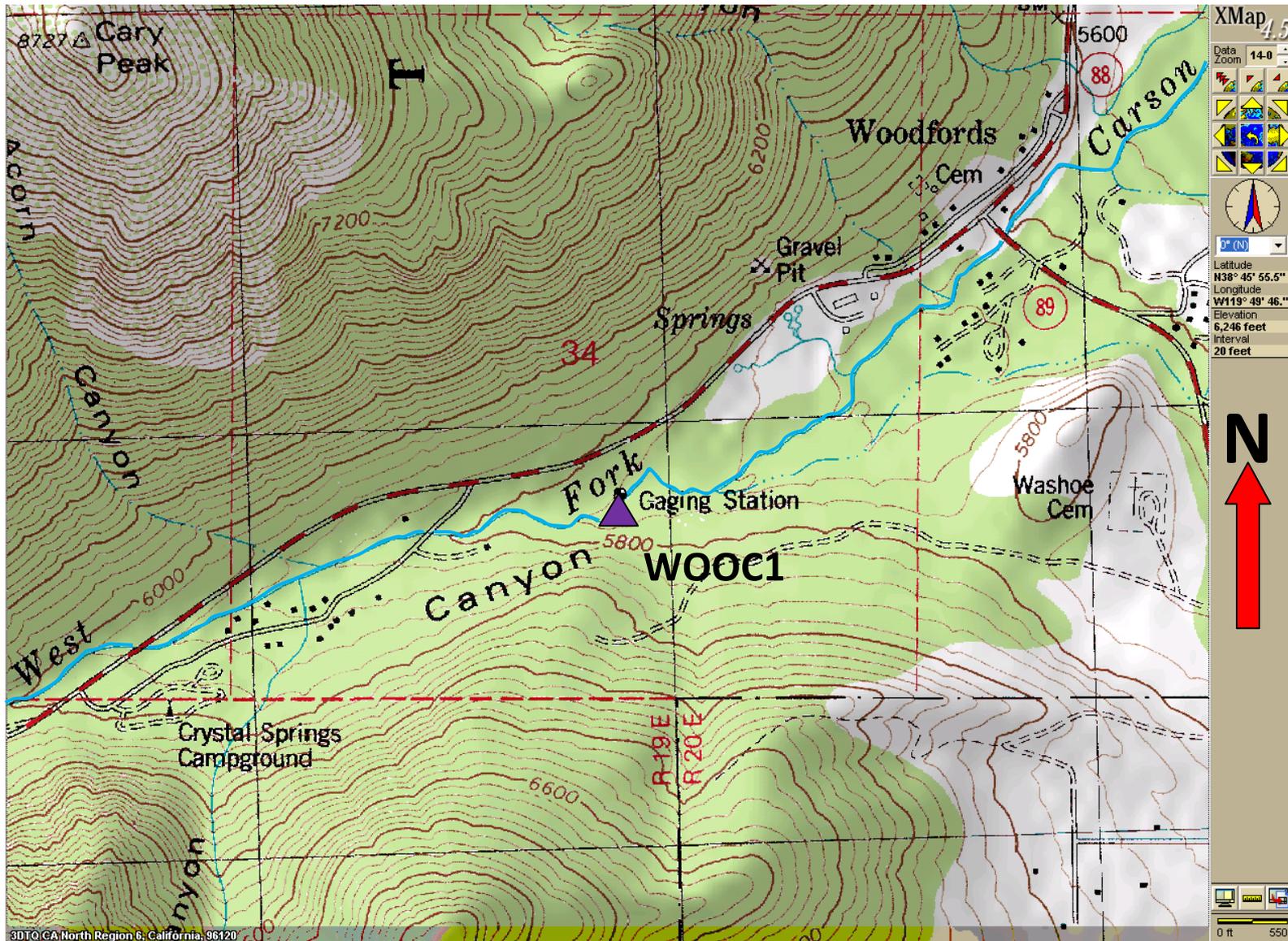
NWS FORM E-19 PAGE 1-1: GAGE MAP 1

West Fork Carson River at Woodfords CA (WOOC1) HSA: REV November 2010

MAP 2 OF GAGE LOCATION

LATITUDE: 38 46 11N LONGITUDE: 119 49 58W

SOURCE: USGS Water Resources Data; Woodfords CA 1:24000 Scale Topographic Map



NWS FORM E-19 PAGE 1-2: GAGE MAP 2

West Fork Carson River at Woodfords CA (WOOC1) HSA: REV November 2010

BENCHMARKS

ELEVATION OF GAGE ZERO: 5754.500
LEVELING AGENCY AND DATE: USGS
RATING AGENCY: USGS

VERTICAL DATUM: NGVD 1929
CHECKBAR:

BENCHMARK	DESCRIPTION	GAGE ZERO	DATUM
CSGPN1	Lower Crest Stage Gage Pin; Elevation checked 6/13/2007.	11.550	5766.050
CSGPN2	Upper Crest Stage Gage Pin. Checked 6/13/2007.	13.953	5768.453
OSRP 1	Lower outside staff reference point. Elevation checked 6/13/2007.	11.324	5765.824
OSRP 2	Upper outside staff reference point. Elevation checked 9/6/2005.	13.814	5768.314
RM 1	Brass cap in left bank concrete cableway anchor block nr old gage site. Elevation checked 7/20/1999; not found during 6/13/2007 levels.	7.800	5762.300
RM 3	Chiseled high point on rock 5 ft. west of NW corner of old gage house. Elevation checked 6/13/2007.	9.964	5764.464
RM 4	Top of lag bolt in base of tree 80 feet north of old gage house. Elevation checked 8/8/96.	12.691	5767.191
RM 5	Top of lag bolt in base of tree 25 ft. SW of old gage house. Elevation checked 11/12/1998.	11.423	5765.923
RM 6	Brass cap on NE side of new gage house pad. Elevation checked 6/13/2007.	18.408	5772.908
RM 7	Brass cap in left anchor block of new bank operated cableway 15' US of gage house. Elevation checked 6/13/2007.	19.248	5773.748

GAGES

DCP

TELEM

NESS ID: DE0476FC
 OWNER: USGS
 REPORT TIME: 00:42:20
 INTERVAL: 60

TYPE OF TELEMETRY: LARC
 OWNER: NWS
 PHONE NUMBER:
 INTERVAL: 60
 PAYOR/COST OF LINE: Assoc / \$

GAGE TYPE	OWNER	MAINTENANCE	BEGAN	ENDED	GAGE LOCATION/REMARKS
STAFF	USGS	USGS	04/01/1890	03/30/1892	Staff gage 0.7 mi DS @ different datum (records not equivalent due to irrigation diversions).
STAFF	USGS	USGS	10/18/1900	05/18/1907	About 200 ft. DS of present site, different datum; equivalent record.
STAFF	USGS	USGS	06/08/1907	11/11/1913	0.7 mi. DS nr old bridge at Woodfords; different datum (records not equivalent due to irrigation diversions, except for portions of 1910-11 when station was 0.3 mi US).
STAFF	USGS	USGS	01/01/1910	12/31/1911	Staff at Stone & Webster Eng. Corp, 0.3 mi US under highway bridge @ different datum. Actual dates unknown (equivalent record).
STAFF	USGS	USGS	11/11/1913	09/30/1920	0.7 mi. downstream near bridge in Woodfords at different datum. Records not equivalent due to irrigation diversions.
CREST STAGE	USGS	USGS	10/01/1938	11/11/1958	Station @ site ~200' DS of present location @ datum 1.02' lower than present (5753.48').
FLOAT	USGS	USGS	10/01/1938	11/11/1958	Stilling well @ site ~200' DS of present location @ datum 1.02 ft. lower (5753.48' msl).
STAFF	USGS	USGS	10/01/1938	11/11/1958	Station @ site ~200' DS of present location @ datum 1.02' lower (5753.48').
STVNS A-35	USGS	USGS	10/01/1938	11/11/1958	Station @ site ~200 ft. DS of present location @ datum 1.02 ft. lower (5753.48 ft). Stevens A35 Recorder.
CREST STAGE	USGS	USGS	11/13/1958	01/30/1963	Station @ site 350' ds of present site @ datum 3.06' lower (5751.44').
FLOAT	USGS	USGS	11/13/1958	01/30/1963	Stilling well 350' ds of present site @ datum 3.06' lower (5751.44').
STAFF	USGS	USGS	11/13/1958	01/30/1963	Station @ site 350' ds of present site @ datum 3.06' lower (5751.44').
STVNS A-35	USGS	USGS	11/13/1958	01/30/1963	Station @ site 350' ds of present site @ datum 3.06' lower (5751.44'). Stevens A35 Recorder.
CREST STAGE	USGS	USGS	01/31/1963	03/01/1997	Crest stage gage 200' ds of current site, datum 5754.50'.
FLOAT	USGS	USGS	01/31/1963	08/16/1963	Stilling well @ site 200' ds, same datum as present (5754.50'). Replaced by manometer 8/16/63.
RECORDER	USGS	USGS	01/31/1963	03/01/1997	Gage 200' ds of current site, datum 5754.50'. Stevens A35/Fischer Porter to 8/24/95; PS2/Handar 555 after 8/24/95.
STAFF	USGS	USGS	01/31/1963	03/01/1997	At site 200' ds of current site; datum 5754.50.
BUBBLE	USGS	USGS	08/16/1963	10/24/1995	200 ft. ds. of present site @ 5754.50' datum. Replaced by PS2/Handar 555 10/24/95.
TELEMARK	NWS	NWS	09/20/1967	08/12/1982	In gage house, 200' DS of current site.
BDT/DCD	NWS	NWS	08/12/1982	10/15/1987	In gage house, 200' DS of current site.
LARC	NWS	NWS	10/15/1987	03/01/1997	In gage house, 200' DS of present site.
PS2	USGS	USGS	10/24/1995	03/01/1997	At site 200' ds, datum 5754.5.
CREST STAGE	USGS	USGS	03/01/1997		2 crest stage gages; lower pin elevation is 11.550', upper is 13.953'. Same location as staff.
LARC	NWS	NWS	03/01/1997		In gage house, on LB, 0.3 mi. DS of bridge on CA Hwy 88-89; 0.6 mi. SW of Woodfords, 3.8 mi. DS of Willow Ck.
PS2	USGS	USGS	03/01/1997		Paroscientific pressure transducer moved US 200' of '63-'97 site, same datum (5754.50 ft.). Jan. 1997 flood moved river away from previous gage site. Same location as LARC.
RECORDER	USGS	USGS	03/01/1997		Paroscientific PS2 pressure transducer & Sutron Satlink DCP @ site 200' US of previous ('63-'97) site, same datum (5754.50'). Jan. '97 flood moved river away from previous gage site. Same location as LARC.
STAFF	USGS	USGS	03/01/1997		Gage moved 200' us of '63-'97 site @ same datum 5754.5') as 1/97 flood moved river away from previous gage site. On LB, 0.3 mi. DS of bridge on CA Hwy 88-89; 0.6 mi. SW of Woodfords, 3.8 mi. DS of Willow Ck.

HISTORY

PUBLICATION/LOCATION OF RECORDS	STARTING DATE	ENDING DATE
USDA FldChronol, CrsnBsn	01/01/1861	12/31/1976
USGS Flow Frequency Anal.	06/09/1890	09/30/2006
USGS Peak Flow Records	06/09/1890	09/30/2009
USGS Water Resources Data	10/21/1938	09/30/2009
NWS B44 Stn Desc:Woodfrds	10/01/1967	04/15/2010
USDA;Wtr&LndRscs,LhntnBsn	07/01/1975	
CA DWR Carson R Atlas	12/01/1991	
NV DC&NR:CrnsRivChrnlg	04/01/1997	
NV DC&NR Flood of 1997	05/01/1997	
USCE 1/97 Fld Assessmnt	09/01/1997	
USGS 1/97 Fld on CrsnBsn	12/01/1997	
USDA Gaging Stn Descript.	02/12/1998	01/20/2010

TYPE OF GAGE	OWNER	STARTING DATE	ENDING DATE
STAFF	USGS	04/01/1890	03/30/1892
STAFF	USGS	10/18/1900	05/18/1907
STAFF	USGS	06/08/1907	11/11/1913
STAFF	USGS	01/01/1910	12/31/1911
STAFF	USGS	11/11/1913	09/30/1920
CREST STAGE	USGS	10/01/1938	11/11/1958
FLOAT	USGS	10/01/1938	11/11/1958
STAFF	USGS	10/01/1938	11/11/1958
STVNS A-35	USGS	10/01/1938	11/11/1958
CREST STAG	USGS	11/13/1958	01/30/1963
FLOAT	USGS	11/13/1958	01/30/1963
STAFF	USGS	11/13/1958	01/30/1963
STVNS A-35	USGS	11/13/1958	01/30/1963
CREST STAG	USGS	01/31/1963	03/01/1997
FLOAT	USGS	01/31/1963	08/16/1963
RECORDER	USGS	01/31/1963	03/01/1997
STAFF	USGS	01/31/1963	03/01/1997
BUBBLE	USGS	08/16/1963	10/24/1995
TELEMARK	NWS	09/20/1967	08/12/1982
BDT/DCD	NWS	08/12/1982	10/15/1987
LARC	NWS	10/15/1987	03/01/1997
PS2	USGS	10/24/1995	03/01/1997
CREST STAGE	USGS	03/01/1997	
LARC	NWS	03/01/1997	
PS2	USGS	03/01/1997	
RECORDER	USGS	03/01/1997	
STAFF	USGS	03/01/1997	

ZERO ELEVATION	STARTING DATE
5753.480	10/01/1938
5751.440	11/13/1958
5754.500	08/16/1963

CRESTS*

FLOOD STAGE: 14.00 ACTION STAGE: 13.00 BANKFULL STAGE:
 FLOOD FLOW: 1900 ACTION FLOW: 790

DATE OF CREST	TIME LST	CREST* (ft)	FLOW (CFS)	FROM HIGH WATERMARKS	BASED ON CAUSED BY OLD DATUM ICE JAM	REMARKS*
06/09/1890	UNDEF	13.57	1280			Actual crest @ old site: NA.
05/12/1901	UNDEF	13.19	896			Actual crest @ old site: NA.
05/12/1904	UNDEF	13.40	1085			Actual crest @ old site: NA.
05/09/1906	UNDEF	13.80	1570			Actual crest @ old site: 6.80'.
05/17/1907	UNDEF	13.71	1450			Actual crest @ old site: NA.
05/05/1909	UNDEF	13.53	1230			Actual crest @ old site: NA.
12/01/1909	UNDEF	13.05	818			Actual crest @ old site: NA.
05/23/1911	UNDEF	13.59	1300			Actual crest @ old site: NA.
05/21/1914	UNDEF	13.36	1050			Actual crest @ old site: 5.40'.
05/07/1916	UNDEF	13.48	1180			Actual crest @ old site: 5.40'.
06/13/1917	UNDEF	13.25	944			Actual crest @ old site: 4.80'.
04/29/1919	UNDEF	13.26	958			Actual crest @ old site: 4.80'.
12/11/1937	UNDEF	14.61	3500			Actual crest @ old site: 8.00'.
05/02/1940	UNDEF	13.19	895			Actual crest @ old site: 5.21'.
05/05/1941	UNDEF	13.62	1330			Actual crest @ old site: 13.62'.
05/22/1942	UNDEF	13.51	1210			Actual crest @ old site: 5.80'.
04/28/1943	UNDEF	13.58	1290			Actual crest @ old site: 5.93'.
05/10/1945	UNDEF	13.28	975			Actual crest @ old site: 5.26'.
04/25/1946	UNDEF	13.13	860			Actual crest @ old site: 5.01'.
04/24/1949	UNDEF	13.07	824			Actual crest @ old site: 4.98'.
11/20/1950	UNDEF	14.90	4730			Actual crest @ old site: 8.35'.
05/20/1952	UNDEF	13.41	1100			Actual crest @ old site: 5.29'.
04/25/1953	UNDEF	13.05	813			Actual crest @ old site: 4.09'.
12/23/1955	UNDEF	14.92	4810			Actual crest @ old site: 14.92'.
05/18/1957	UNDEF	13.17	880			Actual crest @ old site: 5.10'.
05/18/1958	UNDEF	13.85	1650			Actual crest @ old site: 5.64'.
02/01/1963	UNDEF	14.93	4890			Actual crest @ old site: 9.00'.
12/23/1964	UNDEF	14.48	3100			Actual crest @ old site: 6.70'.
05/24/1967	UNDEF	13.81	1590			Actual crest @ old site: 5.01'.
05/13/1969	UNDEF	13.54	1240			Actual crest @ old site: 4.16'.
01/22/1970	UNDEF	13.13	860			Actual crest @ old site: 3.88'.
11/11/1973	UNDEF	13.41	1100			Actual crest @ old site: 4.28'.
05/19/1975	UNDEF	13.58	1290			Actual crest @ old site: 4.33'.
05/14/1978	UNDEF	13.17	884			Actual crest @ old site: 3.75'.
05/22/1979	UNDEF	13.04	808			Actual crest @ old site: 3.53'.
05/04/1980	UNDEF	13.41	1100			Actual crest @ old site: 3.87'.
12/20/1981	UNDEF	13.90	1730			Actual crest @ old site: 4.57'.
05/11/1984	UNDEF	13.31	999			Actual crest @ old site: 3.79'.
03/08/1986	UNDEF	13.83	1620			Actual crest @ old site: 4.63'.
05/19/1993	UNDEF	13.24	935			Actual crest @ old site: 3.99'.
06/01/1995	UNDEF	13.72	1460			Actual crest @ old site: 4.81'.
05/16/1996	UNDEF	14.46	3040			Actual crest @ old site: 5.46'.
01/01/1997	UNDEF	15.36	8100			Actual crest @ old site: 7.32'.
06/07/1998	UNDEF	13.44	1130			Actual measured crest: 13.44'.
05/28/1999	UNDEF	13.42	1110			Actual measured crest: 13.21'.
05/30/2003	UNDEF	13.20	898			Actual measured stage: 12.96'.
05/18/2005	UNDEF	14.12	2150			Actual measured crest: 14.10'.
12/31/2005	UNDEF	14.35	2720			Actual measured crest: 14.35'.
06/05/2010	UNDEF	13.30	992			Actual measured crest: 13.30'.

***NOTE: All crest stages listed were obtained using USGS Rating Number 29, in use 11/18/2010 (put into use 10/9/2008). Actual measured crests, if available, are noted in remarks.**

LOW WATER RECORDS

DATE OF LOW WATER	STAGE (ft)	FLOW (CFS)	REMARKS
12/23/1961	9.10	5	
07/27/1976	9.28	9	
09/02/1977	9.10	5	Also on 9/5-8/77
10/05/1977	9.24	8	Also on 10/6/77
08/06/1987	9.34	11	Also on 8/7-9/87
09/08/1988	9.15	6	Also on 9/9-11/88
10/01/1988	9.20	7	Also on 10/2-5/88
09/21/1990	9.37	12	9/21-22/1990
12/22/1990	9.24	8	
09/22/1992	9.20	7	Also on 9/23-30/92
10/01/1992	9.24	8	
09/09/1994	9.28	9	Also on 9/10/94
09/02/2001	9.34	11	Also on 9/3-6, 16-24/2001
10/04/2001	9.34	11	Also 10/29/2001
09/02/2002	9.37	12	Also on 9/3-4, 15-17, 18-21/2002
09/30/2007	9.37	12	
10/01/2007	9.37	12	Also on 10/2-5, 11/23/2007
09/07/2008	9.37	12	Also on 9/8, 15-16, 29-30/2008
10/01/2009	9.37	12	Also on 10/3,11/2009

CONDITIONS AFFECTING FLOW

MILES ABOVE MOUTH: 21.2 DRAINAGE AREA: 65.4 POOL STAGE:

STREAM BED: Boulders and large rocks up to several feet in diameter.

REACH: W.Fk Carson R. Cyn abv Woodfords CA to conf. w/E. Fk Carson
nr Genoa NV

REGULATION: Slightly regulated by several small reservoirs (total
capacity about 1500 af)

DIVERSION: One small diversion above, several below for irrigation.

WINTER: Subject to ice effects

TOPOGRAPHY: Gage is at mouth of steep, mountainous W Fk Carson River Canyon,
oriented SW/NE, conifer forest. Banks are boulders, brush,
willows, pines. 2MI.DS: Canyon opens up; 6MI.DS: CA/NV line:
flat, agricultural S. Carson Vly 1000'lower, N/S
orientation.

REMARKS: On low water records, only daily mean flows <12 cfs
included. Stages estimated using USGS rtg #29 (9/16/2010).

DAMAGE

STAGE	AREAS AFFECTED
13.00	Monitoring Stage...no flooding occurs. However...residents along the West Fork Carson River should be prepared for flooding if there are additional rises due to snowmelt and/or rainfall runoff. About 800 cfs. Chance in any year about 1 in 2 (from USGS Flood Frequency Analysis, 2007).
13.50	Very minor flooding of lowest areas along the West Fork Carson River in southwest Carson Valley. Residents along the river should be prepared for more serious flooding if there are additional rises due to snowmelt and/or rainfall runoff. About 1200 cfs. Chance in any year about 1 in 3 (from USGS Flood Frequency Analysis, 2007).
14.00	Flood Stage. Minor flooding begins in the southwestern Carson Valley between Centerville and Genoa NV. About 1900 cfs. Chance in any year about 1 in 8 (From USGS Flood Frequency Analysis, 2007).
14.50	Moderate flooding in southwest Carson Valley between Centerville and Genoa Nevada...with some damage to homes and businesses. Many local roads flooded in this area. Minor to moderate flooding in Alpine County California near Woodfords and Paynesville. About 3150 cfs...Chance in any year about 1 in 25 (From USGS Flood Frequency Analysis, 2007).
15.00	Major Flooding. Substantial damage to homes...businesses...schools and property in south Carson Valley from Centerville to Genoa. Many local roads flood...some include Centerville...Mottsville ... and Muller Lanes. Interruption of power...communications and water systems. Major flooding also Alpine County California near Woodfords and Paynesville. CA Highways 89 and 88...and NV Highway 88 flood. About 5300 cfs. Chance in any year about 1 in 80 from USGS Flood Frequency Analysis, 2007).
15.50	Disastrous...record flooding along entire reach of West Fork Carson River in both Alpine County California and Douglas County Nevada. Extensive damage to homes...businesses...schools ...roads...bridges and irrigation systems. Communications...power and transportation systems severely disrupted. Many highways...roads and bridges impassable. At over 9000 cfs...exceeds record flood of 1/2/1997 /8100 cfs/. Chance in any year about 1 in 400 (from USGS Flood Frequency Analysis, 2007).
16.00	Record, disastrous flooding previously unknown on entire West Fork Carson River in southwest Douglas County Nevada and eastern Alpine County California. Extensive damage to homes... businesses...schools...roads...bridges...water and irrigation systems. Power...communications and transportation systems severely affected. Most highways and bridges flooded or washed out. Far exceeds record 1/1/1997 flood.

RIVER STAGE DATA

	20-		

	19-		

	18-		

	17-		

	16-		

16.00 - Record, disastrous flooding previously unknown on entire West Fork Carson River in southwest Douglas County Nevada and eastern Alpine County California. Extensive damage to homes...businesses...schools...roads...bridges...water and irrigation systems. Power...communications and transportation systems severely affected. Most highways and bridges flooded or washed out. Far exceeds record 1/1/1997 flood.	-----	15.36	01/01/1997
15.50 - Disastrous...record flooding along entire reach of West Fork Carson River in both Alpine County California and Douglas County Nevada. Extensive damage to homes...businesses...schools...roads...bridges and irrigation systems. Communications...power and transportation systems severely disrupted. Many highways...roads and bridges impassable. At over 9000 cfs...exceeds record flood of 1/2/1997 /8100 cfs/. Chance in any year about 1 in 400 (from USGS Flood Frequency Analysis, 2007).	15-	14.93	02/01/1963
	-----	14.61	12/11/1937
	-----	14.48	12/23/1964
	-----	14.35	12/31/2005
	14-	14.12	05/18/2005
	-----	13.90	12/20/1981
15.00 - Major Flooding. Substantial damage to homes...businesses...schools and property in south Carson Valley from Centerville to Genoa. Many local roads flood...some include Centerville...Mottsville...and Muller Lanes. Interruption of power...communications and water systems. Major flooding also in Alpine County California near Woodfords and Paynesville. CA Highways 89 and 88...and NV Highway 88 flood. About 5300 cfs. Chance in any year about 1 in 80 (from USGS Flood Frequency Analysis, 2007).	-----	13.72	06/01/1995
	-----	13.59	05/23/1911
	-----	13.36	05/21/1914
	13-	13.19	05/02/1940

14.50 - Moderate flooding in southwest Carson Valley between Centerville and Genoa Nevada...with some damage to homes and businesses. Many local roads flooded in this area. Minor to moderate flooding in Alpine County California near Woodfords and Paynesville. About 3150 cfs...Chance in any year about 1 in 25 (From USGS Flood Frequency Analysis, 2007).	12-		

14.00 - Flood Stage. Minor flooding begins in the southwestern Carson Valley between Centerville and Genoa NV. About 1900 cfs. Chance in any year about 1 in 8 (From USGS Flood Frequency Analysis, 2007).	11-		

13.50 - Very minor flooding of lowest areas along the West Fork Carson River in southwest Carson Valley. Residents along the river should be prepared for more serious flooding if there are additional rises due to snowmelt and/or rainfall runoff. About 1200 cfs. Chance in any year about 1 in 3 (from USGS Flood Frequency Analysis, 2007).			
13.00 - Monitoring Stage...no flooding occurs. However...residents along the West Fork Carson River should be prepared for flooding if there are additional rises due to snowmelt and/or rainfall runoff. About 800 cfs. Chance in any year about 1 in 2 (from USGS Flood Frequency Analysis, 2007).			

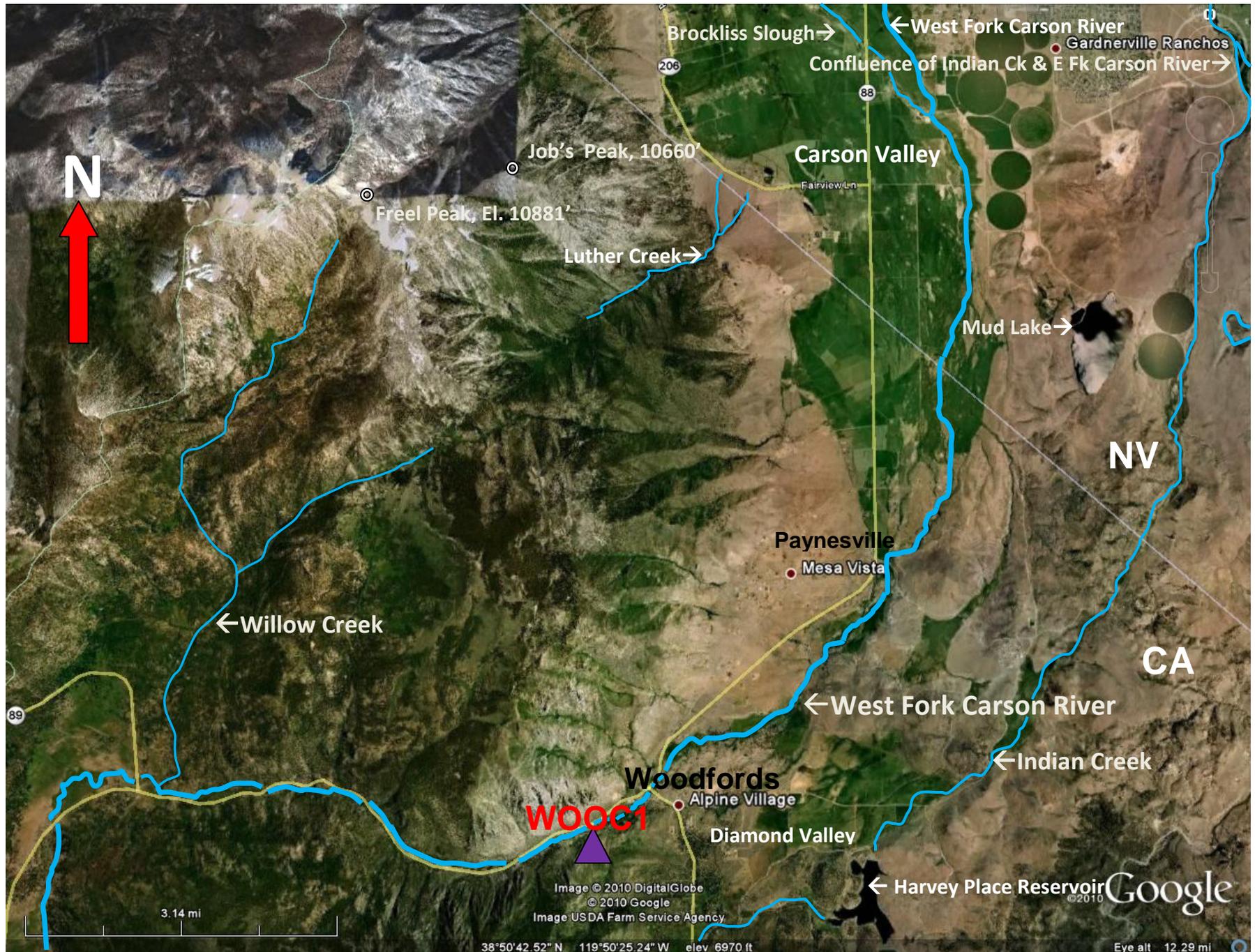
REACH: W.Fk Carson R. Cyn abv Woodfords CA to conf. w/E. Fk Carson nr Genoa NV

ELEVATION ZERO: 5754.50

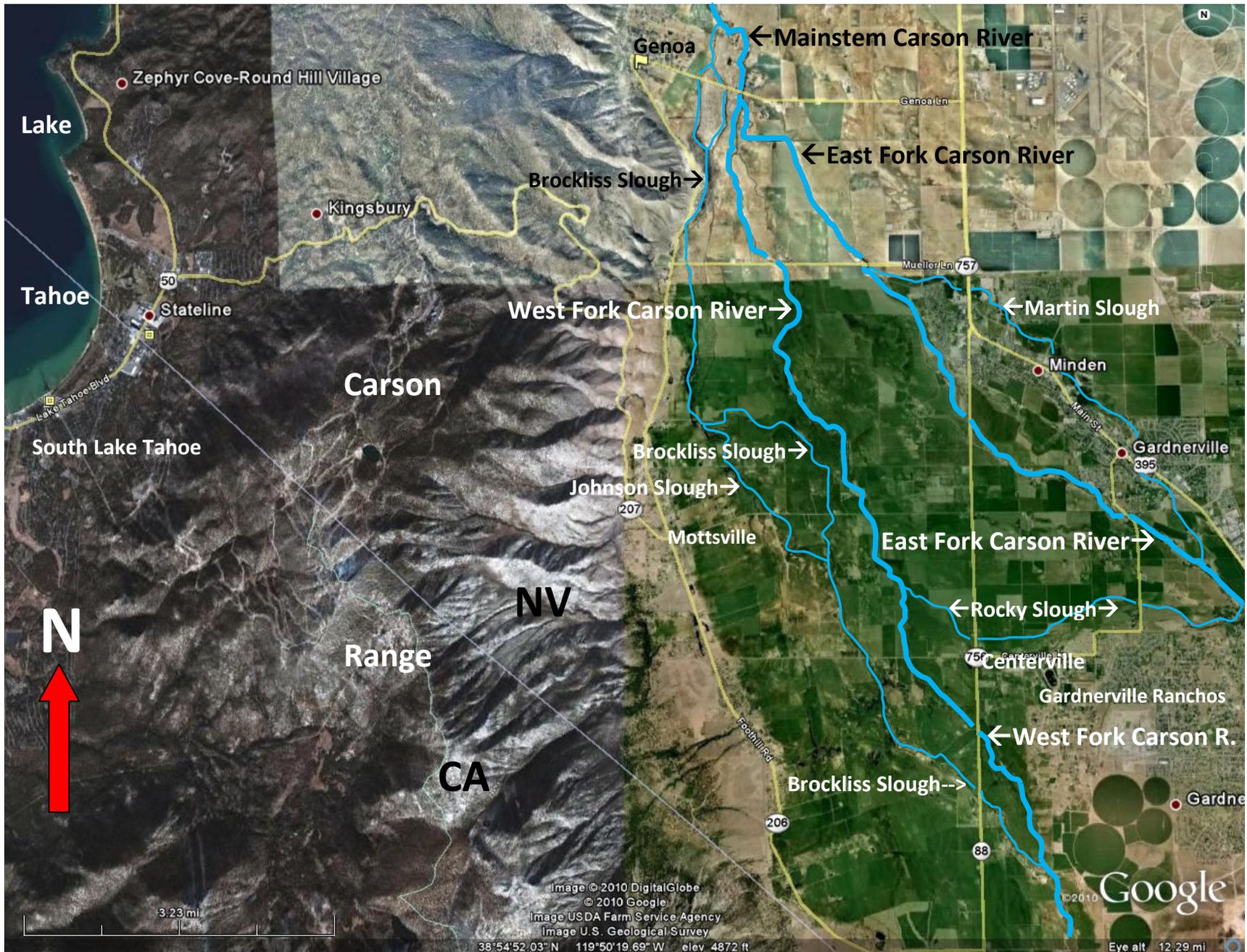
CONTACTS

SQ	CONTACT/REMARKS	PHONE
1	USGS-WRD Carson City snberris@usgs.gov , mgipson@usgs.gov Steve Berris is Nevada USGS Data Chief, his staff is responsible for maintenance. Marsha Gipson is USGS Carson City Field Office Chief.	775-887-7693
2	U.S. Watermaster cblancharde@uswatermaster.org Watermaster pays phone for LARC, uses data for flood, reservoir & water supply mgt. Garry Stone is Watermaster; Chad Blanchard is Chief Deputy Watermaster.	775-784-5241
3	Julian Larrouy julillarro@charter.net Julian is Watermaster for W & E Fks of Carson; employee of U.S. Watermaster, G. Stone. Very knowledgeable about gage and flow/damage relations on W & E Fks of Carson.	775-265-2366
4	Douglas Co. OEM tcarlini@eastforkfire.org Todd Carlinin is Emergency Manager; knowledgeable and helpful w/flood info for Douglas Co.	775-782-9048
5	Douglas Co. S.O. rpierini@earthlink.net Ron Pierini is Douglas Co. Sheriff. Douglas S.O. can provide info about current flood conditions & effects.	775-782-5126
6	Alpine Co. S.O. jcrawford@alpineso.com John Crawford is Alpine County S.O., knowledgeable about flooding in Alpine County.	530-694-2231
7	Carson City S.O. KFurlong@ci.carson-city.nv.us Ken Furlong is Sheriff. S.O. monitors gage for flood planning purposes.	775-887-2500
8	Carson City OEM sgiomi@ci.carson-city.nv.us Stacey Giomi is Fire Chief and EM. Monitors gage for flood planning purposes	775-887-2210 x15
9	Lyon Co. SO/OEM aveil@lyon-county.org (Sheriff); jpage@lyon-county.org (EM) Lyon Co Sheriff is Alan Veil; Cpt Jeff Page is EM, Office:775-463-6531 or 6620 X10. Closely monitors Carson River forecasts as has major impact on Lyon Co flooding. Knowledgeable about flood impacts in Lyon Co. area.	775-463-6620
10	Truckee Carson Irr Dist General: info@tcid.org Lahontan Resv inflow planning. O&M Foreman, Walt Winder, Project Mgr, Rusty Jardine; Resv. Ops, Kelly Cecil	775-423-2141
11	National Weather Service gary.barbato@noaa.gov El Techs maintain LARC, HMTs do QC of data.	775-673-8107
12	Frontier Phone Line Repair	877-486-5667 or 877-462-8188

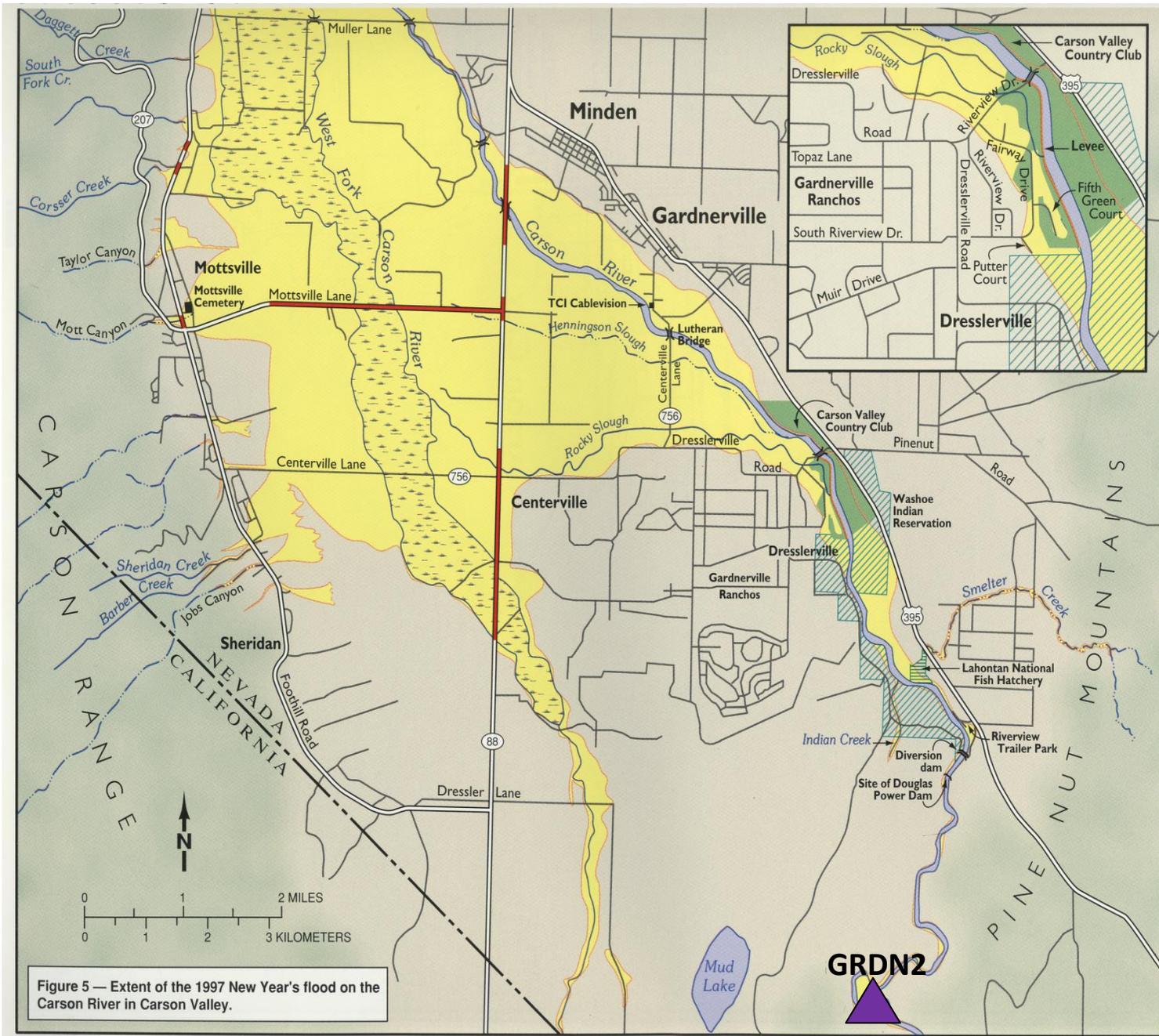
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Satellite Image of southern portion of reach of WOOC1 gage, including southern Carson Valley.



Satellite Image of northern portion of reach of West Fork Carson River at Woodfords gage, including much of Carson Valley.



Extent of the 1997 New Year's Flood in the southern Carson Valley. WOOC1 crested at 8,100 cfs, which has an estimated recurrence probability of about 1 in 300 any year (USGS, 1997). East Fork Carson River at Gardnerville (GRDN2) crested at 20,300 cfs, which USGS estimated has a recurrence probability of about 1 in 150 any year. From: "The 1997 New Year's Floods in Western Nevada", NV Bureau of Mines and Geology Special Publication 23, 1998.



Extent of the 1997 New Year's Flood in the northern Carson Valley. WOOC1 crested at 8,100 cfs, which has an estimated recurrence probability of about 1 in 300 any year (USGS, 1997). East Fork Carson R nr Gardnerville (GRDN2) crested at 20,300 cfs, which USGS estimated has a recurrence probability of about 1 in 150 any year. From: "The 1997 New Year's Floods in Western Nevada", NV Bureau of Mines and Geology Special Publication 23, 1998.



Upstream view, with bank-operated cableway visible across channel, 10/28/2008, flow approx. 13 cfs, stage 9.42'.



Upstream view, 4/14/2010, flow approx. 75 cfs; stage 10.30'



Downstream View, 4/14/2010, flow approx. 75 cfs; stage 10.30'



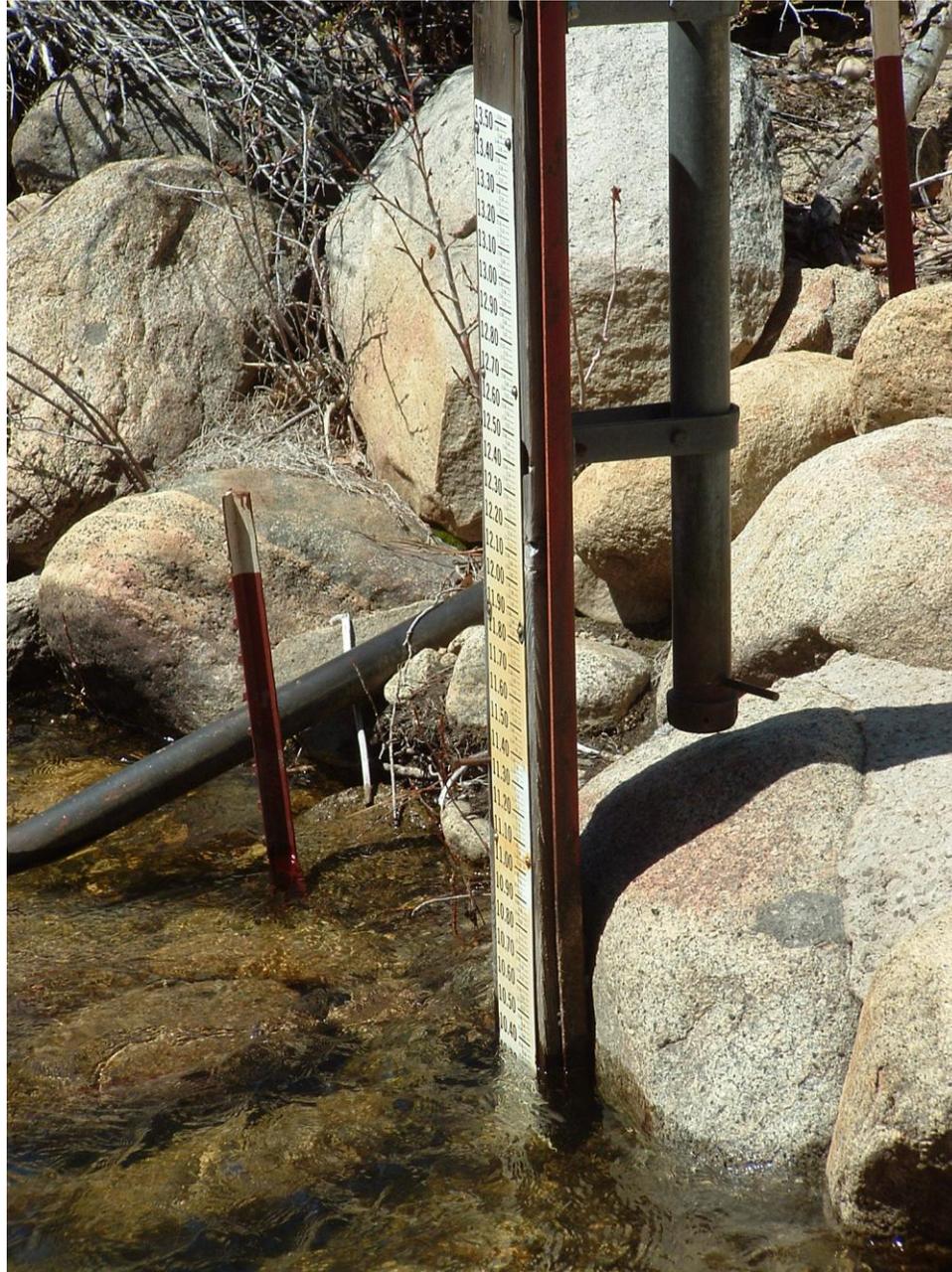
Gage House 10/28/2008



Inside of gage house 10/28/2008



Bank-operated cableway for high water measurements, 10/28/2008



Lower staff gage and crest stage gage, 4/14/2010. Stage 10.30 feet.