

Buckman Direct Diversion

A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

Memorandum

Date: January 20, 2015
To: Buckman Direct Diversion Board
From: Michael Dozier, Interim Chief Operator BDD MD
Subject: Update on BDD Operations for the month of January 2015

ITEM:

1. This memorandum is to update the Buckman Direct Diversion (BDD) Board on BDD operations during the month of January 2015. The BDD diversions and deliveries have averaged, in Million Gallons Daily (MGD) as follows:
 - a. Raw water diversions: 3.43 MGD Average
 - b. Finished Drinking water deliveries through Booster Station 4A: 1.79 MGD Average
 - c. Finished Drinking water deliveries through Booster Station 5A: 1.09 MGD Average
 - d. Las Campanas has stopped deliveries for the season
2. As of January 20, 2015 BDD is providing 50% of the water supply demand to the City and County.
3. Please see the following pages from the Monthly report to the Office of the State Engineer (OSE) for accurate information for the month of November 2014 and year to date.
4. Please note all prior years are also included for reference.



BACKGROUND AND SUMMARY:

December-14

BDD Diversion of San Juan-Chama Water	af	mg
Total SJC water arrived at the BDD diversion site	430.74	140.36
Total SJC diverted at BDD	430.74	140.36
Total SJC available for offsetting depletions under RG-20516	0.00	0.00

Total BDD water diverted from all water rights	af	mg
BDD Current Monthly Total	450.30	146.73
<i>SJC Diversion under Permit SP-2847-E</i>	430.74	140.36
<i>City of Santa Fe</i>	430.74	140.36
<i>Santa Fe County</i>	0.00	0.00
<i>SJC Diversion under SP-2847-N-A (CLCI)</i>	0.00	0.00
<i>Rio Grande native water rights (SP-4842;SFCounty)</i>	19.56	6.37

Metered Diversions under Permit SP-2847-E and SP-4842						
Meter Serial Number	OSE Meter Number	Current Month Meter Reading	Previous Month Meter Reading	Diversion by Meter		
				ac-ft	mg	
CC004816000-Diversion	14113	2744.513	2741.287	9.90	3.23	
CC004916000-Diversion	14114	2637.909	2552.736	261.39	85.17	
CC004A16000-Diversion	14115	2493.052	2426.737 ^f	203.51	66.32	
CC000A16000-Return	14255	310.975	302.992	24.50	7.98	
Total Metered Diversions				450.30	146.73	

Buckman Direct Diversion Monthly SJC and Native Diversions

Dec-14

Month	Total SJC Release (AF)	SJC Conveyance Losses (AF)	Total SJC Available at BDD (AF)	SJC Diversion, SP-2847-E (AF)	SJC Diversion, SP-2847-N-A (AF)	Total Native Rio Grande Diversion SP-4842 (AF)	Release of SJC in Elephant Butte (AF)	Total BDD Surface Diversion (all permits)	SJC from SP-2847-E used to offset Buckman Wells RG-20516 (AF)	SJC from SP-2847-N used to offset Buckman Wells RG-20516 (AF)
JAN	383.35	3.74	390.34	390.34	0.00	12.68	0	403.01	0	0
FEB	349.51	3.28	341.55	341.55	0.00	11.38	0	352.93	0	0
MAR	373.88	3.66	381.69	357.07	34.09	148.83	0	530.52	0	0
APR	178.75	1.70	176.78	92.46	84.47	227.22	0	404.00	0	0
MAY	491.46	4.61	480.35	389.13	91.22	374.86	0	855.21	0	0
JUN	427.50	3.96	412.65	295.07	117.58	292.84	0	705.49	0	0
JUL	425.22	4.14	431.96	399.51	32.46	72.32	0	504.28	0	0
AUG	496.68	4.60	479.66	479.66	0.00	96.07	0	575.74	0	0
SEP	552.71	5.40	562.83	562.83	0.00	84.85	0	647.68	0	0
OCT	381.93	3.63	378.30	378.30	0.00	142.46	0	520.76	0	0
NOV	441.14	4.09	426.17	426.17	0.00	11.59	0	437.76	0	0
DEC	423.99	4.13	430.74	430.74	0.00	19.56	0	450.30	0	0
TOTAL	4926.12	46.93	4893.03	4542.84	359.82	1494.66	0.00	6387.69	0.00	0.00

Source of SJC releases in reporting month. Includes conveyance losses.

Month	Total Release (AF)	ABIQUIU		
		City of Santa Fe (AF)	Santa Fe County (AF)	Club at Las Campanas (AF)
JAN	383.35	383.35	0.00	0.00
FEB	349.51	349.51	0.00	0.00
MAR	373.88	346.37	0.00	27.37
APR	178.75	93.42	0.00	85.41
MAY	491.46	399.41	0.00	92.41
JUN	427.50	307.54	0.00	120.28
JUL	425.22	397.13	0.00	28.09
AUG	496.68	496.68	0.00	0.00
SEP	552.71	552.71	0.00	0.00
OCT	381.93	381.93	0.00	0.00
NOV	441.14	441.14	0.00	0.00
DEC	423.99	423.99	0.00	0.00
TOTAL	4926.12	4573.19	0.00	353.55

Buckman Direct Diversion Monthly SJC and Native Diversions

December 2013

Month	Total SJC Release (AF)	SJC Conveyance Losses (AF)	Total SJC Available at BDD (AF)	SJC Diversion, SP-2847-E (AF)	SJC Diversion, SP-2847-N-A (AF)	Total Native Rio Grande Diversion SP-4842 (AF)	Release of SJC in Elephant Butte (AF)	Total BDD Surface Diversion (all permits)	SJC from SP-2847-E used to offset Buckman Wells RG-20516 (AF)	SJC from SP-2847-N used to offset Buckman Wells RG-20516 (AF)
JAN	439.04	4.24	441.79	441.79	0	44.09	0	485.88	0	0
FEB	261.03	2.47	257.94	257.94	0	10.49	0	268.42	0	0
MAR	353.69	3.30	343.57	343.57	0	75.66	0	419.23	0	0
APR	680.73	6.34	661.33	661.33	0	89.47	0	750.80	0	0
MAY	1045.27	9.88	1030.46	1030.46	0	22.86	0	1053.32	0	0
JUN	817.91	7.85	818.00	734.56	83.44	260.03	0	1078.03	0	0
JUL	606.85	5.90	614.73	397.47	78.83	0.00	0	476.30	83.70	54.73
AUG	108.68	0.91	95.34	41.68	36.91	0.00	0	78.59	5.58	11.18
SEP	136.77	1.43	149.29	63.86	53.76	0.00	0	117.61	25.36	6.32
OCT	255.24	2.46	256.53	213.87	42.66	72.92	0	329.45	0	0
NOV	196.45	1.88	195.50	187.02	8.48	117.33	0	312.83	0	0
DEC	293.76	2.63	274.19	274.19	0.00	12.25	0	286.44	0	0
TOTAL	5195.42	49.29	5138.67	4647.73	304.07	705.09	0.00	5656.89	114.64	72.23

Source of SJC releases in reporting month. Includes conveyance losses.

Month	Total Release (AF)	ABIQUIU		
		City of Santa Fe (AF)	Santa Fe County (AF)	Club at Las Campanas (AF)
JAN	439.04	439.04	0	0
FEB	261.03	261.03	0	0
MAR	353.69	353.69	0	0
APR	680.73	680.73	0	0
MAY	1045.27	1045.27	0	0
JUN	817.91	729.30	0	88.60
JUL	606.85	473.27	0	133.58
AUG	108.68	65.21	0	43.47
SEP	136.77	83.87	0	52.90
OCT	255.24	211.15	0	44.09
NOV	196.45	186.31	0	10.15
DEC	293.76	293.76	0	0.00
TOTAL	5195.42	4822.62	0.00	372.79

Buckman Direct Diversion Monthly SJC and Native Diversions

December 2012

Month	Total SJC Release SP-2847-E (AF)	Conveyance Losses (AF)	Total SJC Available at BDD Diversion (AF)	Total SJC Diversion SP-2847-E (AF)	Total Native Rio Grande Diversion SP-4842 (AF)	Release of SJC in Elephant Butte (AF)	Total BDD Surface Diversion SP-2847-E plus SP-4842 (AF)	SJC used to offset Buckman Wells RG-20516 (AF)
JAN	448.09	4.06	447.00	411.56	5.02	0	416.59	35.44
FEB	210.29	1.97	216.94	208.13	32.21	0	240.34	8.81
MAR	335.75	2.94	323.61	312.85	59.21	0	372.06	10.76
APR	528.63	4.72	519.90	519.90	108.61	0	628.51	0.00
MAY	660.18	6.24	651.05	651.05	145.51	0	796.55	0.00
JUN	722.36	6.79	692.21	692.21	120.92	0	813.12	0.00
JUL	152.03	2.23	191.75	157.16	0.00	0	157.16	34.60
AUG	86.08	0.58	60.90	60.90	239.96	0	300.87	0.00
SEP	637.17	6.05	630.92	630.92	110.07	0	740.99	0.00
OCT	747.21	7.14	744.87	744.87	50.82	0	795.69	0.00
NOV	479.19	4.63	482.65	482.65	120.91	0	603.56	0.00
DEC	442.67	4.17	434.71	434.71	119.44	0	554.15	0.00
TOTALS	5449.67	51.53	5396.51	5306.90	1112.67	0.00	6419.57	89.61

Source of SJC Releases in reporting month. Includes conveyance losses.

Month	Total Release (AF)	HERON		EL VADO		ABIQUIU	
		CITY	COUNTY	CITY	COUNTY	CITY	COUNTY
JAN	448.09	0.00	0.00	0.00	0.00	448.09	0.00
FEB	210.29	0.00	0.00	0.00	0.00	210.29	0.00
MAR	335.75	0.00	0.00	0.00	0.00	335.75	0.00
APR	528.63	0.00	0.00	0.00	0.00	528.63	0.00
MAY	660.18	0.00	0.00	0.00	0.00	660.18	0.00
JUN	722.36	0.00	27.21	0.00	0.00	695.15	0.00
JUL	152.03	0.00	21.42	0.00	0.00	130.61	0.00
AUG	86.08	0.00	0.00	0.00	0.00	86.08	0.00
SEP	637.17	0.00	0.00	0.00	0.00	637.17	0.00
OCT	747.21	0.00	0.00	0.00	0.00	747.21	0.00
NOV	479.19	0.00	0.00	0.00	0.00	479.19	0.00
DEC	442.67	0.00	0.00	0.00	0.00	442.67	0.00
TOTALS	5449.67	0.00	48.63	0.00	0.00	5401.04	0.00

Note: Grey fields indicate revisions to previous monthly report

Buckman Direct Diversion End of Month Report

December 2011

Month	Total SJC Release SP-2847-E (AF)	Conveyance Losses (AF)	Total SJC Available at BDD Diversion (AF)	Total SJC Diversion SP-2847-E (AF)	Total Native Rio Grande Diversion SP-4842 (AF)	Release of SJC in Elephant Butte (AF)	Total BDD Surface Diversion SP-2847-E plus SP-4842 (AF)	SJC used to offset Buckman Wells RG-20516 (AF)
JAN	247.17	4.94	242.23	221.46	37.55	0.00	259.98	20.77
FEB	320.95	6.42	314.53	269.13	36.61	0.00	305.74	45.86
MAR	352.04	7.04	345.00	335.37	46.09	0.00	381.46	9.62
APR	585.11	11.70	573.40	573.40	56.64	0.00	630.04	0.00
MAY	568.22	11.36	556.86	440.02	49.23	0.00	488.87	116.84
JUN	765.87	15.32	750.55	655.89	80.66	0.00	736.55	94.67
JUL	641.81	12.84	628.97	407.40	49.86	0.00	457.26	221.58
AUG	182.98	2.07	168.97	86.23	0.00	0.00	86.23	82.75
SEP	568.78	6.83	537.05	515.86	0.00	0.00	515.86	21.19
OCT	555.90	4.85	570.81	555.66	0.00	0.00	555.66	15.16
NOV	431.29	3.93	433.26	433.26	14.60	0.00	447.86	0.00
DEC	437.57	3.90	429.46	450.42	0.00	0.00	450.42	-20.96
TOTALS	5657.68	91.21	5551.11	4944.10	371.25	0.00	5315.94	607.47

January 1, 2011: 1050.8 acre-feet of native Rio Grande water rights in SP-4842; not all are available for diversion- some transfers include leaseback provisions.

As of May 30, 2011: 330 ac-ft under SP-4842 A

Correction to Oct Total of SJC Available at BDD: The incorrect value used calculated the SJC released from upstream reservoirs, not that amount that arrived at BDD for diversion.

Source of SJC Releases for BDD diversion in reporting month. Includes conveyance losses.

Month	Total Release (AF)	Conveyance Losses (AF)	HERON		EL VADO		ABIQUIU	
			CITY	COUNTY	CITY	COUNTY	CITY	COUNTY
JAN	247.17	4.94	247.17	0.00	0.00	0.00	0.00	0.00
FEB	320.95	6.42	320.95	0.00	0.00	0.00	0.00	0.00
MAR	352.04	7.04	352.04	0.00	0.00	0.00	0.00	0.00
APR	585.11	11.70	585.11	0.00	0.00	0.00	0.00	0.00
MAY	568.22	11.36	568.22	0.00	0.00	0.00	0.00	0.00
JUN	765.87	15.32	765.87	0.00	0.00	0.00	0.00	0.00
JUL	641.81	12.84	641.81	0.00	0.00	0.00	0.00	0.00
AUG	182.98	2.07	0.00	43.56	0.00	0.00	133.47	5.95
SEP	568.78	6.83	0.00	150.50	0.00	0.00	418.28	0.00
OCT	555.90	4.85	0.00	0.00	0.00	0.00	555.90	0.00
NOV	431.29	3.93	0.00	0.00	0.00	0.00	431.29	0.00
DEC	437.57	3.90	0.00	0.00	0.00	0.00	437.57	0.00
TOTALS	5657.68	91.21	3481.16	194.06	0.00	0.00	1976.51	5.95

MEMORANDUM

TO: City of Santa Fe Public Utilities Committee
City of Santa Fe Water Conservation Committee
Buckman Direct Diversion Board

FROM: Rick Carpenter, Water Resources and Conservation Manager *RC*

VIA: Nick Schiavo, Public Utilities Department and Water Division Director *NSA*

DATE: January 23, 2015

SUBJECT: 41st Monthly Update on Drought and Water Resource Management

CURRENT UPDATE – GENERAL WATER RESOURCE MANGEMENT

As the Committee/Board is aware, our region is still suffering through a drought. Our region has gone through four consecutive years of record drought and heat. In fact, recent data suggests that this past summer was the hottest on record (June-August). This fourth consecutive year of drought has eased somewhat, but will still likely present significant challenges to all water purveyors, utilities, and irrigators going forward into the next year.

July/August/September, 2014 yielded good summer rains due to a series of moist northeast cold fronts and monsoonal flow, but the monsoons generally exited by early October. Many models are predicting the likelihood of a return of an El Nino weather pattern, 50%-60% chance of normal to above normal precipitation (but down from 75% in spring/summer projections) over the next two months. This could mean good precipitation for the remaining winter months (snow pack) (see attached figure). Therefore, while El Nino seems to be weakening relative to early predictions, normal to above normal snow pack is still likely this coming winter. The most recent January NOAA ENSO update states that:

“ENSO-neutral (El Nino) conditions continue. Positive equatorial sea surface temperature (SST) anomalies continue across the Pacific Ocean. There is an approximate 50%-60% chance of El Nino conditions during the next two months.”

It is worth noting that City of Santa Fe has invested in a robust and diverse portfolio of four distinct water supply sources that allows for flexibility in meeting demand: Buckman well field, City well field, Canyon Road Water Treatment Plant on the Upper Santa Fe River, and the Buckman Direct Diversion on the Rio Grande. Supply from these groundwater and surface water sources are expected to be adequate in meeting local demands. The City also has a considerable amount of SJCP water stored (“banked from previous years”) in reservoirs upstream from the BDD diversion, and that water could be called for if needed over the coming 2 or 3 years.

LOCAL CONDITIONS

Source of Supply Utilization Summary

December 2014

City Wells	9.68mg/m	29.69af/m
Buckman Wells	7.42mg/m	22.78af/m
CRWTP	25.39mg/m	77.92af/m
BRWTP	141.46mg/m	434.14af/m
<i>Other Wells(Osage, MRC, etc)</i>	<i>0.00mg/m</i>	<i>0.00af/m</i>

Upper Santa Fe River/CRWTP

	Total Combined Reservoir Level	Santa Fe Snow Gage	Reservoir Inflow
January 23, 2015	9.0%	33.00 inches	0.97 MGD
5-Year Average for This Date (2010 – 2014)	44.48 %	22.00 inches	1.04 MGD

As of January 23, 2015 total combined storage in Nichols and McClure reservoirs is 9.0% of total (or about 360 acre-feet of storage out of 4,000 acre-feet of capacity). Some flows have been by-passed due to construction on the new intake facilities. Minor inflows are expected to continue for the near future and so the reservoirs have been managed to allow for water treatment plant production, active construction, and draining/drying.

Buckman Regional Water Treatment Plant (BDD)

Flows in the Rio Grande are relatively good for this time of year, and turbidity has been generally good. The BDD has been able to divert and treat in line with demand.

REGIONAL CONDITIONS

Rio Grande Basin

Surface flows in the Rio Grande and its tributaries through mid-January have been relatively good. However, storage levels in regional reservoirs is still very low (see attached figure). There was very little carry-over storage from 2014 into 2015. A good snow pack this winter is essential if there is to be significant runoff into regional reservoirs for next high demand season.

UPDATE: Wild Earth Guardians (WEG) has either filed law suits or Notices of Intent (NOI's) against the US Army Corps of Engineers, Bureau of Reclamation, State of Colorado, State of NM, and MRGCD, citing endangered species act (ESA) compliance concerns (SW willow fly catcher and silvery minnow). A recent settlement reached with WEG indicates that SJCP water will NOT be the subject of this, or any future, ESA legal action sought by WEG in the MRG.

Additionally, in October the federal government listed the yellow billed cuckoo as an endangered species in portions of the middle and upper Rio Grande basins. The cuckoo's habitat generally includes, but extends, the habitat already occupied by the flycatcher and minnow. The implications of this new listing by the federal government are currently be analyzed by staff and consultants. The Rio Grande meadow jumping mouse may also become listed by the federal government in the coming months. Jumping mouse habitat generally includes that of the cuckoo but also may include adjacent riparian meadows and wetlands further away from the wetted river flood plain. Updates will be provided by staff as necessary.

San Juan Basin

It should be stressed that, conditions could significantly worsen for San Juan Chama Project deliveries this coming year, if the drought persists, due to a lack of carry-over storage in Heron from last year to this year. Heron Reservoir is currently at a very low level. However, the San Juan Basin as well as the local Sangre de Cristo Mountains have experienced several snow storms recently. Recent estimates by the BoR suggest that the snow pack is about 70% of normal for this time of year (through December 2014).

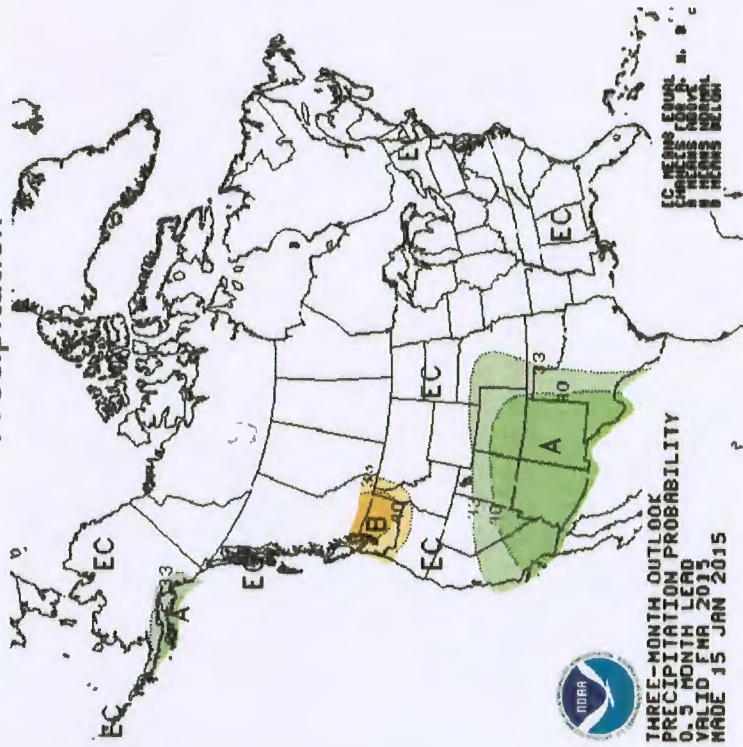
The Bureau of Reclamation has recently indicated that SJCP deliveries 2014 were about 89% of total annual firm yield, which marks the first time since the inception of the SJCP Project that total firm yield deliveries were not completely met by the Project.

U. S. Seasonal Outlooks

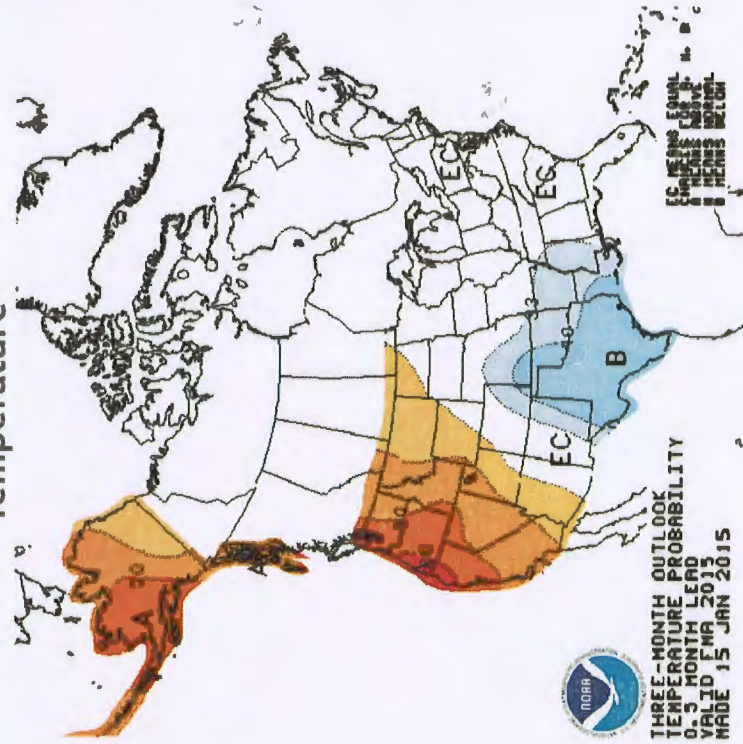
February - April 2015

The seasonal outlooks combine the effects of long-term trends, soil moisture, and, when appropriate, ENSO.

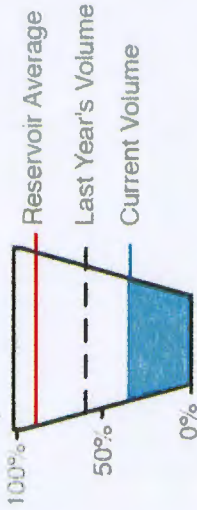
Precipitation



Temperature



Legend



size of cups is
representational of reservoir
size, but not to scale

Reservoir	Capacity	Current Storage*	Max Storage*	One-Month Change in Storage*
1. Navajo	65%	1095.9	1,696.0	-0.5
2. Heron	17%	67.9	400.0	-2.5
3. El Vado	9%	17.7	190.3	-2.5
4. Abiquiu	11%	127.7	1,192.8	0.2
5. Cochiti	9%	45.9	491.0	-1.0
6. Bluewater	6%	2.4	38.5	-0.2
7. Elephant Butte	10%	212.5	2,195.0	28.9
8. Caballo	10%	31.6	332.0	0.4
9. Lake Avalon	50%	2.0	4.0	0.9
10. Brantley	8%	79.5	1,008.2	1.4
11. Sumner	37%	38.2	102.0	2.9
12. Santa Rosa	16%	69.8	438.3	-0.8
13. Costilla	18%	2.9	16.0	0.4
14. Conchas	33%	84.6	254.2	-2.8
15. Eagle Nest	22%	17.0	79.0	-0.1

*in KAF = thousands of acre-feet

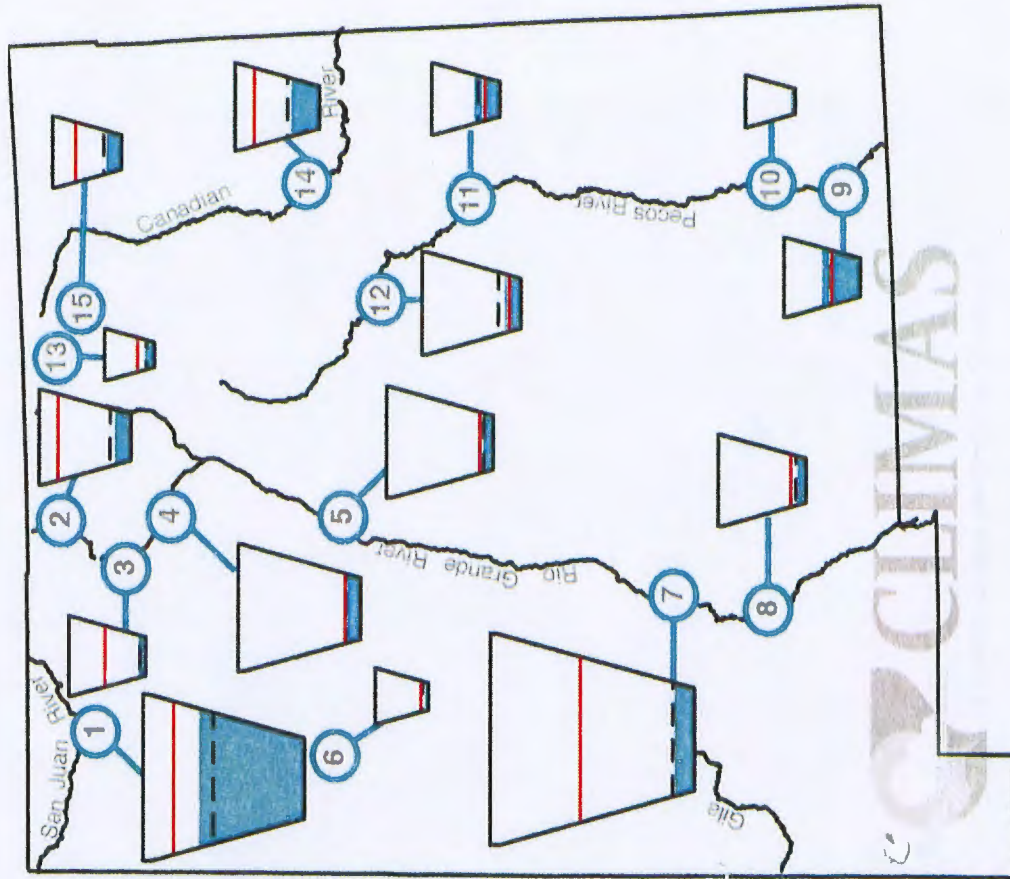


Figure 2. New Mexico reservoir volumes for end of Nov as a percent of capacity. The map depicts the average volume and last year's storage for each reservoir. The table also lists current and maximum storage, and change in storage since last month.