COLORADO WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES ROOM 818, 1313 SHERMAN ST., DENVER, CO 80203 303-866-3581; <u>www.water.state.co.us</u>

March 1, 2018

The Surface Water Supply Index (SWSI) is used as an indicator of water supply conditions in the seven major river basins of the state and in each of the 41 smaller watersheds, or HUCs. The Colorado Water Conservation Board (CWCB) completed a major revision to the Colorado Drought Plan in 2010. At that time, Colorado adopted a revised SWSI analysis based on the components shown below, which vary depending on the time of year. The revised SWSI is based on a ranking of total volume in a HUC or major river basin ranked against similar volumes in historical years. For instance, in January, the total volume in a HUC is based on the forecasted runoff at specific locations plus the volume in storage in specific reservoirs, all within the HUC. That total volume is ranked against similar total volumes that occurred each January between 1970 and 2010.

Time Period	SWSI Components	
January 1 - June 1	Forecasted Runoff + Reservoir Storage	
July 1 - September 1	Previous Month's Streamflow + Reservoir Storage	
October 1 - December 1	Reservoir Storage	

In 2015, CWCB and the Division of Water Resources (DWR) (both Divisions of the Colorado Department of Natural Resources) completed a software project to implement an automated calculation of the SWSI and to document the underlying hydrologic data. July 1, 2015 was the first month that the automated DNR SWSI was published. The results of each month's analysis are summarized within this report and additional information, maps & data are available at: <u>http://water.state.co.us/DWRDocs/Reports/Pages/SWSIReport.aspx</u>. This report also contains updates about current regional conditions and water matters prepared by each DWR Division Office.

The SWSI calculation for the winter/spring season (January 1 to June 1) is based on reservoir storage at the end of last month, in this case February 28, plus the forecasted streamflow runoff volume for the runoff season (April through September in most basins). The following SWSI values were computed for each of the seven major basins for March 1, 2018. Water supply conditions are well below normal in all but the South Platte and Arkansas River basins. Those two basins have streamflow forecasts well below normal, but the SWSI is moderated by strong reservoir storage volumes. Reservoir storage is near normal to above normal statewide. There has been some improvement since February 1 in each basin but the Arkansas.

Basin	March 1 SWSI	Change from Previous Month	Change from Previous Year
Arkansas	1.7	-0.3	-0.3
Colorado	-2.3	0.1	-1.9
Gunnison	-3.1	0.0	-5.1
Rio Grande	-2.4	0.8	-3.6
San Juan-Dolores	-2.8	0.1	-4.2
South Platte	1.3	0.1	-0.2
Yampa-White	-2.0	0.3	-1.0

				SWSI Scale				
-4	-3	-2	-1	0	1	2	3	4
Severe Drought		Moderate Drought		Near Normal Supply	,	Above Normal Supply	Abu	undant Supply



SURFACE WATER SUPPLY INDEX FOR COLORADO BY MAJOR RIVER BASIN

March 1, 2018

SURFACE WATER SUPPLY INDEX FOR COLORADO BY HUC



Basin	HUC ID	HUC Name	SWSI	Reservoir Storage NFP	Forecast	Total Vol
	11020006	Huerfano River	-3.70	14	7	8.600
	11020010	Purgatoire River	-1.03	86	10	53,850
Arka	11020005	Upper Arkansas-Lake Meredith	-2.04	78	11	293,575
ansa	11020001	Arkansas Headwaters	-1.20	76	16	344,569
St	11020002	Upper Arkansas	0.35	88	14	514,100
	11020009	Upper Arkansas-John Martin Reservoir	1.45	82	11	622,952
	14010003	Eagle River	-2.28	N/A	23	250,000
င့	14010002	Blue River	-0.91	22	41	311,478
lora	14010004	Roaring Fork	-3.57	40	8	477,069
do	14010001	Colorado Headwaters	-0.87	82	33	1,320,560
	14010005	Colorado Headwaters-Plateau	-2.35	45	22	1,670,747
	14020003	Tomichi Creek	-2.75	88	16	35,779
	14030003	San Miguel River	-3.64	N/A	6	66,000
Gu	14020006	Uncompahgre River	-2.04	46	14	133,620
nnis	14020004	North Fork Gunnison	-3.41	53	9	134,510
son	14020001	East-Taylor	-3.38	77	9	246,306
	14020005	Lower Gunnison	-3.50	N/A	8	650,000
	14020002	Upper Gunnison	-2.60	77	9	1,119,572
Rio Gran	13010004	Saguache	-2.40	N/A	21	21,000
	13010002	Alamosa-Trinchera	-2.43	96	17	78,426
	13010005	Conejos River	-2.55	65	18	146,472
de	13010001	Rio Grande Headwaters	-2.27	92	18	369,048
Sa	14080105	Middle San Juan	-3.48	50	6	9,646
n J	14080107	Mancos	-3.65	67	6	15,764
uan	14080102	Piedra River	-3.32	N/A	10	83,000
-Do	14080104	Animas River	-3.70	36	6	230,670
lor	14080101	Upper San Juan	-2.75	62	17	372,841
es	14030002	Upper Dolores	-1.41	72	9	416,389
	10190004	Clear Creek	-2.12	N/A	25	90,000
	10190001	South Platte Headwater	0.05	94	18	194,000
Sou	10190005	St. Vrain River	0.21	99	42	233,779
Ith	10190007	Cache La Poudre	0.36	42	43	371,738
Plat	10190002	Upper South Platte	-0.70	82	17	419,453
tte	10190006	Big Thompson River	1.92	79	42	599,457
	10190003	Middle South Platte-Cherry Creek	-1.59	98	30	773,500
	10190012	Middle South Platte-Sterling	-1.58	93	30	885,900
۲a	14050005	Upper White	-3.14	N/A	12	152,000
mp	10180001	North Platte Headwaters	-0.53	N/A	44	199,000
ia-V	14050003	Little Snake	-2.08	N/A	25	210,000
Vhit	14050001	Upper Yampa	-2.26	99	20	481,492
ີ່ຍ	14050002	Lower Yampa	-2.11	N/A	25	570,000

March 1, 2018 SWSI Values by HUC and Non Exceedance Probabilities (NEP)

NEP is non exceedance percentage for total reservoir storage and streamflow forecast in HUC. Some HUCs do not have any reservoirs considered in the SWSI and are shown as "N/A". Total Vol is the volume of reservoir storage in the HUC plus the streamflow forecast. NEP is calculated compared to the volume historically occurring this month during the period 1970-2010. The following table lists each component considered in each HUC.

SWSI Color Scale:

-4.0 (Severe Drought) 0.0 (Normal) 4.0 (Abundant Supply)

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
		CLEAR CREEK RESERVOIR	8,067	58
		TWIN LAKES RESERVOIR	28,365	28
11020001	Arkansas	HOMESTAKE RESERVOIR	40,989	73
	ricadivaters	TURQUOISE LAKE	92,148	77
		ARKANSAS RIVER AT SALIDA	175,000	16
		CUCHARAS RESERVOIR*	0	14
11020006	Huerfano	CUCHARAS RIVER AT BOYD RANCH NR LA VETA	3,800	11
		HUERFANO RIVER NEAR REDWING	4,800	5
11020010	Durgatoiro	PURGATOIRE RIVER AT TRINIDAD	14,600	10
11020010	Fulgatone	TRINIDAD LAKE	39,250	86
11020002	Upper Arkansas	PUEBLO RESERVOIR INFLOW	240,000	14
11020002	Opper Arkansas	PUEBLO RESERVOIR	274,100	88
		CUCHARAS RIVER AT BOYD RANCH NR LA VETA	3,800	11
		HUERFANO RIVER NEAR REDWING	4,800	5
11020000	Upper Arkansas-	PURGATOIRE RIVER AT TRINIDAD	14,600	10
11020009	Reservoir	ADOBE CREEK RESERVOIR	48,657	67
		PUEBLO RESERVOIR INFLOW	240,000	14
		JOHN MARTIN RESERVOIR	311,095	85
	Upper Arkansas- Lake Meredith	CUCHARAS RIVER AT BOYD RANCH NR LA VETA	3,800	11
		HUERFANO RIVER NEAR REDWING	4,800	5
11020005		LAKE HENRY	8,838	99
		MEREDITH RESERVOIR	36,137	68
		PUEBLO RESERVOIR INFLOW	240,000	14
14010002	Blue	GREEN MOUNTAIN RESERVOIR	61,478	22
		BLUE RIVER INFLOW TO GREEN MOUNTAIN RES	250,000	41
	Colorado	WOLFORD MOUNTAIN RESERVOIR	54,260	99
14010001	Headwaters	WILLIAMS FORK RESERVOIR	66,300	66
		COLORADO RIVER NEAR DOTSERO	1,200,000	33
	Colorado	VEGA RESERVOIR	10,747	45
14010005	Headwaters- Plateau	COLORADO RIVER NEAR CAMEO	1,660,000	22
14010003	Eagle	EAGLE RIVER BELOW GYPSUM	250,000	23
14010004	Popring Fork	RUEDI RESERVOIR	67,069	40
14010004	Roaring Fork	ROARING FORK AT GLENWOOD SPRINGS	410,000	8
		TAYLOR R INF TO TAYLOR PARK RESERVOIR	66,000	12
14020001	East-Taylor	TAYLOR PARK RESERVOIR	72,306	77
	-	EAST RIVER AT ALMONT	108,000	10
14020005	Lower Gunnison	GUNNISON RIVER NR GRAND JUNCTION	650,000	8
14020004	North Fork	PAONIA RESERVOIR	3,510	53
14020004	Gunnison	NORTH FORK GUNNISON R NR SOMERSET	131,000	9
14030003	San Miguel	SAN MIGUEL RIVER NEAR PLACERVILLE	66,000	6
14020002	Tomichi	VOUGA RESERVOIR NEAR DOYLEVILLE	779	88
14020003	romichi	TOMICHI CREEK AT GUNNISON, CO	35,000	16

March 1, 2018 SWSI Component Information - Streamflow Forecast & Reservoir Storage - By HUC

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
1/020006	Uncompahare	RIDGEWAY RESERVOIR	61,620	46
14020000	Uncompanyre	UNCOMPAHGRE RIVER AT COLONA	72,000	14
		FRUITLAND RESERVOIR	1,200	45
		SILVER JACK RESERVOIR	2,355	7
		CRAWFORD RESERVOIR	5,436	23
14020002	Upper Gunnison	LAKE FORK AT GATEVIEW, CO	80,000	11
		MORROW POINT RESERVOIR	108,447	19
		GUNNISON R INF TO BLUE MESA RESERVOIR	375,000	9
		BLUE MESA RESERVOIR	547,134	77
		SANGRE DE CRISTO	3,000	9
		TRINCHERA CK	4,400	6
	A 1	UTE CREEK	4,600	15
13010002	Alamosa- Trinchera	CULEBRA CREEK AT SAN LUIS	6,900	13
	minenera	MOUNTAIN HOME	8,576	99
		TERRACE RESERVOIR	8,950	80
		ALAMOSA CREEK ABOVE TERRACE RESERVOIR	42,000	23
12010005	Consist	PLATORO RESERVOIR	23,472	65
13010003	Conejos	CONEJOS RIVER NEAR MOGOTE	123,000	18
	Rio Grande Headwaters	CONTINENTAL RESERVOIR	11,932	98
12010001		SANTA MARIA RESERVOIR	18,982	90
13010001		RIO GRANDE RESERVOIR	28,134	87
		RIO GRANDE NEAR DEL NORTE	310,000	18
13010004	Saguache	SAGUACHE CREEK NEAR SAGUACHE, CO	21,000	21
	Animas	LEMON RESERVOIR	18,670	36
14080104		FLORIDA RIVER INFLOW TO LEMON RESERVOIR	22,000	5
		ANIMAS RIVER AT DURANGO	190,000	6
1/080107	Mancos	JACKSON GULCH RESERVOIR	5,264	67
14000107	Maricos	MANCOS RIVER NEAR MANCOS	10,500	6
1/080105	Middle San Juan	LONG HOLLOW RESERVOIR	2,046	50
14000103		LA PLATA RIVER AT HESPERUS	7,600	6
14080102	Piedra	PIEDRA RIVER NEAR ARBOLES	83,000	10
	2 Upper Dolores	GROUNDHOG RESERVOIR	12,253	46
14030002		DOLORES RIVER BELOW MCPHEE RESERVOIR	120,000	9
		MCPHEE RESERVOIR	284,136	73
		VALLECITO RESERVOIR	69,841	62
14080101	Upper San Juan	LOS PINOS RIVER NEAR BAYFIELD	93,000	6
		SAN JUAN RIVER NEAR CARRACAS	210,000	24
		MARIANO RESERVOIR	4,000	53
		LAKE LOVELAND RESERVOIR	6,300	26
		WILLOW CREEK RESERVOIR	6,659	25
10100006	Big Thompson	LONE TREE RESERVOIR	6,800	46
10170000	ווטנקוווטוון צום	BOYD LAKE	35,500	61
		CARTER LAKE	70,615	13
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	80,000	42
		LAKE GRANBY	389,583	92

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
		BLACK HOLLOW RESERVOIR	3,300	69
		CHAMBERS LAKE	5,200	82
		HALLIGAN RESERVOIR	5,400	64
		CACHE LA POUDRE	9,200	89
10190007	Cache La Poudre	FOSSIL CREEK RESERVOIR	9,200	76
		WINDSOR RESERVOIR	10,400	28
		COBB LAKE	19,000	76
		HORSETOOTH RESERVOIR	95,038	28
		CACHE LA POUDRE R AT CANYON MOUTH	215,000	43
10190004	Clear	CLEAR CREEK AT GOLDEN	90,000	25
		HORSECREEK RESERVOIR	11,800	17
		MILTON RESERVOIR	21,900	99
		BARR LAKE	28,800	86
		SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	34,000	32
	Middle South	STANDLEY RESERVOIR	42,000	99
10190003	Platte-Cherry	BOULDER CREEK NEAR ORODELL	52,000	44
	Creek	SAINT VRAIN CREEK AT LYONS	79,000	44
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	80,000	42
		CLEAR CREEK AT GOLDEN	90,000	25
		SOUTH PLATTE RIVER AT SOUTH PLATTE	119,000	17
		CACHE LA POUDRE R AT CANYON MOUTH	215,000	43
	Middle South Platte-Sterling	JULESBURG RESERVOIR	15,700	11
		PREWITT RESERVOIR	18,400	46
		JACKSON LAKE RESERVOIR	24,600	46
		SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	34,000	32
		EMPIRE RESERVOIR	35,400	95
		BOULDER CREEK NEAR ORODELL	52,000	44
10190012		RIVERSIDE RESERVOIR	53,900	97
		POINT OF ROCKS RESERVOIR	68,900	91
		SAINT VRAIN CREEK AT LYONS	79,000	44
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	80,000	42
		CLEAR CREEK AT GOLDEN	90,000	25
		SOUTH PLATTE RIVER AT SOUTH PLATTE	119,000	17
		CACHE LA POUDRE R AT CANYON MOUTH	215,000	43
		ANTERO RESERVOIR	20,400	96
10100001	South Platte	ELEVENMILE CANYON RESV INFLOW	37,000	18
10190001	Headwater	SPINNEY MOUNTAIN RESERVOIR	37,000	89
		ELEVENMILE CANYON RESERVOIR	99,600	86
		TERRY RESERVOIR	6,400	90
		MARSHALL RESERVOIR	7,300	84
		UNION RESERVOIR	11,925	74
10100005	Ct Vrain	BUTTONROCK (RALPH PRICE) RESERVOIR	15,900	99
10190000	JL. VIAIII	GROSS RESERVOIR	27,254	99
		SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	34,000	32
		BOULDER CREEK NEAR ORODELL	52,000	44
		SAINT VRAIN CREEK AT LYONS	79,000	44

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
	Linn on Courth	CHEESMAN LAKE	66,453	62
10190002	Upper South Platte	SOUTH PLATTE RIVER AT SOUTH PLATTE	119,000	17
	Tutte	DILLON RESERVOIR	234,000	90
14050003	Little Snake	LITTLE SNAKE RIVER NEAR LILY	210,000	25
14050002	Lower Yampa	YAMPA RIVER NEAR MAYBELL	570,000	25
10180001	North Platte Headwaters	NORTH PLATTE R NR NORTHGATE	199,000	44
14050005	Upper White	WHITE RIVER NEAR MEEKER	152,000	12
		YAMCOLO RESERVOIR	8,092	76
14050001		STAGECOACH RESERVOIR NR OAK CREEK	33,400	99
	Upper Yampa	ELKHEAD CREEK ABOVE LONG GULCH	40,000	20
		YAMPA RIVER AT STEAMBOAT SPRINGS	160,000	18
		ELK RIVER NEAR MILNER, CO	240,000	21

NEP is non exceedance percentage (percentile) for volume of the component compared to this month during the historical period 1970-2010.

*Empty, filling restriction

Water Volume NEP Color Scale:

0 (Well Below Normal) 50 (Normal) 100 (Well Above Normal)

Basinwide Conditions Assessment

The SWSI value for the month was +1.3. February brought a wetter and cooler than normal weather pattern to northeast Colorado. All but the most southern portion of the area experienced near to above normal precipitation. Unfortunately, February is one of the lower precipitation months in the area, so even receiving above normal precipitation did not supply a huge amount of water to the area. Temperatures were below normal over the entire area except for the extreme southwestern portion of the area.

The South Platte basin snowpack Snow Water Equivalent (SWE) increased from 84% of average on February 1 to 89% of average on March 1. While this represents over two inches of increase in the SWE, the below average snowpack number is a concern for the water community.

The near to above normal February precipitation did result in an improvement in the USDA Drought Monitor rating. The end of January rating indicated most of the southern and eastern parts of the area were rated D1 "Moderate Drought" with the rest of the area (except a small sliver in Larimer County along the Colorado-Wyoming border with no rating) rated D0 "Abnormally Dry". Though the end of February area rated D1 showed virtually no change from the end of January area, the D0 rated area shrank significantly to the point that the northern Front Range and much of the area along the Kansas and Nebraska borders was no

longer in any drought classification.

The flows at the Kersey and Julesburg index stream flow gages were in line with what would be expected from the generally good precipitation conditions within the South Platte basin in February. The overall January mean flow at the Kersey gage was 694 cfs or about 103% of the long term mean flow of 671 cfs. The overall November mean flow at the Julesburg gage was 621 cfs. This represents a flow of about 107% of the long term mean flow of 578 cfs.

The calls in the South Platte basin were more-orless what would be expected during a February with normal to above normal precipitation. The mainstem of the South Platte was under Free River conditions below Chatfield Reservoir for the entire month. Most of the major South Platte tributaries also had fairly normal calls for February.

Reservoir storage in February in the South Platte basin continued the generally above average trend from the 2017 irrigation season. The overall end of February storage was about 82% of capacity. This compares to a long term average end of February storage of about 74% of capacity.









Basinwide Conditions Assessment

The SWSI value for the month was +1.7.

<u>Outlook</u>

Reservoir storage in the Pueblo Winter Water Program totaled 125,851 acre-feet as of the end of February. This storage amount is higher than last year's storage to date (105% of last year) and represents 111% of the past five-year average. Conservation storage in John Martin Reservoir has accumulated 49,378 acre-feet representing an increase from last year when storage reached 21,546 acre-feet for the same time period. Conservation storage remained significantly above the 1950 to 1975 pre-Winter Water Storage Period average of 17,810 acre-feet.

Administrative/Management Concerns

There is a likelihood of spill from accounts in Pueblo Reservoir between April 1, 2018 and April 15, 2018. Entities with stored water likely to spill are working hard to find alternatives to loss of control of their water through a reservoir spill.

The Colorado State Engineer and Kansas Chief Engineer continued discussions in February with a meeting in Manhattan, Kansas on February 28, 2018 to finalize approval for an additional source of water for the Permanent Pool in John Martin Reservoir (Highland Canal water) for an additional temporary year. A special meeting of the Arkansas River Compact Administration will be held on March 20, 2018 to complete the oneyear approval of the Highland water. The States are also attempting to resolve some issues Kansas had previously raised related to how spills are accounted for from John Martin Reservoir and when Colorado can reasonably allow upstream post-Compact storage when a spill is occurring from John Martin Reservoir and plan to meet again in April and May.







Arkansas Basin SWSI History Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.

Arkansas-DataComposite-SWSI

Basinwide Conditions Assessment

The SWSI value for the month was -2.4. Flow at the gaging station Rio Grande near Del Norte averaged 183 cfs (102% of normal). The Conejos River near Mogote had a mean flow of 57 cfs (105% of normal). Flow to the state line was 105% of normal due to some early melt.

Temperatures were again well above normal in the San Luis Valley during February. Alamosa received 0.23 inches of precipitation during the month, 0.03 inches below average.

<u>Outlook</u>

Snowpack conditions throughout the upper Rio Grande basin finally jumped up during the second half of February. Snowfall during February in the high elevations of the upper Rio Grande basin was roughly 200% of the long term average. Unfortunately, the whole upper Rio Grande basin is still tracking at roughly 20% to 60% of normal snowpack because of the dry November through January.

Recent NRCS stream flow forecasts are calling for much below average runoff in the upper Rio Grande basin this year. The expected April through September runoff is 60 percent of normal for the Rio Grande near Del Norte and 63 percent for the Conejos River near Mogote. At the northern end of the San Luis Valley, the Saguache Creek runoff is predicted to be 66 percent of normal. The Sangre de Cristo Range is in very poor shape, forecasted runoff for 2018 is 18 to 45% of average.

The NOAA three-month outlook suggests this basin and most of Colorado should expect above normal temperatures and below normal precipitation for the April through June period.

Administrative/Management Concerns

The 79th annual meeting of the Rio Grande Compact Commission will be held in Austin, Texas at the State Capitol complex on Thursday, March 29, 2018. The public is invited to attend. The meeting is scheduled to start at 9:00 a.m.

If the current trend of warm and dry conditions persists, the Division Engineer expects early calls for irrigation water this year. Diversions from several of the streams outside the Rio Grande and Conejos Rivers are commencing at mid-March. The Rio Grande and Conejos will almost assuredly start before the first of April as well. The hope is to have the irrigators catch the early run-off in what is expected to be a very water short year.

Administrative/Management Concerns

The lack of snow cover at the lower elevations was beneficial to livestock and their owners but made area farmers nervous about cropland damage.









GUNNISON BASIN

Basinwide Conditions Assessment

The SWSI value for the month was -3.1. The string of four months with less than average precipitation was finally broken for at least parts of the Gunnison basin in February. Middle portions of the basin received between 110-130% of average. Areas in the upper Gunnison, such as Tomichi Creek and the Taylor River, however, received only 70-90% of average. Unfortunately, the first two weeks of March returned to a generally dry pattern. On March 14th, Gunnison basin average snowpack calculated using Snotel data is 56% of the 30-year median. Unfortunately, this places Gunnison basin snow water equivalent (SWE) at a record low for March 14th at 1.8 inches below 2002. Many individual sites, such as Park Reservoir, Overland Reservoir and Columbine Pass are reporting the lowest SWE for mid-March in up to 40 years of record.

<u>Outlook</u>

A graph produced by the NRCS that depicts current snowpack with projected snow for the remaining season indicates that if we receive average precipitation in the next month the Gunnison would end 2018 at 58% of the median peak SWE. Colorado Basin River Forecast Center (CBRFC) streamflow forecasts for the period from April 1st to July 31st have declined since last month. Listed in declining order, the forecasts for the Taylor River at Taylor Park Reservoir, Lake Fork Gunnison River at Gateview, Gunnison River at Blue Mesa Reservoir, Uncompander River at Ridgway Reservoir, Muddy Creek at Paonia Reservoir and Surface Creek at Cedaredge are 66%, 63%, 53%, 50%, 33%, and 27% of average, respectively. The ESP model produced by the CBRFC now shows Surface Creek producing only 2,980 acre-feet of runoff, which is below the previous low runoff of 3,700 acre-feet experienced in 1977.

Unfortunately, the NWS forecast for March to May places much the Gunnison basin on the north edge of the area expected to receive lower than average precipitation and above average temperatures.

Administrative/Management Concerns

Current forecasts for only 360,000 acre-feet of runoff into Blue Mesa Reservoir place the basin in the "Dry" category for determining target flows in the Aspinall Unit Operations EIS Record of Decision. This eliminates the peak flow and duration flow targets and would reduce baseflow targets at Whitewater to 890 cfs for April and May. Also, forecast inflow at this level only results in a 1,000 cfs peak in the Black Canyon based on calculations in the reserve water right decree for the National Park.

The Uncompany Valley Water Users Association (UVWUA) plans to divert water into the Gunnison Tunnel beginning March 15th due to dry conditions in the Uncompany Valley and the demand for water from irrigators that will be planting onions and other early season crops.

The North Fork Gunnison and its tributaries remain an area of concern because they are highly over appropriated during an average year and based on current conditions, this year could be similar or worse than 1977, which many ranchers remember as a year with extremely low supply.

At this point it appears unavoidable that many areas, which don't regularly require administration and curtailment by Water Commissioners, will be under administration in 2018. These may include the Uncompany River, and tributaries in the Upper Gunnison, such as Tomichi Creek.

Public Use Impacts

February snow improved skiing conditions for basin resorts, but the warm and dry weather in early March has returned conditions to less than ideal. Fly fisherman and guides are expecting a banner year in the Gunnison Gorge and Black Canyon due to the lack of large releases from Crystal Dam.









Basinwide Conditions Assessment The SWSI value for the month was -2.3.

<u>Outlook</u>

Colorado River flows are running below average with tributary flows running below average throughout March. As of March 15, the Upper Colorado River Basin snowpack was 69 percent of median snow water equivalent and 66 percent of average precipitation. Forecasts call for average precipitation and average temperatures for western Colorado through March.

Administrative/Management Concerns

The call on the Colorado River main stem remains the Shoshone Hydro Power right for 1250 cfs. Accordingly, Green Mountain Reservoir is releasing to pass inflows, provide contract and HUP obligations and make C-BT replacements. Wolford Reservoir is bypassing inflows and releasing for contracts.

Public Use Impacts

The nonprofit Colorado Water Trust entered into a three year pilot agreement with a Carbondale rancher to increase streamflows in the Crystal River during dry years. The rancher will get paid to retime their irrigation practices in order to leave water in the Crystal River when it falls below 40 cfs.









Basinwide Conditions Assessment

The SWSI value for the month was -2.0. February precipitation was above average in the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at the SNOTEL sites operated by NRCS, was reported at 111% of average for the Yampa, White, and North Platte River basins. Total precipitation for the water year as a percent of average to date in the combined basins at the end of February was 83%.

Snowpack for the combined basins as of February 1st, 2018 was at 83% of average. The snow water equivalent (SWE) as of February 28, 2018 was 88% of average for the North Platte River basin and 78% of average for the Yampa River basin and White River basin.

NRCS predicts well below average spring and summer streamflows in the Yampa, White, and North Platte River basins. The latest runoff forecasts from the NRCS for the April through July period are 84% of average for the North Platte River at Northgate, 61% of average for the Yampa River near Maybell, 61% of average for the Little Snake River near Lily, and 54% of average for the White River near Meeker.

All Division 6 stream gages, except the Yampa River above Lake Catamount, were either closed for the winter season or ice/snow-affected as of March 15th, 2018. A measurement was performed at YAMABVCO on February 22nd. Gages will be opened during April.

<u>Outlook</u>

As of February 28th Fish Creek Reservoir was storing approximately 3,526 AF, 85% of capacity. The capacity of Fish Creek Reservoir is 4,167 AF. Yamcolo Reservoir was storing 8,100 AF at the end of February 2018. The capacity of Yamcolo Reservoir is 8,700 AF. The G3 web server is not functioning currently for Elkhead Creek Reservoir. The contact for the Colorado River District will let me know when the site is available.. The capacity of Elkhead Creek Reservoir is 24,778 AF. On February 28, 2018, Stagecoach Reservoir was storing 33,400 AF, 91% of capacity.

Water stored in Fish Creek Reservoir is used primarily for municipal purposes, Yamcolo Reservoir for irrigation purposes, and Elkhead Creek Reservoir for municipal, industrial, recreational, and fish recovery releases. Stagecoach Reservoir is primarily used for



recreation though a significant amount of stored water is allocated for municipal, industrial, irrigation and augmentation uses.

Public Use Impacts

Steamboat Ski Resort has received 198 inches of snowfall since early November. That is well below the average snowfall to date.

Please check the Stagecoach Reservoir State Park website for the fishing report. Park conditions have not been updated since January 1, 2018.

Steamboat Lake is reporting that ice is 8"-10" in the Marina cove. Use caution when on the ice and take safety precautions.





SAN JUAN-DOLORES BASIN

Basinwide Conditions Assessment

The SWSI value for the month was -2.8. Flow at the Animas River at Durango averaged 120 cfs (58% of average). The flow at the Dolores River at Dolores estimated average is 30 cfs (53% of average). The La Plata River at Hesperus averaged 3.9 cfs (53% of average). Precipitation in Durango was 1.23 inches for the month, 79% of the 30-year average of 1.57 inches. Precipitation was the 65th highest amount recorded in February, in Durango, out of 124 years of record. Precipitation to date in Durango, for the water year, is 2.13 inches, 26% of the 30-year average of 8.33 inches. End of last month precipitation to date, for the water year was 13% of average. The average high and low temperatures for the month of February in Durango were 500 and 210. In comparison, the 30-year average high and low for the month is 460 and 190. At the end of the month Vallecito Reservoir contained 70,670 acre-feet compared to its average content of 57,038 acre-feet (124% of average). McPhee Reservoir was up to 284,024 acre-feet compared to its average content of 261,309 (109% of average), while Lemon Reservoir was up to 19,010 acre-feet as compared to its average content of 19,947 acre-feet (95% of average).

Outlook

Precipitation (1.23 inches) was below average for February in Durango. There were 65 years out of 124 years of record where there was more precipitation than this year. The flows in the rivers within the basin remained well below average for this time of year. There are 107 out of 108 years of record where the total flow past the Animas River at Durango stream gauge was more than this year. There were 104 out of 107 years of record where the total flow past the Dolores stream gauge was more than this year and 97 out of 101 years of record where the total flow past the La Plata River at Hesperus gauge was more than this year. The only year where the total volume of flow for the month was lower on the Animas River was 1933.









San Juan-Dolores Basin SWSI History Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.

HUC:10190004 MAR-PrevMoStreamflow-SWSI HUC:10190004 MAR-ForecastedRunoff SWSI HUC:10190004 MAR-ReservoirStorage-SWSI HUC:10190004 MAR-DataComposite-SWSI

HUC:10190005-MAR-DataComposite HUC:10190005-MAR-PrevMoStreamflow HUC:10190005-MAR-ForecastedRunoff HUC:10190005-MAR-ReservoirStorage

HUC 10190005 (St. Vrain) SWSI Values - MAR Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.

= HUC:10190005-MAR-PrevMoStreamflow-SWSI = HUC:10190005-MAR-ForecastedRunoff-SWSI = HUC:10190005-MAR-ReservoirStorage-SWSI = HUC:10190005-MAR-DataComposite-SWSI

HUC 10190006 (Big Thompson) SWSI Values - MAR Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.

= HUC:10190006-MAR-PrevMoStreamflow-SWSI = HUC:10190006-MAR-ForecastedRunoff-SWSI = HUC:10190006-MAR-ReservoirStorage-SWSI = HUC:10190006-MAR-DataComposite-SWSI

= HUC:11020002-MAR-PrevMoStreamflow-SWSI = HUC:11020002-MAR-ForecastedRunoff-SWSI = HUC:11020002-MAR-ReservoirStorage-SWSI = HUC:11020002-MAR-DataComposite-SWSI

HUC 13010005 (Conejos) SWSI Values - MAR Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.

= HUC:13010005-MAR-PrevMoStreamflow-SWSI = HUC:13010005-MAR-ForecastedRunoff-SWSI = HUC:13010005-MAR-ReservoirStorage-SWSI = HUC:13010005-MAR-DataComposite-SWSI

HUC:14010002-MAR-DataComposite HUC:14010002-MAR-PrevMoStreamflow HUC:14010002-MAR-ForecastedRunoff HUC:14010002-MAR-ReservoirStorage

HUC 14010002 (Blue) SWSI Values - MAR

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.

HUC:14010002-MAR-PrevMoStreamflow-SWSI HUC:14010002-MAR-ForeoastedRunoff-SWSI HUC:14010002-MAR-ReservoirStorage-SWSI HUC:14010002-MAR-DataComposite-SWSI

HUC:14020001-MAR-DataComposite HUC:14020001-MAR-PrevMoStreamflow HUC:14020001-MAR-ForecastedRunoff HUC:14020001-MAR-ReservoirStorage

HUC 14020001 (East-Taylor) SWSI Values - MAR Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.

= HUC:14020001-MAR-PrevMoStreamflow-SWSI = HUC:14020001-MAR-ForecastedRunoff-SWSI = HUC:14020001-MAR-ReservoirStorage-SWSI = HUC:14020001-MAR-DataComposite-SWSI

⁼ HUC:14020002-MAR-PrevMoStreamflow-SWSI = HUC:14020002-MAR-ForecastedRunoff-SWSI = HUC:14020002-MAR-ReservoirStorage-SWSI = HUC:14020002-MAR-DataComposite-SWSI

HUC 10180001 (North Platte Headwaters) Surface Water Supply - MAR

= HUC:10180001-MAR-PrevMoStreamflow-SWSI = HUC:10180001-MAR-ForecastedRunoff-SWSI = HUC:10180001-MAR-ReservoirStorage-SWSI = HUC:10180001-MAR-DataComposite-SWSI

HUC:10190002-MAR-PrevMoStreamflow-SWSI HUC:10190002-MAR-Fore-astedRunoff-SWSI HUC:10190002-MAR-ReservoirStorage-SWSI HUC:10190002-MAR-DataComposite-SWSI

- HUC:10190003-MAR-ReservoirStorage-SWSI