



March 23, 2021

Water Programs Emergency and Imminent Community Water Assistance Grant

The Pine Strawberry Water Improvement District, (PSWID) is applying for a Water Programs Emergency and Imminent Community Water Assistance Grant, (ECWAG) to construct a new deep well, due to a significant decline in the quantity of water available for its customers.

This significant decline in the quantity is caused by:

- An emergency and severe drought (**Exhibit A**) which has affected several District wells, causing them to lose suction and be either taken offline, or have the pumping equipment lowered, in an attempt to reach the water table. This has resulted in a significant disruption of the potable water supply.
- This drought is causing a disruption in quantity of water that prevents the present groundwater source from supplying potable water needs to our residents.
- This significant decline in quantity has occurred within one year from the date of the filing of an application and due to the continued drought, is likely to re-occur again this year.
- In June 2020, (**Exhibit B**) the District Water System Operator sent the District General Manager an email outlining the significant decline in quantity of water from a 30 gpm well that had to be shutdown, due to the draw down (Over 60') in the water table and loss of suction. In this email, he advised that the water demand was higher than the production capacity.
- The District has been required to take more wells offline and, in some cases, removed wells permanently from service when they have gone dry.
- In October 2020, (**Exhibit C**) the District sent out an official notice to the customers requesting they conserve water due to the emergency and severe drought and the significant decline in the quantity of water production capacity of the system.
- The District does not own enough wells to meet the water demand. The 2020 water production report, (**Exhibit D**) lists 103,196,702 gallons of water produced from District wells and 25,016,665 of the water produced coming from private wells which are only available under a short-term lease agreement (**Exhibit E**). The District could lose this supply of water at any time if the private party decides to stop allowing the District to use their well. The supply of water from these agreements is not firm and sustainable.

- The District has been experiencing approximately 40,000,000 gallons of water losses per year **(Exhibit F)** To date, the District has been unable to locate the leaks and reduce the water losses. This makes the District even more vulnerable to the significant decline in the quantity of water available to its customers.
- During the high summer demand periods and the significant decline in the quantity of water available for its customers, the main water storage tanks dropped below 50% full.
- The 2020 COVID-19 epidemic has caused a large and sustained increase in year-around water consumption due to the increase in the fulltime occupancy rate within the District. In the past, many of the customers were part time residents and only now, many residents are living, working and remote learning their children in their District residence.

The District is seeking the maximum ECWAG grant award of \$500,000 due to a significant decline in the quantity of water available for its customers.

https://www.paysonroundup.com/news/arizona-careening-toward-water-shortage-crisis/article_2ea42868-4efb-57e8-b56a-3098555b5468.html

Arizona careening toward water shortage crisis

by Peter Aleshire, consulting publications editor
Mar 2, 2021



EXHIBIT A



Payson's 20-year struggle to secure a "forever" water supply stored in the C.C. Cragin Reservoir looks more and more like a stroke of genius as the state's 20-year mega-drought continues and the reservoirs on the Colorado River dwindle.

Arizona's now facing a water crisis that could dry up rural areas all over the state and confront the Valley with a crippling water shortage in the coming decades, according to a recently completed study by the Center for Colorado River Studies.

The Valley and Tucson as well as farmers in Pinal County will likely have to reduce their use of Colorado River water by 40% in coming years — and that's likely the best case scenario, the study concluded.

In the meantime, the Arizona Legislature continues to swat aside efforts to regulate groundwater pumping in rural areas, as a growing number of corporate farms threaten to pump many rural areas dry.

By contrast, Payson has long-term rights to almost three times as much water as it currently uses. Moreover, while wells throughout rural Arizona are dropping steadily — Payson has seen a sharp rise in well levels in the past two years thanks to a system that injects much of its 3,000 acre-foot allotment of C.C. Cragin water back into the water table.

As a result, Rim Country may turn out to be one of the few rural areas of the state well-positioned to benefit from the continued migration to the sunbelt. Many economists predict the trend will pick up speed in the wake of the pandemic, as economic trends result in more internet-based jobs and the flight from increasingly expensive, congested big cities.

Of course, this might not be the best year to brag about Payson's water supply. The 14,000 acre-foot C.C. Cragin Reservoir atop the Rim stands at just 20% full, at what should be the peak of the winter runoff period. But winter never took hold this year. Most of the little bit of snow that did fall atop the Rim has already melted — but the reservoir is still nearly empty. This time last year, the reservoir was filled to the brim.

The Salt River Project generally pumps out every acre-foot of water it can draw from the small, narrow reservoir. The Valley utility may not turn on the pumps at all this year, unless unexpected late winter storms replenish the snowpack in March.

The same thing happened three years ago, and the East Verde River all but dried up for the first time in recent memory.

Still, Payson's problems don't amount to a bucket of melted snow compared to the water shortage facing most of the rest of the state — with the possible exception of the White Mountains — the wettest region in the state.

The state legislature for the past five years has repeatedly failed to cope with a water crisis now afflicting much of rural Arizona — especially in the southern and eastern portions of the state.

Back in 1980, Arizona won federal approval of the \$4 billion Central Arizona Project by agreeing to impose a groundwater management plan on Maricopa and Pima counties. The plan requires developers to certify they have a 100-year water supply to support new development. However, groundwater pumping in rural Arizona remains unregulated. The groundwater management requirement also now includes Prescott and a portion of Pinal County.

Corporate farming operations that can afford million-dollar wells have pumped groundwater across the state. One investigation by The Arizona Republic showed that a quarter of the wells in Arizona's groundwater monitoring program have dropped by more than 100 feet. Most continue to drop by an average of about three feet per year.

Last year, state lawmakers proposed a total of 12 bills that would provide a way to regulate groundwater pumping in rural areas, but not one made it to the floor of the House or Senate.

Half a dozen bills have been proposed this year. HB2679 would allow county supervisors to create rural management areas to protect the groundwater. HB2595 would make it possible to bar the expansion of irrigated farmland in a county with projected problems with the water table. Several

other bills including SB1079, HB2741 and HB2204 would take steps to protect the San Pedro and Verde rivers — both in danger of drying up as water tables decline. Yet another bill — SB1314 — would require well owners pumping more than 35 gallons a minute to report to the state on their water withdrawals.

The growing groundwater crisis in rural areas comes just as the low flows on the Colorado River have prompted water rationing throughout the region — with far worse to come, according to the effort to predict river flows through mid-century.

The lower basin states of Arizona, Nevada and Colorado will have to cut their share of water from Lake Mead and Lake Powell by 40% by the 2050s to keep from emptying the reservoirs, eliminating power generation and causing major water shortages throughout the region.

And that's the optimistic scenario — based on a continuation of the current climate conditions as well as the assumption that the four upper basin states will continue to be less than half of their legal entitlement. If temperatures continue to rise, it will get far worse — with river flows dropping by 7% for every 1 degree Celsius increase in temperature, the study concluded. The shortfall could total 30% by 2055 and 55% by 2100.

So far in this century, the river's flow has already dropped by 18% compared to average flows in the 20th century.

An agreement involving all seven of the Colorado River Basin states early in the 20th century allocated some 15 million acre-feet in the river's annual flow. The four upper basin states are entitled to 7.5 million acre-feet annually, but are now using only about 3 million acre-feet. The three lower basin states have a lower priority use but can also claim 7.5 million acre-feet.

However, it turns out that the river's flow was closer to 12 million acre-feet in the second half of the 20th century. In recent years, flows have declined even further — resembling the worst known dry period on the river. Between 1576 and 1600, flows dwindled to just over 11 million acre-feet annually, according to one comprehensive tree-ring study.

Lake Mead and Lake Powell have for decades cushioned the overallocation of the river. However, they're both now half empty, with continuing declines triggering rationing that will hit the lower basin states hardest. California has higher priority than Arizona and Nevada, which means the desert states will bear the brunt of any cutback.

Almost all of that represents bad news for Arizona's future water supply, with most projections calling for round after round of water rationing across most of the state in coming decades. Rural areas like Wilcox and Kingman could find the big corporate farms will suck dry the water table before moving on, leaving whole regions all but undevelopable.

However, Rim Country may well escape the worst of the shortages — thanks to Payson's \$50 million C.C. Cragin pipeline and the decision to use the abundance of water now to restore the water table, which had fallen by some 200 feet due to overuse.

Contact the writer at paleshire@payson.com

Peter Aleshire

Consulting Publications Editor

----- Original message -----

From: Ben Rowe <benr@pswid.org>

Date: 6/29/20 4:19 PM (GMT-07:00)

To: Cato Esquivel <catoe@pswid.org>

Cc: Robert Arbuthnot <roberta@pswid.org>, hendricks.paul@outlook.com, billing <billing@pswid.org>

Subject: Water conservation letter

Cato,

Bloom well has started to draw air due to draw down of the water table. We are forced to shut the well down so it can hopefully recharge. That comes out to be roughly a 30 GPM production loss. The system has been under large amounts of demand since March. We have been running every production source we have, some of them have been running 24/7. We don't have MR2 online yet due to complications in the electrical junction. We hope to have it online by Wednesday. That being said the demand is higher than our production and with this being the middle of summer and fourth of July weekend coming I highly suggest we put out a water conservation letter immediately. Also going forward on an annual basis at the beginning of May we should plan to send a water conservation letter. Please let me know if we can go through with this asap and if you have any questions.

Thanks, Ben

EXHIBIT B

From: csmanager@pswid.cp20.com <csmanager@pswid.cp20.com> **On Behalf Of** PSWID
Sent: Monday, October 12, 2020 2:18 PM
To: SHARON HILLMAN <shillman46@gmail.com>
Subject: Water Conservation Update

Having trouble reading this email? [View it in your browser.](#)



Dear PSWID Customer,
On behalf of the PSWID Board, I would like to THANK-YOU for regarding our Conservation Letter on Friday and voluntarily reducing water consumption over the week-end. As a result, we have seen 10% increase in our tank storage, which we will continue to closely monitor.
While severe drought conditions persist, we appreciate your efforts to reduce unnecessary water consumption whenever possible.
For water conservation tips please visit our website www.pswid.org or check out our Facebook page.
Sincerely,

Bob Arbuthnot
Chairman-PSWID Board

PSWID
P.O. Box 134
Pine Arizona 85544

EXHIBIT C

Pine-Strawberry Water Improvement District
2020 Production Reads

Map Label	Production (Gallons)												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Pine Wells:													
BT-1	357,220	368,380	580,760	485,040	585,190	489,430	739,960	482,360	671,710	464,430	470,230	434,170	6,128,880
BT-2	328,140	413,370	645,190	567,510	567,060	531,290	662,710	363,020	398,300	331,060	371,110	338,330	5,607,090
CT					93,790	262,370	246,300	43,600					646,060
MRW1	1,207,290	947,510	1,287,200	1,162,000	1,246,000	1,060,630	636,190	906,345	1,078,576	949,390	987,951	917,466	12,396,548
MRW2								574,545	911,313	798,820	383,442		3,211,640
MRW3	3,181,300	2,394,900	3,507,200	2,931,400	2,972,200	2,715,100	3,657,400	2,631,600	2,905,300	2,871,200	3,167,800	2,981,000	35,916,400
P-1	385,520	45,470	249,330	606,900	761,800	807,030	1,015,930	676,640	768,760	546,340	433,020	335,450	6,632,190
PC						217,782			188,018	251,620	135,379	197,348	1,110,215
PW-2						678,100	352,169	902,400	920,000	837,900	772,800	952,400	7,394,669
PW-3	278,100	201,400	340,400	389,800	512,460	481,350	1,162,900	110					2,211,620
SH-1					60		443,520						443,580
SH-2													
SH-3					801,500	710,700	895,100	586,000	701,900	659,800	763,400	733,100	6,050,800
SH-4													
SH Interlie (In)													
SH Interlie (Out)													
Magnolia Water Line (Out) Deduct from Pine	(539,000)	(578,000)	(1,151,000)	(854,000)	(1,231,000)	(1,134,000)	(869,000)	(544,000)	(1,711,000)	(1,375,000)	(1,123,000)	(1,027,000)	(12,136,000)
Magnolia Water Line (In) Add to Pine													
H2O Flush/Construction/Fire/USFS Total	(258,920)		(53,420)	(86,800)			(900)	(112,147)	(74,400)		(6,050)	(6,000)	(598,637)
Pine Water Share Agreements:													
B (WSA)	163,000		416,600	792,100	466,900	465,300	383,800	252,900	209,500	250,200	230,200	114,400	3,744,900
STWID1 (WSA)	732,300	731,700	1,124,600	960,100	1,020,800	882,300	981,700	611,000	719,500	506,600	91,700	40,500	8,402,800
W (WSA)													
STWID Master Meter Deduct from STWID 1&2	(76,271)	(65,000)	(27,743)		(125,063)	(155,110)	(200,546)	(134,181)	(148,272)	(130,778)	(119,326)	(97,340)	(1,279,630)
Total PSWID Wells Pine	4,939,650	3,793,030	5,405,660	5,456,010	7,168,200	6,819,782	9,485,799	6,630,542	6,758,477	6,335,560	6,366,082	5,856,264	75,015,056
Total WSA Wells Pine	819,029	666,700	1,513,457	1,752,200	1,362,637	1,192,450	1,164,954	729,719	780,728	626,022	202,574	57,560	10,868,070
Total Well Production Pine	5,758,679	4,459,730	6,919,117	7,208,210	8,530,837	8,012,272	10,650,753	7,360,261	7,539,205	6,961,582	6,568,656	5,913,824	85,883,126
Strawberry Wells:													
SV-1	493,590	192,550	225,960	259,180	581,620	527,780	701,800	553,170	355,070	552,930	165,870	144,220	4,753,740
SR-5					417,119	363,816	569,639	322,476	6,914	7,272	158		1,730,212
TF	809,408	599,486	879,000	813,000	545,363	888,248	1,209,997	905,783	902,901	588,534	960,249	746,669	9,848,638
Magnolia Water Line (In) Add to Strawberry	539,000	578,000	1,151,000	854,000	1,231,000	1,134,000	869,000	544,000	1,711,000	1,375,000	1,123,000	1,027,000	12,136,000
H2O Flush/Construction/Fire/USFS Total								(25,000)		(261,944)			(286,944)
Strawberry Water Share Agreements:													
M (WSA)	120			239,370	996,230	896,450	1,171,860	890,937	1,045,261	997,285	1,098,207	1,031,923	8,367,643
J1 (WSA)	104,700		161,700	243,100	379,800	224,700	642,100	450,000	337,400	303,300	68,700		2,915,500
J2 (WSA)			96,848	153,474	248,513	149,235	472,102	346,350	256,768	225,048	51,564		1,999,902
W (WSA)					94,480	164,100	105,320	129,110	217,960	154,580			885,550
Total PSWID Wells Strawberry	1,884,816	1,370,036	2,255,960	1,926,180	2,775,102	2,913,844	3,350,436	2,300,429	2,975,885	2,261,792	2,249,277	1,917,889	28,181,646
Total WSA Wells Strawberry	104,820		258,548	635,944	1,719,023	1,434,485	2,391,382	1,816,397	1,857,389	1,680,213	1,218,471	1,031,923	14,148,595
Total Well Production Strawberry	1,989,636	1,370,036	2,514,508	2,562,124	4,494,125	4,348,329	5,741,818	4,116,826	4,833,274	3,942,005	3,467,748	2,949,812	42,330,241
TOTAL WATER PRODUCED	7,748,315	5,829,766	9,433,625	9,770,334	13,024,962	12,360,601	16,392,571	11,477,087	12,372,479	10,903,587	10,036,404	8,863,636	128,213,367
TOTAL PSWID PRODUCTION													103,196,702
TOTAL WATER SHARE PRODUCTION													25,016,665
TOTAL WATER SHARE PRODUCTION													1.00

PINE-STRAWBERRY WATER IMPROVEMENT DISTRICT
WATER SHARE COSTS 2020

2020 ANNUAL WATER SHARE TOTALS

PAYMENT AGREEMENTS: Month Billed	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Totals
BLOOM	\$167.89	\$0.00	\$429.10	\$815.86	\$480.91	\$479.26	\$395.31	\$260.49	\$215.79	\$257.71	\$237.11	\$117.83	\$3,857.26
DAY-JOHNSON J-1	\$107.84	\$0.00	\$166.55	\$250.39	\$391.19	\$231.44	\$661.36	\$463.50	\$347.52	\$312.40	\$70.76	\$0.00	\$3,002.95
DAY-JOHNSON J-2	\$0.00	\$0.00	\$99.75	\$158.08	\$255.97	\$153.71	\$486.27	\$356.74	\$264.47	\$231.80	\$53.11	\$0.00	\$2,059.90
GORDON STRAWBERRY	\$0.00	\$0.00	\$0.00	\$0.00	\$97.31	\$169.02	\$108.48	\$132.98	\$224.50	\$159.22	\$0.00	\$0.00	\$891.51
GORDON PINE (Removed Mar 2020)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MCNIGHT	\$0.12	\$0.00	\$0.00	\$246.55	\$1,026.24	\$923.46	\$1,207.14	\$917.67	\$1,076.62	\$1,027.20	\$1,131.15	\$1,062.88	\$8,619.03
STWID 1	\$754.27	\$753.65	\$1,158.34	\$988.90	\$1,051.42	\$908.77	\$1,011.15	\$629.33	\$741.09	\$21.8	\$94.45	\$0.00	\$8,613.17
STWID Master	-\$78.56	-\$66.95	-\$28.58	\$0.00	-\$128.81	-\$159.76	-\$206.56	-\$138.21	-\$152.72	-\$134.70	-\$122.91	\$0.00	-\$1,217.76
TOTALS:	\$951.56	\$686.70	\$1,825.16	\$2,459.78	\$3,174.23	\$2,705.90	\$3,663.15	\$2,622.50	\$2,717.27	\$2,375.43	\$1,463.67	\$1,180.71	\$25,826.06
ELECTRIC PAYMENTS: USAGE MONTH	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Totals
BLOOM/Meter # DW8041	\$238.12	\$156.09	\$219.54	\$250.92	\$185.72	\$116.17	\$144.07	\$136.90	\$118.25	\$132.07	\$158.71	\$200.96	\$2,057.52
DAY-JOHNSON J1/Meter #DV3740	\$134.82	\$80.54	\$102.17	\$107.67	\$104.02	\$75.37	\$128.85	\$153.92	\$113.41	\$98.97	\$86.39	\$81.24	\$1,267.37
DAY-JOHNSON J2/Meter #DV3740	\$134.81	\$80.53	\$102.17	\$107.66	\$104.02	\$75.36	\$128.85	\$153.91	\$113.41	\$98.97	\$86.38	\$81.24	\$1,267.31
GORDON STRAWBERRY/Meter #DW7822	\$91.22	\$79.76	\$85.52	\$76.74	\$122.39	\$169.19	\$125.34	\$122.99	\$206.01	\$177.90	\$78.06	\$91.04	\$1,426.16
GORDON PINE/Meter #Ct8672	\$85.36	\$74.58	\$48.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$208.54
MCNIGHT/Meter #AG7909	\$115.32	\$103.92	\$108.26	\$104.02	\$409.62	\$342.09	\$438.91	\$420.24	\$441.05	\$402.09	\$391.47	\$465.86	\$3,742.85
STWID 1/Meter #EW2560	\$226.97	\$189.75	\$231.09	\$225.26	\$217.05	\$177.24	\$222.07	\$201.52	\$201.49	\$153.25	\$119.97	\$153.83	\$2,319.49
TOTALS:	\$1,026.62	\$765.17	\$897.35	\$872.27	\$1,142.82	\$955.42	\$1,188.09	\$1,189.48	\$1,193.62	\$1,063.25	\$920.98	\$1,074.17	\$12,289.24
PUMPS & REPAIRS INCLUDING LABOR EST:	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Totals
BLOOM	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DAY-JOHNSON J1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DAY-JOHNSON J2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GORDON STRAWBERRY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GORDON PINE (Removed Mar 2020)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MCNIGHT	\$4,822.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$350.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,172.00
STWID 1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTALS:	\$4,822.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$350.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,172.00
GRAND TOTALS:	\$6,800.18	\$1,451.87	\$2,722.51	\$3,332.05	\$4,317.05	\$3,661.32	\$4,851.24	\$4,161.98	\$3,910.89	\$3,438.68	\$2,384.65	\$2,254.88	\$43,287.30

PINE-STRAWBERRY WATER IMPROVEMENT DISTRICT
WATER LOSS SUMMARY 2020

2020	Gallons Produced	Gallons Billed	Difference	Percentage of Water Produced but Not Billed
Jan-20	7,748,315	6,083,627	1,664,688	21%
Feb-20	5,829,766	3,663,823	2,165,943	37%
Mar-20	9,433,625	4,389,521	5,044,104	53%
Apr-20	9,770,334	5,898,411	3,871,923	40%
May-20	13,024,962	7,122,333	5,902,629	45%
Jun-20	12,360,601	9,637,119	2,723,482	22%
Jul-20	16,392,571	12,708,954	3,683,617	22%
Aug-20	11,477,087	9,357,070	2,120,017	18%
Sep-20	12,372,479	8,023,557	4,348,922	35%
Oct-20	10,903,587	6,624,030	4,279,557	39%
Nov-20	10,036,404	6,215,280	3,821,124	38%
Dec-20	8,863,636	5,806,954	3,056,682	34%
Totals	128,213,367	85,530,679	42,682,688	33%

EXHIBIT F