



BOARD OF DIRECTORS REGULAR MEETING

Tuesday, May 9th, 2023 – 9:00A.M.

AGENDA

1. Consent Agenda (approved with one motion).
 - a. Minutes of April 11th, 2023, Regular Board meeting.
 - b. Status of Investments Report – April 30, 2023.
 - c. Treasurer's Report– April 30, 2023.
 - d. Claims.
2. Chad Stuart – U.S.B.R. Yakima Field Office Manager update.
3. May 2023 water supply forecast.
4. September Board meeting date.
5. El Nino and water leasing review.
6. Union Gap Irrigation District temporary intertie.
7. Drainage Improvement District #11 update.
8. Watermaster's report.
9. District Manager's report.
10. Engineering Manager's report.
11. Executive Session:
 - a. Executive session pursuant to RCW 42.30.110(1)(i). Potential and pending litigation- State v. Acquavella, Terrace Heights Sewer District and National Marine Fisheries.
 - b. Executive session pursuant to RCW 42.30.110(2)(a)(iii). To evaluate legal risk of a proposed action.

Item #1

REGULAR MEETING MINUTES

April 11, 2023

The Board of Directors for the Roza Irrigation District convened in regular session on Tuesday April 11, 2023. Present were President Ric Valicoff, Vice-President Jim Willard, Director Tanner Winckler, Director Jason Sheehan, Director Jason Don, and District Manager Scott Revell. Engineering Manager Wayne Sonnichsen, Watermaster Dave Rollinger, Assistant Watermaster Aaron Wiederspohn, Maintenance Superintendent Dave Clampitt, Fleet Equipment Supervisor J.C. Soto, and Assessment Clerk/Assistant Secretary Kristel Espinoza.

Via telephone conference: District Attorney Brian Iller.

The President called the meeting to order at 9:00 A.M. and requested the Board consider the consent agenda as presented:

- a. Minutes of March 7, 2023, Regular Board meeting.
- b. Status of Investments Report – March 31, 2023.
- c. Treasurer’s Report– March 31, 2023.
- d. Claims.

The following claims are approved for payment: Payroll numbers 29660 – 29663 in the amount of \$879.62, Voucher numbers 68410 – 68411, 68487, 68516, 68518 – 68539 and 68557 – 68627 in the amount of \$545,234.59 and electronic payments 02-2023, 20-2023, 06-23, 07-23, 08-23, 09-23, 23-06, 23-07, 23-08, 23-09 in the amount of \$298,578.07 from the period of March 03, 2023, to April 11, 2023.

It was moved by Mr. Willard, seconded by Mr. Winckler, and unanimously passed to approve the consent agenda as presented.

District Manager Revell reported that Reclamation issued an April water supply forecast for the proratable irrigation districts of 82% water supply forecast. The snowpack is currently 103% on the Yakima River mainstream arm and 94% of average on the Naches River arm. USBR will issue the next water supply forecast on May 4th.

Watermaster Dave Rollinger and Maintenance Superintendent Dave Clampitt updated the Board on the winter work program and presented pictures of various jobs through the winter. Mr. Rollinger noted the Roza crews made good progress on the scheduled winter work plan, finishing approximately 70% of the projects scheduled. Crews will continue working on unfinished jobs through the summer of 2023.

Engineering Manager Wayne Sonnichsen updated the Board on the additional groundwater monitoring required at the south corners of the district shop. As noted at the March board meeting, Staff concluded that the most cost-effective course of action is to get a “No Further Action” status with Ecology, install two additional monitoring wells and conduct four more quarters of groundwater monitoring. Following discussion, Mr. Willard moved, seconded by Mr. Don, and unanimously approved the proposed scope of work by Shannon & Wilson for additional environmental services in the amount of \$72,371.28.

District Manager Revell requested to defer the Tier II issues to a future Board meeting.

REGULAR MEETING MINUTES

April 11, 2023

Fleet Equipment Supervisor J.C. Soto updated the Board on the GPS tracking for equipment. No action was requested from the Board.

Fleet Equipment Supervisor J.C. Soto requested approval on the 2023 vehicle and equipment bids, explaining that staff reviewed the bids for equipment and trailers and noted there were no bids for the vehicles. Following discussion, Mr. Willard moved, seconded by Mr. Sheehan, and unanimously passed to approve the lowest successful bids for the equipment bids. Quality Fuel Trailer and Tank, Inc. was awarded the fuel trailers bid in the amount of \$60,615.59 and Paco Equipment was awarded the grout machine bid in the amount of \$38,782.32.

Watermaster Dave Rollinger presented, and the Board reviewed the Watermaster's monthly report.

District Manager Revell presented, and the Board reviewed the District Manager's monthly report.

The President declared the Board to be in executive session for an estimated ten minutes beginning at 11:00 A.M. pursuant to:

- a. Executive session pursuant to RCW 42.30.110(1)(i). Potential and pending litigation- State v. Acquavella, Terrace Heights Sewer District.
- b. Executive session pursuant to RCW 42.30.110(2)(a)(iii). To evaluate the legal risk of a proposed action.

The President returned the Board to regular session at 11:10 A.M.

No further business appearing and upon motion duly made, seconded, and unanimously passed, the Board did there upon adjourn at 11:11 A.M. on Tuesday April 11, 2023.

ATTEST:

PRESIDENT

SECRETARY

**ROZA IRRIGATION DISTRICT
STATUS OF INVESTING ACCOUNTS
April 30, 2023**

BANK	\$ AMOUNT	INTEREST EARNED	INTEREST RATE	BALANCE
L.G.I.P.	\$21,777,754.93	88,197.16	4.9273%	\$21,865,952.09
U.S. - MIA INV.	\$121.46	0.01	0.01%	\$121.47
U.S. - SAVINGS	\$58,929.24	1.90	0.01%	\$58,931.14
U.S. - CHECKING	\$139,966.14	37.12	0.01%	\$140,003.26
			TOTAL	\$22,065,007.96

**ROZA IRRIGATION DISTRICT
STATUS OF INVESTMENTS
April 30, 2023**

INVESTMENT	RATE	MATURE	EXPENSE	TOTAL
			0.00	0.00
TOTALS:			0.00	0.00

TOTAL OF ALL CASH	22,065,007.96
MINUS RESTRICTED CASH	665,822.32
(Construction/Reserve/Memo \$)	
(Drought)	4,049,213.59
(WSD)	4,020,342.37
TOTAL O & M CASH	13,329,629.68

ROZA IRRIGATION DISTRICT
TREASURER'S FINANCIAL STATEMENT
April 30, 2023

	EXPENSE	CONST.	RESERVE	MEMO	TOTAL
Balance First of Month	21,644,344.66	345,925.93	288,000.00	27,715.18	22,305,985.77
Collections	747,910.16	4,181.21			752,091.37
Miscellaneous	18,967.41				18,967.41
Matured Investments					0.00
Interest	88,402.86				88,402.86
Transfers					0.00
TOTAL	22,499,625.09	350,107.14	288,000.00	27,715.18	23,165,447.41
 LESS:					
Voucher Checks Issued	297,163.88				297,163.88
Misc. Checks Issued	810,331.39				810,331.39
Tier 2 Checks					0.00
NSF Check Returned					0.00
Bank Charge	158.94				158.94
Void Check	-7,214.76				-7,214.76
TOTAL PAID	1,100,439.45	0.00	0.00	0.00	1,100,439.45
 Balance End of Month	 21,399,185.64	 350,107.14	 288,000.00	 27,715.18	 22,065,007.96

Roza Irrigation District
 VENDOR CHECK REGISTER REPORT
 Payables Management

Ranges:	From:	To:	From:	To:
Check Number	First	Last	Check Date	4/1/2023
Vendor ID	First	Last	Checkbook ID	PRE-PAIDS
Vendor Name	First	Last		PRE-PAIDS

Sorted By: Check Number

* Voided Checks

Check Number	Vendor Check Name	Check Date	Amount
03-2023	DEPARTMENT OF REVENUE	4/25/2023	\$380.26
03-23	U.S. BANK	4/25/2023	\$3,634.36
10-23	U.S. BANK/E.F.T.P.S.	4/4/2023	\$15,016.36
11-23	U.S. BANK/E.F.T.P.S.	4/14/2023	\$39,388.33
12-23	U.S. BANK/E.F.T.P.S.	4/19/2023	\$33.00
13-23	U.S. BANK/E.F.T.P.S.	4/21/2023	\$94.77
14-23	U.S. BANK/E.F.T.P.S.	4/25/2023	\$5,085.12
15-23	U.S. BANK/E.F.T.P.S.	4/28/2023	\$41,266.22
23-10	ROZA PAYROLL PAYABLE #29664	4/3/2023	\$527.60
23-11	ROZA PAYROLL PAYABLE #29665	4/4/2023	\$18,680.93
23-11	ROZA PAYROLL PAYABLE	4/14/2023	\$114,439.79
23-13	ROZA PAYROLL PAYABLE	4/19/2023	\$199.19
23-14	ROZA PAYROLL PAYABLE	4/21/2023	\$211.32
23-15	ROZA PAYROLL PAYABLE	4/25/2023	\$10,717.57
23-16	ROZA PAYROLL PAYABLE	4/28/2023	\$111,679.92
68540	PITNEY BOWES GLOBAL FINANCIAL	4/3/2023	\$135.26
68541	GRAVIS LAW, PLLC	4/10/2023	\$9,000.00
68542	PACIFIC POWER & LIGHT CO.	4/10/2023	\$816.72
68543	WIN-911 SOFTWARE	4/10/2023	\$865.60
68544	BENTON REA	4/10/2023	\$5,334.15
68545	CENTURYLINK	4/10/2023	\$5.51
68546	U.S. CELLULAR	4/10/2023	\$78.47
68547	AT&T MOBILITY	4/10/2023	\$154.65
68548	BRANDCRAFT MEDIA, LLC	4/10/2023	\$199.00
68549	SYMETRA LIFE INSURANCE CO.	4/10/2023	\$471.46
68550	CO-ENERGY	4/10/2023	\$17,324.95
68551	YAKIMA HERALD-REPUBLIC	4/10/2023	\$1,086.30
68552	DEPARTMENT OF REVENUE	4/10/2023	\$214.68
68553	YAKIMA COUNTY TREASURER	4/10/2023	\$42.25
68554	BENTON COUNTY TREASURER	4/10/2023	\$101.88
68555	KELLEY CONNECT	4/10/2023	\$11,035.32
68556	CITY OF SUNNYSIDE	4/10/2023	\$1,123.34
68628	DEPARTMENT OF RETIREMENT	4/11/2023	\$6,173.81
68629	NW LABORERS TRUST FUND	4/11/2023	\$51,064.00
68630	ARMANINO LLP	4/12/2023	\$72.19
68631	ROZA EMPLOYEE BENEFIT FUND	4/14/2023	\$86.00
68632	DEPARTMENT OF RETIREMENT	4/14/2023	\$1,583.50
68633	DEPARTMENT OF RETIREMENT	4/13/2023	\$57,760.47
68634	HINTON CHEVROLET, INC	4/19/2023	\$178,284.40
68635	GREGORY STROH	4/17/2023	\$118.00
68636	KRISTEL ESPINOZA	4/20/2023	\$425.14
68638	KRISTEL ESPINOZA	4/20/2023	\$210.46
68639	JODY WILLIAMS	4/20/2023	\$34.78
68640	YAKIMA COUNTY G.I.S.	4/20/2023	\$201.74
68641	LONE OAK AIR, LLC	4/20/2023	\$1,683.49
68642	NOE GUZMAN/C&C JANITORIAL	4/20/2023	\$385.00
68643	STAPLES CREDIT PLAN	4/20/2023	\$655.98
68644	McCLATCHY COMPANY, LLC	4/20/2023	\$829.71
68645	CASCADE NATURAL GAS CO.	4/20/2023	\$1,487.30
68646	COLUMBIA ELECTRIC SUPPLY	4/20/2023	\$1,631.70
68647	CENTRAL PRE-MIX CONCRETE	4/20/2023	\$52.94
68648	CENTURYLINK	4/20/2023	\$162.57
68649	SUNNYSIDE COMM. HOSP - OCC. HE	4/20/2023	\$275.00
68650	SHANNON & WILSON, INC.	4/20/2023	\$400.00
68651	CRYSTAL SPRINGS	4/20/2023	\$97.58
68652	JODY WILLIAMS	4/21/2023	\$22.42

* Voided Checks

Check Number	Vendor ID	Vendor Check Name	Check Date	Checkbook ID	Audit Trail Code	Amount
68653		DEPARTMENT OF RETIREMENT	4/21/2023			\$25.00
68654		CENTURYLINK	4/21/2023			\$68.21
68655		PACIFIC POWER & LIGHT CO.	4/21/2023			\$107.89
68656		FISERV DIRECTSOURCE	4/21/2023			\$1,135.49
68657		RETTIG FORGETTE ILLER BOWERS,	4/21/2023			\$2,150.00
68658		CASCADIA LAW GROUP	4/21/2023			\$8,318.60
68659		ASM AFFIILIATES	4/21/2023			\$8,993.00
68660		ASM AFFIILIATES	4/21/2023			\$1,800.00
68661		US VACUUM PUMPS. LLC	4/24/2023			\$7,214.76
68662		U.S. CELLULAR	4/21/2023			\$3,662.63
68663		RH2 ENGINEERING	4/24/2023			\$11,237.90
68664		CO-ENERGY	4/24/2023			\$15,538.41
68665		NOE GUZMAN/C&C JANITORIAL	4/27/2023			\$385.00
68666		ROZA EMPLOYEE BENEFIT FUND	4/28/2023			\$86.00
68667		AFLAC	4/28/2023			\$382.20
68668		LABORER'S LOCAL UNION 348	4/28/2023			\$2,072.00
68669		DEPARTMENT OF RETIREMENT	4/28/2023			\$1,583.50
68670		EMP SEC DEPT - PAID FAMILY & M	4/28/2023			\$8,462.88
68671		DEPARTMENT OF L & I	4/28/2023			\$24,065.46
Total Checks: 75						
						Total Amount of Checks: \$810,331.39

* VOIDED CK# 68637 - mis printed

Item #2



To: Board of Directors
From: Scott Revell, District Manager
Date: May 9, 2023
Re: USBR Yakima Field Office Manager Visit

Background

Chad Stuart, USBR's Manager of the Yakima Field Office will attend the Board meeting to answer questions on the following topics:

1. Kachess Dam & Bumping Dam repairs under the Safety of Dams act;
2. Roza's share of 2023 and projected 2024 Maintenance and Operations expenses for the Yakima Field Office;
3. The schedule for repairs to the switchgear for the power supply at Roza Dam;
4. Power pole replacement cost and schedule;
5. Transfer of title of the canal system and ancillary facilities to Roza.

The switchgear was inspected again by USBR staff and was found to not be at the point of near imminent failure and replacement can be delayed slightly. The costs, in very rough preliminary numbers, are \$300,000+ and, Roza share will be 35% of that amount (\$100,000+).

Mr. Stuart can also discuss 2023 water supply and long-term forecasts.

Chris Duke, the new Area Manager for the Columbia Cascades Area Office will also attend.

Item #3



To: Board of Directors
From: Scott Revell, District Manager
Date: May 9, 2023
Re: 2023 Water Supply Forecast

2023 Water Supply Update

- ✓ Water supply is forecast at 86%, which is up from the 82% forecast in April. The low end forecast is 70% supply,
- ✓ Snowpack is currently 96% on the Yakima River mainstem arm and 91% of average on the Naches River arm, which is a slight decrease.
- ✓ The most recent long-range weather forecasts for the next three months remain mixed but favorable, which is common for this time of year.

<u>Reservoir storage status on May 4, 2023</u>		<u>Capacity (Ac. Ft)</u>
Keechelus	51%	157,800
Kachess	69%	239,000
Cle Elum	56%	436,900
Bumping	67%	33,960
Rimrock	77%	198,000
Total	62%	1,065,400

- ✓ Reservoir storage in the system is at 81% of average, which is a slight increase.
- ✓ Precipitation for the five reservoir sites for water year, which began on October 1, 2023, is at 75% of average.

Item #4



To: Board of Directors

From: Jody Williams, Assistant Treasurer/Bookkeeper

Date: May 9, 2023

Re: September Board Meeting

Summary


The September 5th Board Meeting is the day after the Labor Day Holiday. This doesn't give us enough time to get everything needed for Board Vouchers and Financial reports.

Recommended Motion

I recommend moving the Board meeting to September 12, 2023.

Item #5



To: Board of Directors
From: Scott Revell, District Manager 
Date: May 9, 2023
Re: Long Term Weather Trends and Supplemental Water Leasing Update

Attachments

1. Extended Range Forecast Discussion on 2023 El Nino dated 4/28/23

2023 El Nino

Some long-range forecasts are indicating that conditions coming out of the La Nina pattern are now beginning to form an El Nino weather pattern, which generally means warmer and drier weather in the Pacific Northwest. Each La Nina/El Nino cycle is different and there are several variables, which are discussed in more detail in attachment 1.

Drought Year Leasing

The District's 2015 water budget was initially built with the assumption that 5,000-acre feet would be leased in 2015 in addition to 5,000 AF of SVID pump back water. The SVID Board also initially capped the total amount eligible to transfer to Roza at 10,000 AF in 2015 and precluded properties which were not irrigated in 2014 to be eligible to transfer water to Roza in 2015.

Several factors have combined to result in far fewer acre feet being available for lease than in 2005, even lower than the District's very conservative estimates. The YTID, KRD, Cascade ID, Ellensburg Water Company & NSID boards did not vote to allow transfers to Roza in 2015.

Each 381 acres leased from SVID land owners equates to one day added September and equates to \$190,000 at \$500/acre.

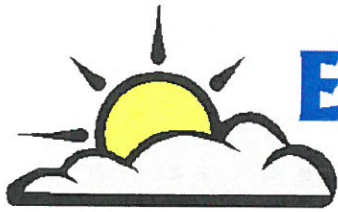
Barring a drastic change in the farm economy, staff does not expect large quantities of water to be available for lease in the next drought. The amounts below are included for illustrative purposes at the price Roza paid in 2015.

Acres	@\$500/ac (2015 price)	Acre Feet @ 2.1 af/ac	Added Days @ 800af/day (400 cfs)
1,000	\$500,000	1,995	2.5 (4 day deficit from baseline)
2,500	\$1,250,000	5,250	6.5 (baseline)
3,500	\$1,750,000	7,350	9.1 (adds 3 days over baseline)
5,000	\$2,500,000	10,500	13.1 (adds 7 days over baseline)
7,500	\$3,750,000	15,750	19.7 (adds 13.2 days over baseline)
10,000	\$5,000,000	21,000	26 (adds 19.5 days over baseline)

- 400 CFS (800 AF/day) is the lowest flow that the Main Canal can physically be operated at.
- Raising the price will further the price competition for forage ground and some grower may be willing to pay far more than the District can pay.
- There were far fewer acres in play in 2015 than in 2005 even with the higher price offered by Roza in 2015.

Year	TSWA (End of season)	Storage control date	Pro- ration date	Shut down began	Shut down ended	Days off	Approx. End of season date	Diversion (w/o March)	Notes
2015	47%	April 15		May 11	May 31	21	Oct. 10	176,000 af <u>+11,000 af</u> 187,000 af	w/ 11 KAF of leases & Pump Backs. Transfers added 1.2% in 2015 44% in late May*
2005	41%	May 25		April 6	April 29	23	Oct. 1	154,278 af <u>+28,381 af</u> 182,659	28.3 KAF of leases & pump backs. Transfers added 8% in 2005
2001	38%	June 6		May 8	May 29	21	Sept. 24	143,185 af <u>+16,818 af</u> 160,003 af	16.8 KAF of leased water which added 5% in 2001
1994	37%	June 1		May 16	June 6	23	Sept. 8	156,902	3rd year of a 3-year drought

Yakima Project TWSA Estimates (KAF) (period is Month to End of TWSA season) & Prorating, % (period is start of Prorating to End of TWSA season).														
YEAR	Mar's Apr	Proration	Apr	Proration	May	Proration	Jun	Proration	Jul	Proration	Aug	Proration	Sep	Proration
1977			2037	6-26%		13-50%		50%		70%		70%		70%
1978	3088		2678		2341			1433		920				
1979	2770		2657		2460		1964	75%	75-46%	46%		46%		100%
1980	3268		3147		2705		2121							
1981	2690		2367		2296		1979							
1982	3433		3256		3005									
1983	3453		3392		2941		2271							
1984	2956		2786		2501		2200							
1985	3106		3111		2868		2395		1529		899			
1986	3061		2668	Hold	2284	under	1800	average	1367		use	for		season
1987	2558		2559		2297		1661	73%	1301	70%		68%		68%
1988	2377		2253		2065		1710		1349	82%		90%		90%
1989	2946		3071		2666		2192							
1990	3446		3268		2824		2417		1717					
1991	2938		2962		2742		2261		1854					
1992	2853		2422		2268	58%	1497	58%	1155	58%	788	58%	324	58%
1993	2062		1974	NRP* 85,88,59%	1842	NRP* 72,85,53%	1405	56%	1126	64%	774	67%	415	71-67%
1994	2169		2016	NRP*	1691	47-35%	1191	34%	934	39%	593	39%	283	37%
1995	3284		3044		2666		2088		1572					
1996	3268		2872		2530		2003		1463					
1997	4055		4542		3836		2670		1935					
1998	3193		2982		2548		2017		1536					
1999	4179		4198		3649		3017		1913					
2000	3319		3305		2691		2175		1615					
2001	1820	NRP (38%)	1678	NRP (28%)	1557	36% (100% su	1185	30%	930	34%	609	37%	319	37%
2002	3121		3316		2879		2358		1631					
2003	2492		2644		2437		2003	(97%)	1321	97%	869	86%		92%
2004	2879		2553		2076		1662	82%	1255	82%	854	90%	507	92%
2005	1700	34%	1715	34%	1491	38%	1329	40%	1032	41%	705	42%	365	42%
2006	3213		3082		2565		1940		1517		1052		411	
2007	3434		3071		2681		1962		1466		1070		322	
2008	3241		3142		2725		2284		1693					
2009	2910		3132		2766		2171		1502					
2010	2359		2313	71%	2074	78%	1916	90%	1571	100%	1144	100%		100%
2011	2945		3361		2989		2553		1789					
2012	3357		3555		3093		2322		1705					
2013	2945		2792		2593		1991		1538					
2014	2848		3024		2611		1975		1489					
2015	2294	(73%)	2110	60%	1688	47%	1358	46%	1015	44%	711	47%	400	47%
2016	3187	100%	3118	100%	2223	85%	1732	86%	1363	90%	974	94%	576	94%
2017	2860		3157		2693		2105		1569		974		576	
2018	3195	100%	2996	100%	2695	100%	1870	96%	1363	100%		100%		100%
2019	2752	90%	2441	77%	2085	75%	1612	74%	1147	68%	767	70%		70%
2020	2855	95%	2874	96%	2310	91%	1878	100%	1484	100%		100%		100%
2021	3313	100%	3188	100%	2641	100%	2051	100%	1512	100%		100%		
2022	2819	96%	2822	94%	2781	100%	2242	100%	1662	100%		100%		100%
2023	2615	86%	2540	82%										



ERF Company, Inc

Extended Range Weather Forecasting
15 and 30 Day Specialists

430 North Lotus Isle Drive * Portland, Oregon 97217 * Phone (503) 286-4062 * Fax: (503) 285-3633 * E-Mail: Customer_Service@erfweather.com

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Transmit date: Friday Apr 28, 2023	Send To: SRevell@Roza.org	Company: ROZA-IRRIGATION-PROSSER	Route To: Scott Revell
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SPRING-SUMMER 2023 SEASONAL FORECAST
PACIFIC NORTHWEST AND SOUTHERN B.C.
01 MAY TO 31 OCTOBER, 2023

*** Cool & Unsettled May-June. Wet? ***
*** Mild/Warm and dry July-Sept. wet Oct. El Nino?***

PLEASE NOTE:

This is my Spring & Summer seasonal forecast for the coming 6 months season 2023. These are rather arduous to write, and verify, due to the complexity of weather patterns around the region. I have been doing these forecasts for 46 years now, and seem to do okay with them, but the beauty lies in the eyes of the beholder, so use them accordingly. I certainly enjoy the challenge of doing them, and I also enjoy following the development of weather patterns around the region, Country & Globe. I also enjoy watching them move and change. I would not bet the farm on these but certainly use them for advisory/planning purposes, I do! Enjoy...

An additional note to all of you, I do not look at any other long term forecasts. I do this intentionally as I do not want to distract from my own thoughts and trends. I do look at other forecast after I have developed and written my own, but before hand, I do not. I find this better for me, and better for you, as this insures that you are getting my unbiased forecasts. I have operated this way for 46+ years now, right or wrong! Enjoy....

Review:

Okay, I have said this to you guys for a number of years, La Nina Events do provide plenty of rainfall to California, and the PacNW. Of Course, some do not, but this all comes down to the prevailing weather pattern for that year. I finally have some support on this as a UCLA Atmospheric Scientist has stated that the El Nino/La Nina cycles only contribute 15-20% to the overall rainfall and mtn snows! Rest arrives via the prevailing weather pattern. This year was wet, but I think more importantly, it was cold and that contributed the Build up of the heavy snowpack that we are seeing in the Sierra's and Coastal mtns and over Oregon. Less so for Washington as the pattern has split a bit and systems have skirted around Washington, BC and No. Id/Mt.

The hope at this point is that we have a mild and orderly May into June and do not warm up too rapidly. If that does happen then the massive amount of water sitting in the Mtns will come out quickly, and with few options, will flood the inland Valleys. And we can hope that if we see a warm rain on snow event, it does not last too long! 30 Million Acre Feet of water just waiting.....in Western Mtns. Furthermore, we can hope that we will see the Jet shift North into BC and helping to unleash moisture there getting the Columbia Back on track.

SNOW COVERAGE:

California: 170%
Idaho: 140%
Oregon: 180%
Washington: 120%

These values are impressive and some Western States are even higher than those stated above. Arizona 350%, Nevada 200%.

FALL AND WINTER, 2023 REVIEW:

Just a few numbers to discuss; Portland is close to 10" of rain the last 2 months which is similar to last year. And since I see a Wet May, we could be looking at around 13" by 1 June. I offer this as a comparison for all to look at. June Lake on the SW Flank of Mt. St. Helens shows that their snow peaked at 168" late April, snow water Equiv. is at 75" and rainfall to date is 128". We are seeing impressive snow depths on Southern Washington and Oregon mtn snow courses, but lagging to the North and over in Montana. We can use some help over BC and Northern Washington the next 60 days but I think the rest of us should be in good shape thru the Spring and Summer. And if it stays wet, even Better. I know that some of you would like a longer dry spell and warmer temps, but that tends to bite us in the Fall if the Fall rains are delayed.

Anyway, I think we have had a good water year to date for most of us, impressive for California and a good part of Oregon and Southern Washington. It appears that we are not done yet with unsettled weather in May and perhaps June. And, it does rain (and snow) in California during these La Nina events, more so than many think.

Then we have the El Nino thing to watch, and the weather pattern to match, so that could leave us with another interesting year ahead. Oh snap! Wet?

Let me repeat the Above, "it does rain in California, and Southern Oregon with La Nina Events"! In fact, we can see impressive rain and mtn snows during La Nina events but depends more so on the prevailing weather pattern rather than Solely on the La Nina (El Nino) cycle! This is very important as we are now seeing the models suggest a strong El Nino, but oddly, the weather pattern could appear to be the Same. I know that sounds crazy, but I have seen similar pattern for Both La Nina and El Nino, and the same results! Anyway, just saying that this is complicated and can be confusing.

The ocean Models suggest that by August the current cold waters off the West coast will warm and become warmer than normal. If that is the case, then we go from "La Nina to El Nino (warmer)". You all know that I do not place all my eggs in the Ocean warmth as it does not have a strong correlation to the PacNW weather, but it is interesting to follow. But it is only a small piece of the puzzle.

Okay, so the past 6 months have been very eventful for California and the Great Basin, even Oregon. Washington and BC have not seen the action as most of the events have skirted South through Oregon and into California which is why you folks have the snow, and rain, while points North are lagging a bit. Certainly some of the deepest snows I have seen in my 50+ years of forecasting for California, and appears to be all-time records that go back to the Gold Rush Days! Southern Oregon and Idaho appear to be in good shape too.

To see 250-350% of snowpack and snow-water around 70" and calculation of 30 Million acre feet of water stored in that snow is very impressive, but also scary as hell. Again, you do not want that coming out all at once! The hope at this point is that it will be orderly, but my advice is to be ready to flood. We are also seeing good snowpack numbers for Oregon and Southern Washington, even June Lake is 150" of snow with snow water around 75". Same for North Fork and other Cascade sites. But even the Blues and Wallows are in Great Shape and Southern Half of Idaho Mtns. The Washington and BC mtns are lagging due to the splitting flow which is part of the La Nina Mode, but that is weather pattern induced.

This past season also shows how quickly your fortunes can change, going from Drought talk to "flood" talk in only 90 days, for Southern Oregon and California. It does not take many events to give you all that you can handle and need. I would imagine that the current water in storage and stream flows will carry you through the next 2 years. And if the pattern ahead is a good one, we keep this going for a few more years and help ground water recovery too, which I think is hugely important too. But it takes time for the water to percolate into the soils. It all helps!

I also hope that the record snowpack over the SW will help Lake Mead/Powell recover a bit too. Even if they only come up 60-70 feet that

would really help them. And then have an impressive "El Nino" cycle that brings more rainfall through Summer of 2024!

All of this will certainly help many of you with water issues, but I hope it is not too much of a good Thing. Lake Tulare is kinda threatening, so I hope it is not messing with any of you. This was an amazing Fall and Winter, and Spring. But I see the models are showing more showers for you in May, and perhaps June, I do not think we are done yet for the PacNW and BC, but also for those in California, and Idaho.

FORECAST DISCUSSION MAY THROUGH OCTOBER, 2023.

By now, we are seeing signs of a ridge over the West coast that would help to force the Jet North into the PacNW and BC. But the models, and pattern, are not showing much of a ridge yet. In fact, the models are reverting back to a more unsettled and shifty May. We will see a break through late month, April, but as we go into May, we see upper lows move back South from the Gulf and impacting not just NorCal but even down to SJ Valley/Wasco. And could go as far South as the LA Basin and SoCal. This is also going to impact the pacNW and BC, so I am hopeful that we can get some help for those to the North and BC. Not sure that many of you are worried but going into Summer above normal for rain and snow is better than below.

Thus, I am a bit concerned about the potential for rain on snow/melt event(s) that would enhance the runoff coming out of the regional Mtns. This could be a problem that remains into June and would impact many of you from wasco to Redding and could really be a problem for the Delta region with way too much water, and no place to put it! this could also be a problem for SW Oregon too and perhaps farther North, but not anywhere near as troubling as the Central California Valleys

I have been a bit skeptical of the models suddenly showing a massive Western Ridge given how they have missed this the last 3 weeks, only to leave us wetter and unsettled. So I will go slow with the May trends, and certainly keep PacNW wet and muggy and not overly warm or dry. Even the Medford area could see relatively cool weather and some moisture during the Month, so too Klamath and Southern Idaho

The June trend gets more complex due to the position of the western Ridge. If it decides to stay to the west, we would see a strong Marine influx that would tend to hold temps down and keep us on the cool side. Plus, we could still see weak systems trickle inland through PacNW and along the coast. Areas South would tend to stay cool or cooler than normal but not hot. Much does depend on the associated ridge aloft, if it shows up, or if it allows systems to move inland. Seems to me that the main ridge remains to the West.

I have to have some faith that the active North Pac would tend to force a ridge over the West from July thru September and perhaps into October. It is part of our normal weather cycle. The notion that a Super El Nino will be involved does lead to lots of Speculation. But the summer-time correlation is not good, so even if we see a ridge, it would lead to the usual warm/hot summer cycles and dry weather. However, the El Nino could bring tropical moisture into the Mix, so getting monsoonal thunder is not a stretch, in fact, kinda likely. Something to think about going thru July into September. If we see upper low drop off the coast and the ridge is inland, then we would see the potential for a SE-S to SW flow aloft and that is a muggy and unsettled mode. Plus, if the waters warm due to this shift, it could get dicey.

If we do see an El Nino and the Jet does drop South from the Gulf, then we would open the door to wet weather in the Fall, perhaps October, I will lean us that way for now, but do not want to go crazy with that potential. At least not yet! Ocean Models are worse than the Main Global weather models, so one has to be careful.

LA NINA UPDATE:(Super El Nino?)

Ocean Models are shifting us from the current La Nina mode to a Super El

Nino by August. That seems to be a quick turn around and to me, way too fast. Plus, the Pattern does not support this, yet. Waters off the coast are rather cold, so it will take time. Plus we will have to watch NW winds along the coast as they are also cold due to upwelling.

But if we start to see Lows tracking South and spinning off the California Coast by late Summer, then we got Game! It is those pesky lows dropping South that interact with the warmer waters that can dump on the SW U.S. and also strengthen the Sub-Tropical Jet over the Southern U.S. This is very complex and shifty, but is worthy of watching. These can also impact the PacNW with surges of rain coming up from the SE-SW and wrapping around the lows. This is a fragmented pattern and can be quite messy if it fully gets underway.

If we see a true El Nino and the Jet does in fact drop South, then California and the SW will have a very good water year, but we have been fooled before, so be careful. The sweet Spot for rain can vary markedly even with El Nino events. It all comes down to the Mid-latitude Jet and how it interacts with the Sub-Tropical Jet over the Southern US and offshore. Fascinating.

SUMMER MODE:

POSITION OF THE SUB-TROPICAL HIGH:

Okay, by now, if our summer was going to be hot and prolonged we would be seeing some signs of that now. But we are not, no sign of a strong western Ridge yet, only transitory ridges to date. Thus, this leaves us a bit shifty and unsettled in the next 4 weeks and that could go into June for the pacNW and BC. The ridge seems to stay west into June, and that would leave us cool and unsettled for May into June, then warmer for July into September.

Normally, we see a deepening low over the North pac and a slowing of the Jet stream aloft, but so far the North Pac has been active and progressive. This leaves us with a good mix of weather ahead, and suggests that we will see a blended 60 days ahead. I still see the potential for the Sub-Tropical high to build in the July thru Sept. period but not earlier. Thus the unsettled start.

Now if the Lows continue to track over the North Pac and Drop SE along the west coast, then the main ridge sets up over the Rockies and leaves us in a very unsettled "Monsoonal" pattern. That can be good for summer rainfall over the Great Basin and SW/4 Corners region. But might not bode well for the Central Valleys which will be awash with water. So, to me, the ridge is better if it sets up over the west coast and Not inland. But Mom has the final say about that. It would have implications for the PacNW too as those Monsoonal thunder cells can be quite a problem in the July and August time frames. We have seen some monster Thunder cells coming up from Nevada and dumping on the willamette Valley, Eastern Oregon/Wa. and Idaho. So we have to be careful.

MONSOONAL THUNDER ISSUES:

The above mentions the monsoonal flow potential and that does seem legitimate this coming summer. The pattern looks very active and progressive which would spell some issues ahead with Lows kicking off showers over the SW and those moving North along the Crest of the Sierra's or over the Great Basin. This would tend to cause some real issues with runoff and way too much water. But this would be good for Lakes Mead and Powell. And eventually for Oregon and Washington/Idaho too. But I am looking at this from a water prospective, not harvest. Sorry.

STREAM FLOWS: May through September 2023:

CALIFORNIA: 130 TO 180%!

COLUMBIA AT THE DALLES: 92 TO 105% ??

SNAKE AT PASCO-WALLULA GATEWAY: 112 TO 130%

Snake looks quite good due to Southern Idaho snowpack and that of Central

Idaho too. Northern Idaho is struggling a bit, so it would be nice to see some help for BC, No. Wa./Id. and Western Montana.

Columbia is lagging due to lack of snow and rainfall over BC and No. Wa. over to Montana. If we see a burst this Spring that would help quite a bit. Snake will help the Columbia, but it would be best to see more rainfall in BC and No. Wa./Id. the next 60 days.

MAY THROUGH OCTOBER, 2023 FORECASTS: Departures from normal, 1961-1990

these values are averaged for the entire 6 month period!

WESTERN WA.-HIGH: +2.1 TO -1.5	LOW: +1.9 TO -1.7	PREC: 112 TO 133%
SW 'ERN BC.-HIGH: +2.2 TO -1.6	LOW: +2.1 TO -0.9	PREC: 109 TO 135%
EASTERN WA.-HIGH: +2.4 TO -1.2	LOW: +2.2 TO -1.1	PREC: 098 TO 124%
LOWER BASIN-HIGH: +2.4 TO -1.1	LOW: +2.1 TO -1.2	PREC: 098 TO 126%
COASTAL WA.-HIGH: +1.5 TO -1.1	LOW: +1.5 TO -1.2	PREC: 108 TO 133%

I am counting on rainfall this month and next, and then surging rainfall 2nd half of September through October. Given that, my numbers here might be too low for Rainfall, and too warm for temps..AGAIN THIS YEAR...!

THE SPECIFIC MONTH BY MONTH 6 MONTH FORECAST FOR WASHINGTON FROM MAY THROUGH OCTOBER, 2023, IS AS FOLLOWS: (Departures from normal).

MAY 2023 FORECAST DISCUSSION:

Even with a modest break late April with some decent heat, even 90+ for Medford, the weather pattern seems to revert back to an unsettled and shift mode in May. The Cold waters off the coast and the colder than normal air over the North pac will result in systems moving progressively into the PacNW and BC in the coming Month. this is somewhat similar to that of last year which was very wet. Not sure that I can go as wet but May 2023 will certainly not be dry, even for areas East of the Mtns, perhaps especially for areas East of the Cascades. That Southerly flow aloft has meaning for you folks as all of you know!

Plus, I am still not seeing any signs of a strong western Ridge in the coming weeks. Some breaks, yes, but a dominate show stopping ridge, No! the North Pac is still relatively flat with the mean ridge seemingly over the Central Pac. Thus, allowing systems to move over the top and Drop SE into the PacNW. These appear to not only impact BC and Washington but also Oregon over to Idaho and Western Montana. I know that some of you have had enough Rain and want some sun, but others are still lagging and need this final push.

Given all of the model trends and positioning, I will stay with a wet month with active conditions on both sides of the cascades, meaning TSTM with Hail, blustery winds, etc. I will hold regional temps closer to normal but on the below side. Rainfall will likely be at or above normal with some spots much above. Snow levels will vary but could drop down to 2,500 ft. at times through Mid-May. And Stay generally between 3,500 to 5,500 ft. This is low enough to hold the pack but also low enough to help build the Pack for some areas, mainly BC!

MAY 2023 FORECASTS:

WESTERN WA.-HIGH: +2.0 TO -1.8	LOW: +1.3 TO -1.7	PREC: 119 TO 141%
SW 'ERN BC.-HIGH: +2.1 TO -1.7	LOW: +1.5 TO -1.6	PREC: 122 TO 143%
EASTERN WA.-HIGH: +2.2 TO -1.5	LOW: +1.8 TO -1.2	PREC: 098 TO 125%
LOWER BASIN-HIGH: +2.1 TO -1.6	LOW: +1.9 TO -0.9	PREC: 098 TO 124%
COASTAL WA.-HIGH: +1.7 TO -2.0	LOW: +1.2 TO -1.8	PREC: 112 TO 135%

MAY NORMALS:

HOQUIAM:	HIGH: 61.0	LOW: 45.9	PREC: 3.19"
OLYMPIA:	HIGH: 65.3	LOW: 41.0	PREC: 2.09"
EPHRATA:	HIGH: 72.6	LOW: 47.6	PREC: 0.51"
PENDLETON:	HIGH: 70.0	LOW: 45.8	PREC: 0.99"
SPOKANE:	HIGH: 65.8	LOW: 41.9	PREC: 1.41"

COOLING DEGREE DAY FORECASTS:

	NORMAL	V.	FORECAST
HOQUIAM-	0		0
OLYMPIA-	0		0
EPHRATA-	28		28
PENDLETON-	06		08
SPOKANE-	06		05

JUNE 2023 FORECAST DISCUSSION:

Again, I turn to the colder water off the coast, and the potential for strong W-NW winds resulting in upwelling along the coast. If this happens it would have an impact inland. Plus, the main ridge still seems to be to the west which further allows systems to move inland. Perhaps they start to wane this month but I still see some that would have an impact on us thru Mid-June. Plus, the resulting marine influx would tend to hold down regional temps, even into the Basin via strong Gorge winds and Gap winds near Ellensburg and Wenatchee, etc. Thus, at this point, June still looks a bit unsettled and active with showers likely and the usual thunder cells inland. The flow aloft is critical for TSTMS; southerly winds makes TSTMS likely, westerly winds make them less likely.

I would feel more comfortable with going drier and warmer if I was seeing a ridge off the coast or over us in May, but since that feature is not showing up yet, I still see June as being unsettled. The ridge could pop up if we see some deepening over the North Pac, and that would send us off on our summer journey but for now, I think unsettled is a better choice.

I will hold us closer to normal for both Temps and rainfall but with the thunder potential, that could be a challenge for those East of the Cascade Crest. Idaho would see some potential and Montana too. This could help late season stream flows and dry land growers, but mess with hay growers.

JUNE 2023 FORECASTS:

WESTERN WA.-HIGH:	+2.1 TO -1.5	LOW: +1.5 TO -1.6	PREC: 112 TO 131%
SW 'ERN BC.-HIGH:	+1.9 TO -1.4	LOW: +1.6 TO -1.9	PREC: 121 TO 143%
EASTERN WA.-HIGH:	+2.2 TO -1.4	LOW: +1.8 TO -1.5	PREC: 098 TO 121%
LOWER BASIN-HIGH:	+2.3 TO -1.2	LOW: +1.8 TO -1.5	PREC: 101 TO 119%
COASTAL WA.-HIGH:	+1.5 TO -1.5	LOW: +1.6 TO -1.7	PREC: 109 TO 138%

JUNE NORMALS:

HOQUIAM:	HIGH: 64.8	LOW: 49.9	PREC: 2.10"
OLYMPIA:	HIGH: 70.9	LOW: 46.4	PREC: 1.63"
EPHRATA:	HIGH: 81.2	LOW: 55.7	PREC: 0.45"
PENDLETON:	HIGH: 79.5	LOW: 52.9	PREC: 0.64"
SPOKANE:	HIGH: 74.7	LOW: 49.2	PREC: 1.26"

COOLING DEGREE DAYS:

	NORMAL	V.	FORECAST
HOQUIAM-	0		0
OLYMPIA-	12		12
EPHRATA-	156		152
PENDLETON-	107		112
SPOKANE-	49		052

JULY 2023 FORECAST DISCUSSION:

The big question as we move into July is where is the western Ridge? If it is inland and we see a S-SE flow aloft, that would allow upper troughs to move close to the Coast. That would then trigger TSTMS over the region. This effect could have a strong impact on July Temps and moisture, and humidity. I am sure that we will have our warm days, even Hot, but the lack of strong heating will be an issue. I will hold temps closer to normal and rainfall near normal to above. TSTMS can really mess with this distribution.

JULY 2023 FORECASTS:

WESTERN WA.-HIGH: +2.2 TO +0.5 LOW: +1.9 TO +0.0 PREC: 22 TO 45%
 SW 'ERN BC.-HIGH: +2.8 TO +0.3 LOW: +2.1 TO +0.0 PREC: 27 TO 53%
 EASTERN WA.-HIGH: +3.0 TO +0.7 LOW: +2.3 TO +0.2 PREC: 23 TO 55%
 LOWER BASIN-HIGH: +3.0 TO +0.7 LOW: +2.7 TO +0.4 PREC: 29 TO 52%
 COASTAL WA.-HIGH: +2.1 TO +0.6 LOW: +1.4 TO +0.7 PREC: 21 TO 42%

Again, one well placed thunder cell can make my precip forecasts look all "wet"! Been there a few times. But with ridge aloft and weak flow, getting cells is a tough get in July. But if the S-SW flow aloft develops, then that would raise the level of thunder.

JULY NORMALS:

HOQUIAM: HIGH: 68.4 LOW: 52.5 PREC: 1.27"
 OLYMPIA: HIGH: 76.5 LOW: 49.2 PREC: 0.82"
 EPHRATA: HIGH: 88.4 LOW: 61.4 PREC: 0.33"
 PENDLETON: HIGH: 87.8 LOW: 58.0 PREC: 0.35"
 SPOKANE: HIGH: 83.1 LOW: 54.4 PREC: 0.67"

COOLING DEGREE DAYS:

	NORMAL	V.	FORECAST
HOQUIAM-	0		0
OLYMPIA-	31		48
EPHRATA-	317		326
PENDLETON-	260		297
SPOKANE-	148		166

AUGUST 2023 FORECAST DISCUSSION:

At some point the western Ridge will exert enough influence on us to keep us warm and dry. I can't rule out some monsoonal thunder during the month and can't say for sure that we will see 30 days of dry weather. The pattern looks too variable and shifty to go down that path. But I am sure that we will see some weak system move inland with showers likely. Again, I will lean us closer to normal but on the above side but I do not see the strong heat at this point.

Again, we will have to watch for Monsoonal flow and thunder potential. This can be a serious threat for many of us, thinking back to summer of 1980. So if this does develop, it would have a profound impact on regional weather and Harvest and growing. Anyway, I will opt for a nice month but reserve my thoughts and keep them closer to normal to above for both temps and rainfall.

AUGUST 2023 FORECASTS:

WESTERN WA.-HIGH: +2.5 TO +1.0 LOW: +2.6 TO +0.3 PREC: 18 TO 47%
 SW 'ERN BC.-HIGH: +2.8 TO +1.0 LOW: +3.0 TO +0.7 PREC: 13 TO 63%
 EASTERN WA.-HIGH: +3.2 TO +1.2 LOW: +3.2 TO +0.5 PREC: 10 TO 63%
 LOWER BASIN-HIGH: +3.3 TO +1.4 LOW: +3.2 TO +0.5 PREC: 11 TO 65%
 COASTAL WA.-HIGH: +2.1 TO +0.5 LOW: +2.1 TO +1.1 PREC: 17 TO 31%

We will have to watch for Monsoonal thunder moving up from Nevada/Ca./Mexico. It would impact Eastern areas more so than areas west of Cascades. Again, the flow aloft turning to the S-SE/S-SW is key.

AUGUST NORMALS:

HOQUIAM: HIGH: 69.5 LOW: 53.6 PREC: 1.49"
 OLYMPIA: HIGH: 77.1 LOW: 49.5 PREC: 1.29"
 EPHRATA: HIGH: 87.5 LOW: 60.5 PREC: 0.27"
 PENDLETON: HIGH: 86.2 LOW: 57.7 PREC: 0.53"
 SPOKANE: HIGH: 82.5 LOW: 54.3 PREC: 0.72"

COOLING DEGREE DAYS:

	NORMAL	V.	FORECAST
HOQUIAM-	12		23

OLYMPIA	49	67
EPHRATA-	295	333
PENDLETON-	240	287
SPOKANE-	161	195

SEPTEMBER 2023 FORECAST DISCUSSION:

Now we have El Nino waters getting into the Act if you have faith in some of the ocean models. So how would that impact September? That would depend on the upper pattern to the west and if we see systems move SE and interact with those potentially warmer waters. We will have to watch for surface NW winds along with coast, if they show up, we will have colder water but if not, then warmer and potentially more unsettled and wetter.

So as much as I like to keep us in a summer mode through September, I have my reservation this year if the El Nino thing picks up momentum. The signal correlation to the PacNW and El Nino is not good but the warmer waters interacting with upper lows does have an impact. So we will have to see how the positioning goes. At this point, I will hold us closer to normal or below and opt for above normal rainfall. Playing the El Nino weather pattern card, not just the El Nino mode card.

SEPTEMBER 2023 FORECASTS:

WESTERN WA.-HIGH:	+2.2 TO -0.5	LOW: +1.5 TO -0.8	PREC: 093 TO 112%
SW 'ERN BC.-HIGH:	+3.0 TO +0.3	LOW: +1.8 TO -1.2	PREC: 088 TO 109%
EASTERN WA.-HIGH:	+3.0 TO +1.1	LOW: +2.2 TO -1.5	PREC: 082 TO 097%
LOWER BASIN-HIGH:	+3.0 TO +1.0	LOW: +2.1 TO -1.3	PREC: 078 TO 095%
COASTAL WA.-HIGH:	+1.7 TO -0.6	LOW: +1.3 TO -1.2	PREC: 095 TO 112%

SEPTEMBER NORMALS:

HOQUIAM:	HIGH: 68.6	LOW: 51.5	PREC: 3.25"
OLYMPIA:	HIGH: 71.0	LOW: 44.7	PREC: 2.26"
EPHRATA:	HIGH: 77.7	LOW: 51.4	PREC: 0.36"
PENDLETON:	HIGH: 76.3	LOW: 49.9	PREC: 0.59"
SPOKANE:	HIGH: 72.0	LOW: 45.8	PREC: 0.73"

COOLING DEGREE DAYS:

	NORMAL	V.	FORECAST
HOQUIAM-	16		16
OLYMPIA-	09		16
EPHRATA-	112		112
PENDLETON-	88		093
SPOKANE-	40		052

OCTOBER 2023 FORECAST DISCUSSION:

The signal for El Nino in the PacNW is not good, but the overall weather pattern interacting with El Nino is good, and can look similar to weather patterns that drive La Nina, oddly. Usually with El Nino patterns the Jet is more fragmented and variable while the La Nina jet is much stronger and more consolidated. Plus the Jet is over the PacNW or NorCal. While with El Nino the jet tends to be farther south, but does vary. So we have to be careful with too many eggs in the El Nino Basket. And keep in mind that this mode only contributes 15-20% to the bottom line, rest comes from the weather pattern itself!

This being said, we can get into an active and unsettled pattern much faster if the Jet drops south and the North Pac is active. So we will need to watch just how flat or amplified the overall pattern is. At this point, I would say that the pattern will be active and variable with good surges of moisture. But I can see the usual October breaks and some nice weather too. It would be tough to get endless days of rain with this pattern. But, again, I will opt for a wetter than normal month along with temps close to normal. The mild and cool mix adds up to "normal".

OCTOBER 2023 FORECASTS:

WESTERN WA.-HIGH:	+2.1 TO -1.1	LOW: +2.2 TO -0.8	PREC: 115 TO 143%
SW 'ERN BC.-HIGH:	+2.3 TO -1.2	LOW: +1.8 TO -0.9	PREC: 120 TO 145%
EASTERN WA.-HIGH:	+2.5 TO +0.5	LOW: +2.4 TO -0.8	PREC: 105 TO 123%

LOWER BASIN-HIGH: +2.5 TO +0.5 LOW: +2.4 TO -0.9 PREC: 106 TO 125%
COASTAL WA.-HIGH: +1.2 TO -1.6 LOW: +1.4 TO -0.7 PREC: 112 TO 139%

OCTOBER NORMALS:

HOQUIAM:	HIGH: 61.6	LOW: 46.4	PREC: 6.20"
OLYMPIA:	HIGH: 60.5	LOW: 38.8	PREC: 4.31"
EPHRATA:	HIGH: 63.1	LOW: 40.0	PREC: 0.44"
PENDLETON:	HIGH: 63.7	LOW: 41.0	PREC: 0.86"
SPOKANE:	HIGH: 58.6	LOW: 36.0	PREC: 0.99"

HEATING DEGREE DAYS:

	NORMAL	V.	FORECAST
HOQUIAM-	341		351
OLYMPIA-	474		472
EPHRATA-	415		434
PENDLETON-	391		397
SPOKANE-	549		568

FINAL COMMENTS:

We are not fully out of the La Nina weather mode as the models and the pattern still suggest unsettled weather through May and perhaps into June. Showers and unsettled weather likely with potential for wrap around moisture and impressive thunder events East of the Mtns that even impact those of us on the west. It does appear relatively mild but with colder air aloft, temps likely closer to normal or below. This could hold into June too as the pattern does not show much of a ridge aloft yet. And that ridge could remain inland or to the west.

As far as July thru September go, much depends on the Ridge over the West and whether it is sharpe or flat. Amplitude counts. But if the ridge is over the Rockies and does not extend too far North, then we would see the potential for Monsoonal flow that can be a real challenge for The west. Locally severe cells can migrate North from the SW and impact many of us. So we will have to watch for issues in the coming months related to this and to the emergence of El Nino.

I do not place all my eggs in the El Nino basket as the signal for us is not that great, but the pattern over the North pac does get curious during these events, which I am seeing now. Oddly, similar to La Nina! But instead of flowing over colder water, the flow is over warmer waters. Thus, increased rainfall over the SW and even into the PacNW. So we will have to watch for this in the summer months, which would lead to some curious weather issues.

If the pattern does lean to the more fragmented mode, then we would have to watch for a variable but wet late Summer and Fall. These are not always dry for us, and can be very wet if the North Pac stays active. These modes can be rather mild initially but can go colder if the Arctic air drops South from BC. That would be a winter mode similar to 1992/93!

Okay, so September and October will get interesting and likely active given the shifts in the weather pattern and emergence of the El Nino mode over the Tropical Oceans. That could lead to a very wet year for California and even for us. Ready?

STAY HEALTHY AND GOOD LUCK, AND BE READY.....!

BEST WISHES!.....PHIL VOLKER.....

Item #6



To: Board of Directors

From: Scott Revell, District Manager

Date: May 9, 2023

Re: 2023 UGID Intertie

Background

Staff has discussed the 2023 intertie with the Union Gap Irrigation District Board president. Roza is drafting a carriage agreement which will include:

- Roza modification the intertie works at UGID's expense.
- UGID will submit a written work authorization prior to the work occurring.
- UGID will certify that the UGID canal is operationally sound to accept the supplement water from Roza prior to use of the intertie.
- Addition of Roza as an additional insured to the UGID liability insurance policy.
- A carriage fees.
- A termination provision at the end of the 2023 irrigation season.
- Any other terms as deemed appropriate by the Board.

The basic parameters have been discussed with the UGID Board president and will be reviewed by both parties when the agreement is presented in draft form.

Item #7



To: Board of Directors
From: Scott Revell, District Manager
Date: May 9, 2023
Re: Drainage Improvement District #11 Update

Attachments

1. Map depicting drainage problems in Moxee w/ O&M responsibilities

Background

Board President Valicoff, Watermaster Dave Rollinger and I met with the DID # 11 Board of Directors on April 19th in Moxee.

We reviewed the maps, contract, budget and relevant documents related to DID's expenses and discussed several ways that they could be reduced, which in turn would reduce the 60% that Roza is contractually required to fund for the jointly maintained drains.

Generally speaking the DID #11 Board was interested in achieving greater economies of scale by having Roza crew perform some of the work and tracking the costs. This will begin in 2023 and will be re-assessed at the end of the year. See the table on page 2 for examples.

The attached map is a digitized version of a 1956 map in the Gray and Osborne report with the color-coded maintenance responsibilities overlaid. There are twelve drain facilities in total which are segregated into three categories in the 1960 contract:


1. Roza duties
2. DID #11 duties, and
3. Joint Roza-DID #11 duties (which are split 60% Roza and 40% DID #11)

DID #11 assesses certain lands in the District and relies on revenue from Roza for the shared drains. The assessment formula is based on ongoing and continuous benefits and is not easily understood by either DID #11 or the assessed landowners. Adjoining properties pay very different amount in many cases and do not appear to be based on parcel size.

Drain	District	Notes (info in bold text is updated information)
Milepost 17.1 drain (1.97 miles)	Roza	Upstream of the Moxee police station on Postma Road. Minimal maintenance for 20+ years prior to 2017. Burned, mowed, sprayed & cleaned out in places since 2017 w/ some tree removal. Hop wires over the drain in places and hop anchors in the right of way. Many trees need to be removed.
Milepost 19.4 (1.33 miles)	Roza	Minimal maintenance for 20+ years prior to 2017. Has been burned, mowed, sprayed & cleaned out since 2017 w/ some tree removal
Milepost 20.2 (.55 miles)	Roza	Is a tributary to 19.4 drain.
Milepost 21.5 (.50 miles)	Roza	Minimal maintenance for 20+ years prior to 2017. Burned, mowed, sprayed & cleaned out since 2017 w/ some tree removal.
Branch A is the Moxee A drain upstream of the SMID canal (2.5 mi).	Roza	Roza crews cleaned out the upper half mile of the Moxee A drain in March. The next ½ mile downstream is piped and farmed and need minimal O&M. Major large tree, trees, brush, and fence and beaver dam removal needed downstream 1 mile +/- to Beane Rd. This work will take 5 to 7 seasons to accomplish. A trapper has begun removing the beavers. The section from Beane Rd to the SMID canal has heavy brush & beaver dams.
Ditch 11 (3.33 miles)	Joint	Moxee A drain downstream of the Selah Moxee canal. Roza crews could burn some sections much more efficiently than DID #11 crews without creating a sloughing risk.
Ditch 1 (.51 miles)	DID #11	This segment is piped. Roza crews spray it and mow is 3x per year. Roza has maintained this ditch in recent years and will continue to do so in 2023 and will track expenses and submit them to DID +15%
Ditch 2 (1.63 miles)	DID #11	DID #11 crews will have primary responsibility in Ditch 2 unless Roza assistance is requested.
Branch B (1.25 miles)	DID #11	Roza has cleanout out Branch B with heavy equipment twice in the past 3 years, burned, sprayed mowed it 3x per season. Roza will continue to do so in 2023 and will track expenses and submit them to DID +15%
Branch D (.95 miles)	DID #11	Roza will continue to spot spray and mow in 2023 and will track expenses and submit them to DID +15%. There are many trees which need to be removed.
Branch D (.78 miles)	Joint	
Ditch 2 (3.24 miles)	Joint	

Item #8



To: Board of Directors
From: Dave Rollinger, Watermaster 
Date: May 9, 2023
Re: Recent Past and Future Maintenance Work

Summary for April

- Water diversions have been lower than normal for the month of April averaging approximately 400 CFS +/- with a high of 450 CFS for 2 days. Pump mechanics and ditchriders have been busy turning on and off pump plants that didn't have enough water ordered to safely operate the pumps. Canal flows normally are between 500 to 600 CFS for the month of April early May.

Staffing

- Andy Howe one of our maintenance crew members resigned to go to work for the Prosser School District. Andy has worked for Roza since 1995.
- Brian Byrne one of our mechanics resigned to go to work for Benton County. Brian has worked for Roza since 2017.
- Taylor White one of our ditchriders resigned to go to work for Benton County. Taylor has worked for Roza since 2017.
- We hired Daniel Houfek permanently on April 28th, he has been working temporary for Roza for the last 5 months.
- We hired Gary Adkins permanently on April 24th, he has been working temporary for Roza for the last 3 months. Gary previously worked for Luthers sand and gravel.
- We hired Bill Mandrell permanently on March 20th. Bill previously worked for the Washington State rd. department.
- Roza is currently at 36 union employee's, 5 short of being fully staffed at 41.

Distribution System Maintenance

- The P14 ECS project is finished and will be closed out at the end of April.
- Roza crews started jetting and grouting behind the Main Canal concrete liner at MP 17.1 to 17.9. One full time employee and one temporary employee will grout though the most of the water season as manpower allows.

- Trouble shooters have fixed 10 pipe leaks in April and have replaced 10 broken 1" Sensus flowmeters with new 2" badger flowmeters.
- Two mowing crews started mowing the Main Canal and drains on April 18th. The first crew started at MP 94.8 working upstream to MP 49.2, the second crew started at MP 49.2 working upstream to MP 11.0.
- Crested Wheat grass was planted where the Main Canal berm was removed and roadway was graded and graveled to help prevent erosion and unwanted weeds from growing, from MP 11.7 downstream to MP 23.9.
- Crews placed 350' of clay material into P3 high right and 150' into P3 high left with a Cat 314 excavator to stop water from subbing into the land owner property.
- Crews cleaned 2,000' of the Moxee A-Drain that didn't need brush removal with a Cat 315 excavator with the V ditch attachment.
- Washington Wildlife Control was hired to trap beavers in the Moxee A-Drain.
- The road building crew started on the Main Canal at MP 30.3 and will continue downstream as man power is available.
- Troubleshooters have built insulated siphon lids for siphon 7 and 9 to help keep the valves from freezing in the winter and to keep trash and rodents out.
- WW6 siphon was leaking a small amount of water and the water was showing up outside the wasteway wall, trouble shooters were able to patch the holes and stop the leaking.

Weed Control

- Roza sprayers have completed spraying the first pass of 2-4D on the Main Canal and are now spraying the three Re-regulation reservoirs, pump plants, and storage yards.

Equipment

- # 63, Roza's 1997 Freightliner dump truck hydraulic pump went out, Roza mechanics removed and replace the pump and the truck is back on line. The cost of the pump was \$1,052.
- # 405, Roza's Godwin pump had an oil leak and had to be sent to Xylem Dewatering Solutions in Kent Washington to install a mechanical seal kit. The cost was \$2,690.
- # 166, Roza's 1995 Kenworth lowboy truck had a cracked head, Roza mechanics removed and replaced the head and the truck is back on line. The cost was \$1,849.
- K & D Machine scheduled to rebuild # 302 Roza's 2007 Trail Max triple axel equipment trailer for the 1st week of May. The total Quote is \$28,933.20.
- The 1950's era 80 gallon horizontal tank air compressor that supplies air for the whole shop needs to be replaced. A new compressor has been ordered from Yakima Air Compressor and Equipment. The cost is \$3,688.54.

- Two supervisor and two ditchrider pickups were purchased from Hinton Chevrolet in Lynden Washington. All four pickups are 4 cylinder, 4x4, have 6' beds and are extended cabs. The cost for all four was \$178,284.40.
- The two, 1,000 gal. emergency fuel trailer were delivered May 1st. The total cost was \$60,615.

Projected for May

- Continue grading and graveling Main Canal roads.
- Continue grouting behind the Main Canal concrete lining.
- Continue mowing the Main Canal and drains.
- Continue Spraying the Main Canal, laterals and facilities.
- Start rodding drain pipes for the first time this year, the drains are cleaned 4 times a year.
- Start cleaning gravel packs for the first time this year, gravel packs are cleaned 4 to 5 times a year.
- Start cleaning under shot drains as manpower allows.
- Place clay in the Main Canal at MP 48.1 and 64.2.

Item #9



To: Board of Directors
From: Scott Revell, District Manager
Date: May 9, 2023
Re: District Manager's Monthly Update

Miscellaneous Items

1. The ground water monitoring contract for the Sunnyside headquarters property was executed in April. The contract was approved at the April board meeting.
2. USBR has notified Roza that 2022 power expenses and O&M expenses were \$156,000 less than the estimates and Roza will receive commensurate credits in 2023.
3. The 2023-25 state capital budget has been approved. It includes \$600K+ for a concrete sealing grant for Roza, which will bring the total to \$2.4M over the past several years.
4. Roza has contracted with a licensed wildlife trapper to remove beavers from the Moxee A drain.
5. The Yakima Basin Joint Board's "Water 101" tour will occur on June 29th. All sites are in the upper basin.
6. A flat fee contract is being executed with Tom Cowan for strategic advice on water policy matters.
7. Fuel expenses:

Year	Total Expense	YoY Increase	+/- 7 year avg. (2022)
2022	\$412,198	+135,232	+ \$185,138
2021	\$276,966	+\$64,469	+ \$49,906
2020	\$212,497		- \$14,563

April Meetings Report

- ✓ WSWRA meeting with Ecology re: NPDES permit (April 4th)
- ✓ System Operations Advisory Committee (SOAC) (April 6th and 18th)
- ✓ River Operations (April 9th)
- ✓ Integrated Plan Water Use Subcommittee meeting (April 10th)
- ✓ Yakima Basin Integrated Plan Executive Committee and Implementation Committee monthly meetings (April 12th)
- ✓ American River tour of Roza and the lower Yakima Basin (April 13th)
- ✓ Drainage Improvement District #11 fiscal review (April 19th)
- ✓ Integrated Plan Fish Policy Team (April 21st)
- ✓ USBR Regional Director and staff briefings on the Integrated Plan in Boise (April 25th-27th)
- ✓ Yakima Basin Joint Board (April 28th)

Item #10



To: Board of Directors

From: Wayne Sonnichsen, Engineering Manager

Date: May 9, 2023

Re: Engineering Manager's Report

Miscellaneous items of note:

- A grant application has been submitted to BPA for this past winter's P14 ECS project. Given the expected reduction in power usage due to eliminating water losses, BPA's estimated incentive came to \$48,555. The average annual energy savings was estimated to be about 121,000 kWh/yr.
- Work on the Pump 3 Low ECS project is progressing. I have been using AutoCAD to develop georeferenced lines and nodes for this work. The AutoCAD program is very limited and unstable when working with georeferenced data (shape files). This type of work is best done with ArcGIS. We have purchased a second license for ArcGIS Pro to allow Engineering tech Lazaro to create georeferenced files. After a bit of a learning curve, this should speed up design of ECS projects.
- The Historian finished scanning the historic photographs of the District's infrastructure construction and early days. The photographs can be accessed via the District's website under the "About Us" tab.