Bureau of Reclamation Update 2025


PAT MONK
I'm Still Standing
EXTENDED VERSION

Yakima Project was authorized by Congress in 1905

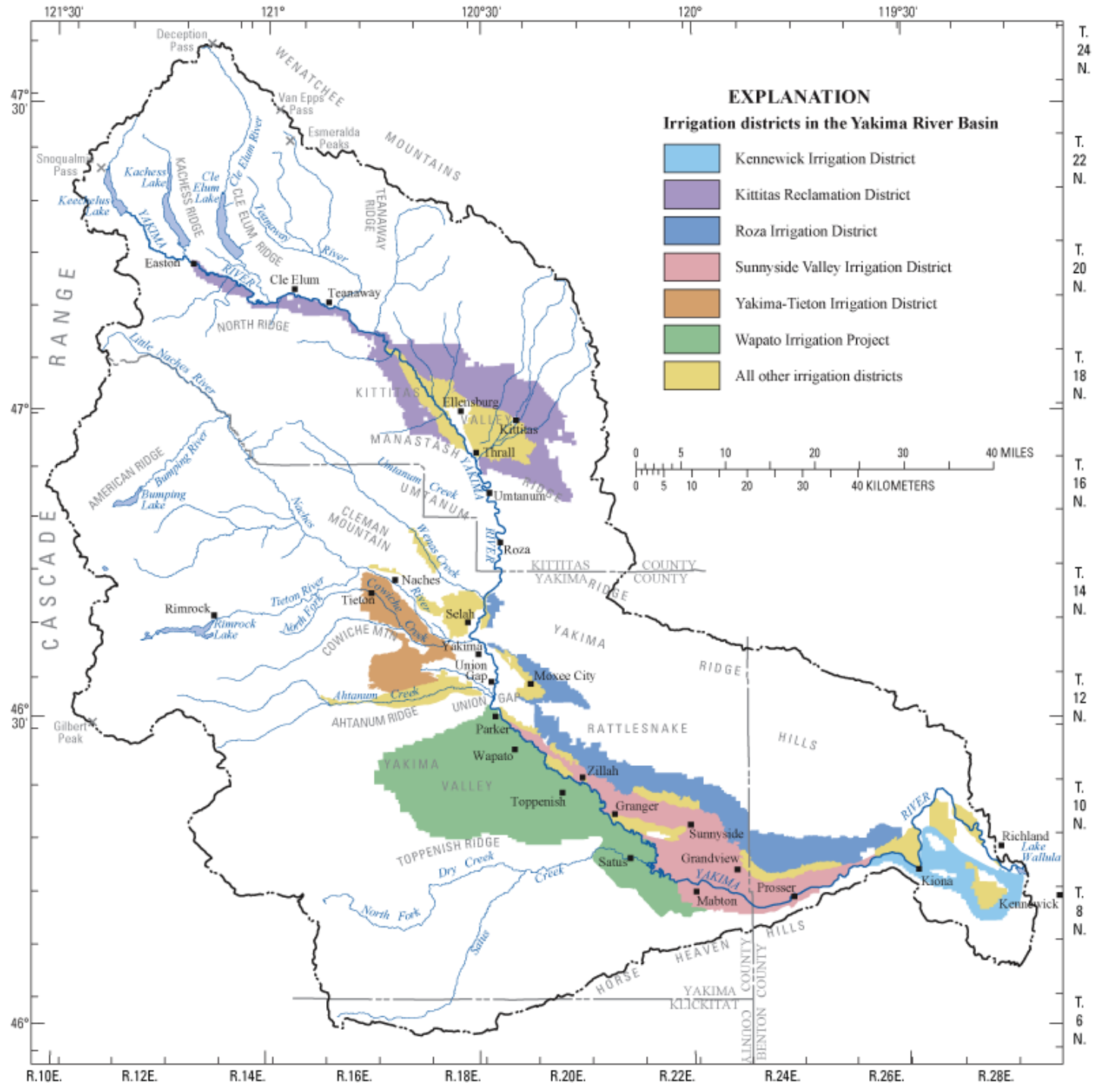
--6,155 sq. miles w/464,000 irrigated acres

--5 reservoirs w/ 1.1 MAF capacity, irrigation deliveries 2.3 MAF, 3.4 MAF avg supply Apr-Sept, 2 hydroelectric plants, canals

--Droughts in 1992-1994, 2001, 2005, and 2015, 2024, 2025

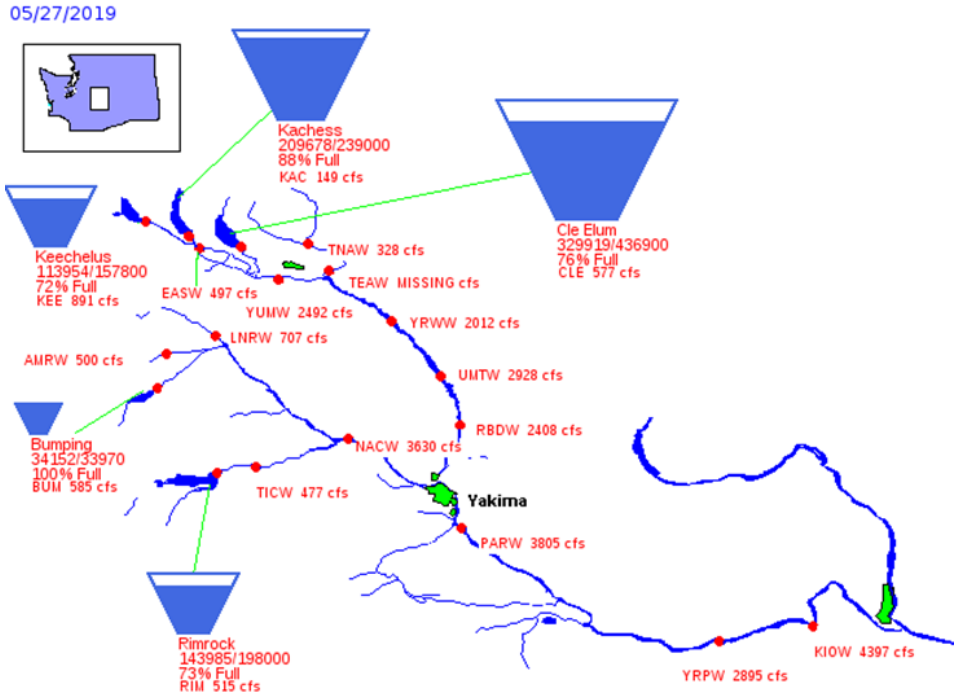
--Reduced Fisheries

--High $$$ agriculture economy



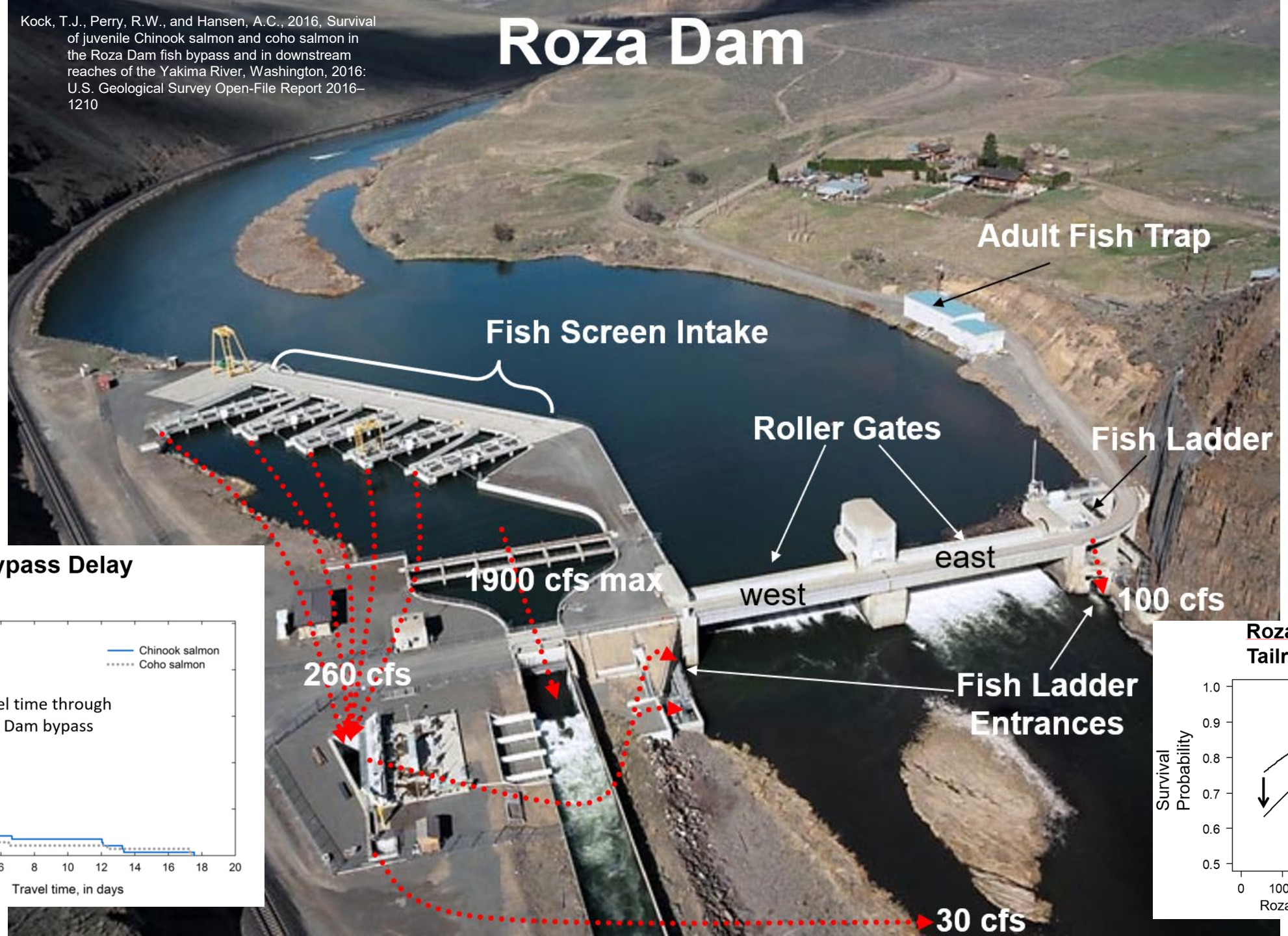
Yakima Field Office

--Field Office operates and maintains storage dams, hydroelectric power facilities, fish screens, ladders, and other passage facilities at mainstem diversion dams throughout basin
--River Operations for instream flows, water deliveries for irrigation, storage and flood control, hydrology, snow measurement, flow routing and modeling, and instrumentation
--Studies of fish passage, operating procedures, System Operations Advisory Committee (SOAC)



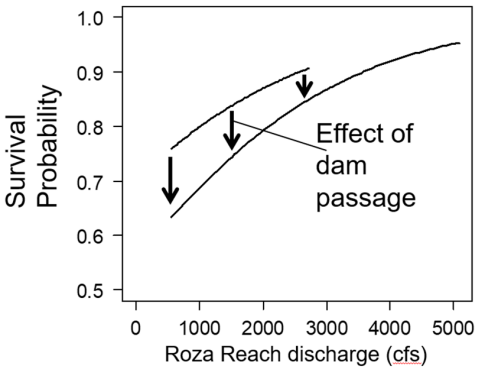
Kock, T.J., Perry, R.W., and Hansen, A.C., 2016, Survival of juvenile Chinook salmon and coho salmon in the Roza Dam fish bypass and in downstream reaches of the Yakima River, Washington, 2016: U.S. Geological Survey Open-File Report 2016–1210

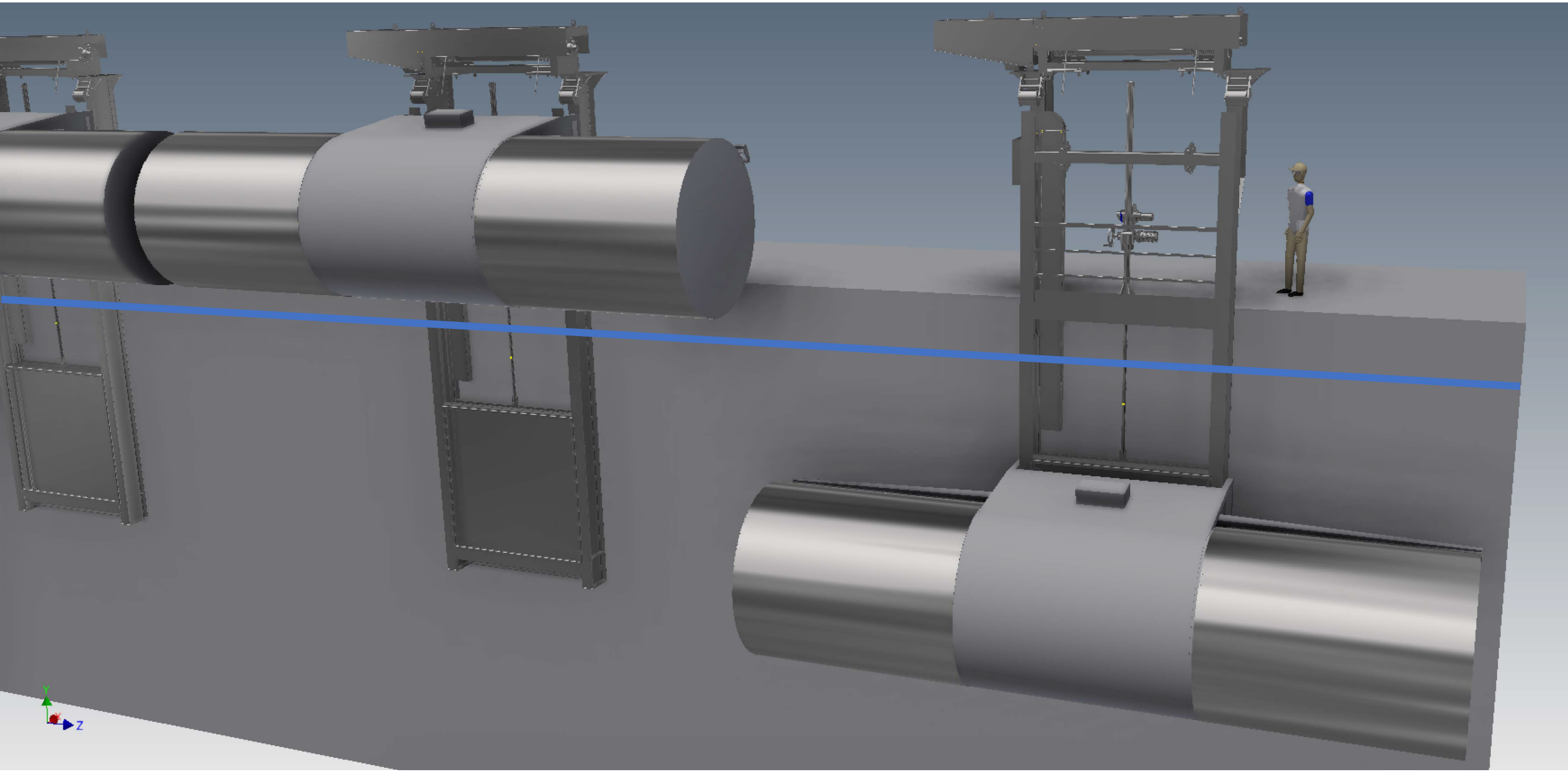
Roza Dam

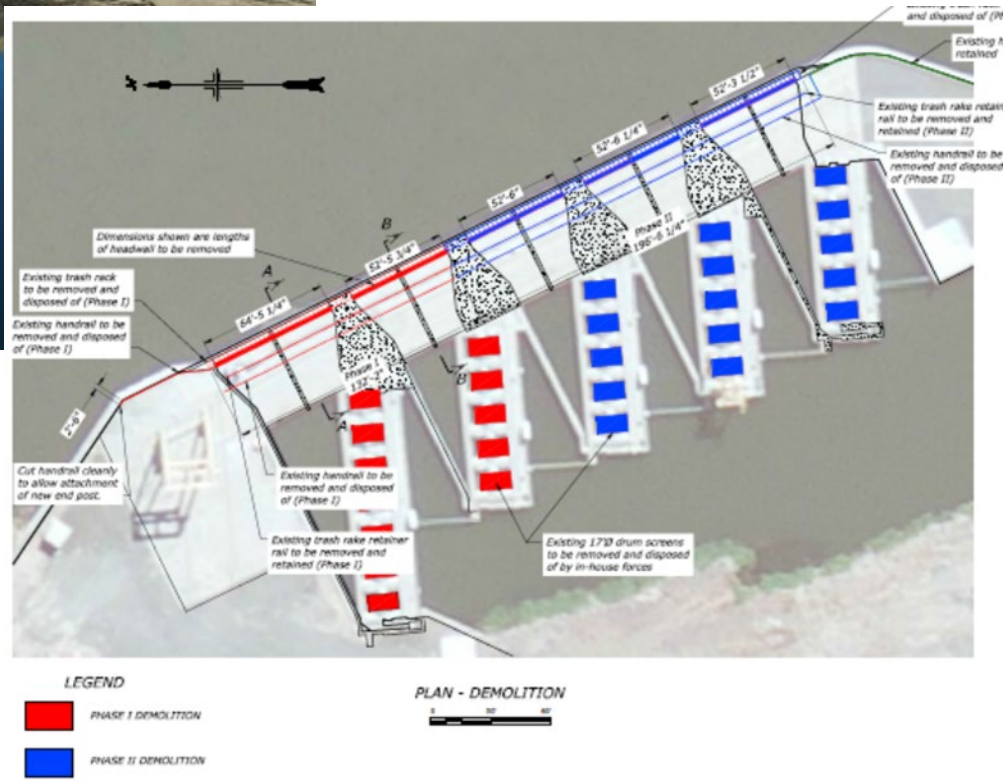


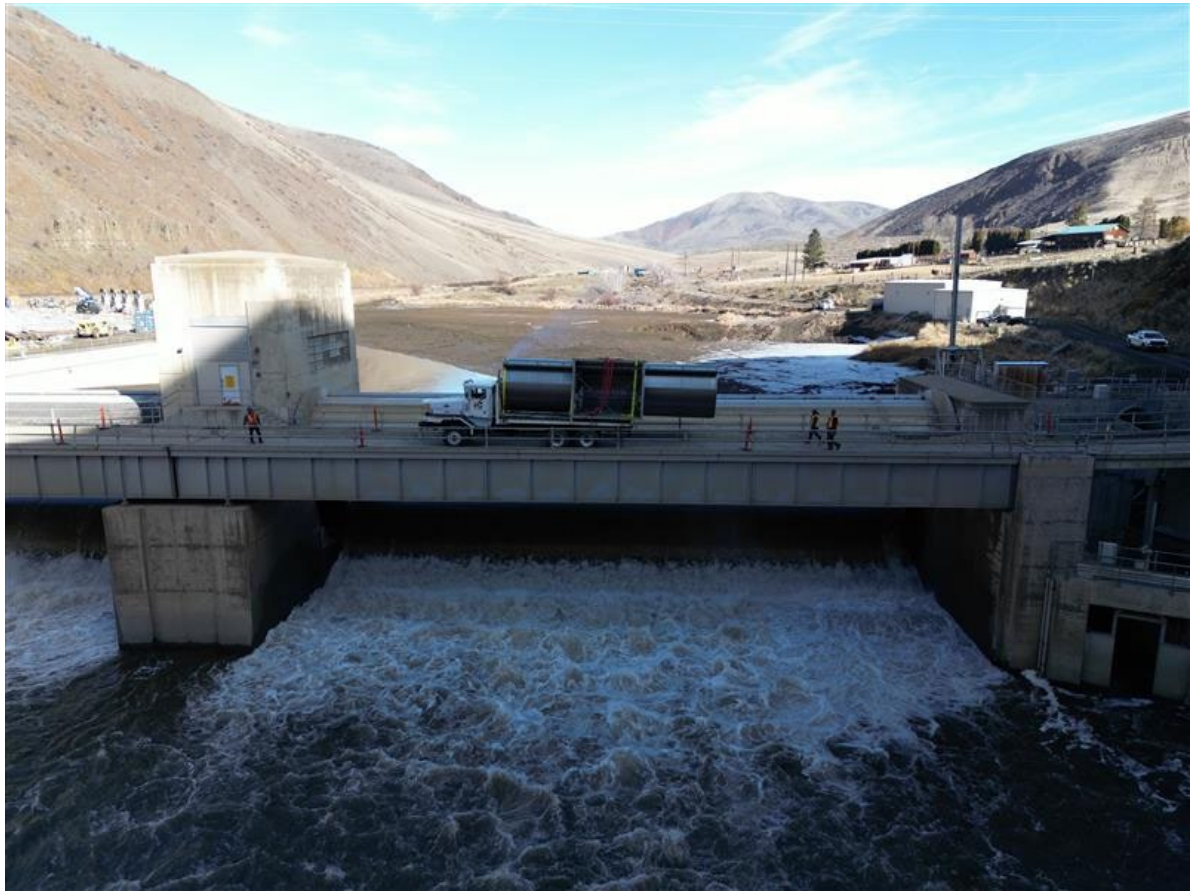
Bypass Delay

Roza Forebay versus Tailrace Releases




Y
Z


Dimensions shown are lengths of headwall to be removed
Existing trash rack to be removed and disposed of (Phase I)
Existing handrail to be removed and disposed of (Phase I)
Cut handrail cleanly to allow attachment of new end post.
Existing handrail to be removed and disposed of (Phase I)
Existing trash rake retainer rail to be removed and retained (Phase I)
Existing 17'Ø drum screens to be removed and disposed of by in-house forces
Existing trash rake retainer rail to be removed and retained (Phase II)
Existing handrail to be removed and disposed of (Phase II)
64'-5 1/4"
52'-5 3/4"
52'-6"
52'-6 1/4"
52'-3 1/2"
Phase II
190'-6 1/4"
Phase I
132'-2"
2'-6"
A
B
LEGEND
PHASE I DEMOLITION
PHASE II DEMOLITION
PLAN - DEMOLITION



Expected to be >$20 million project at completion.

Cle Elum Dam Fish Passage

High priority project. Helix operational testing in 2024, expected functional in spring 2026 for downstream juvenile passage.

Adult collection facility construction underway; fish recovery in river and pool below dam in September 2025.

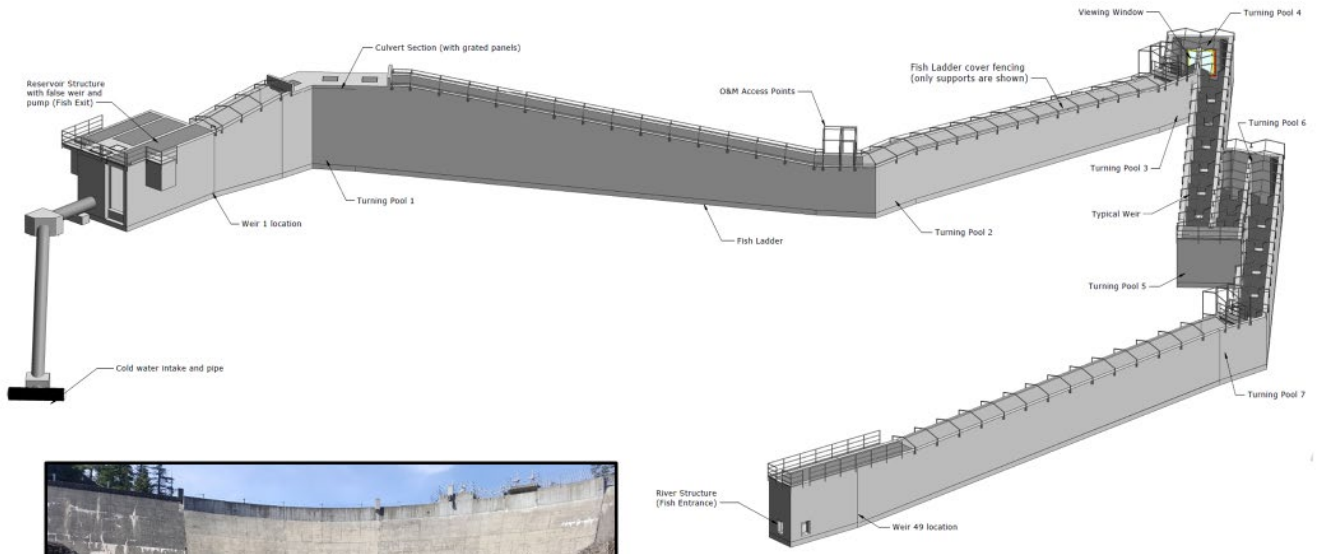
PIT tag detection designs and coordination ongoing, likely installed by March 2027.

Tieton and Clear Creek Dams Fish Passage

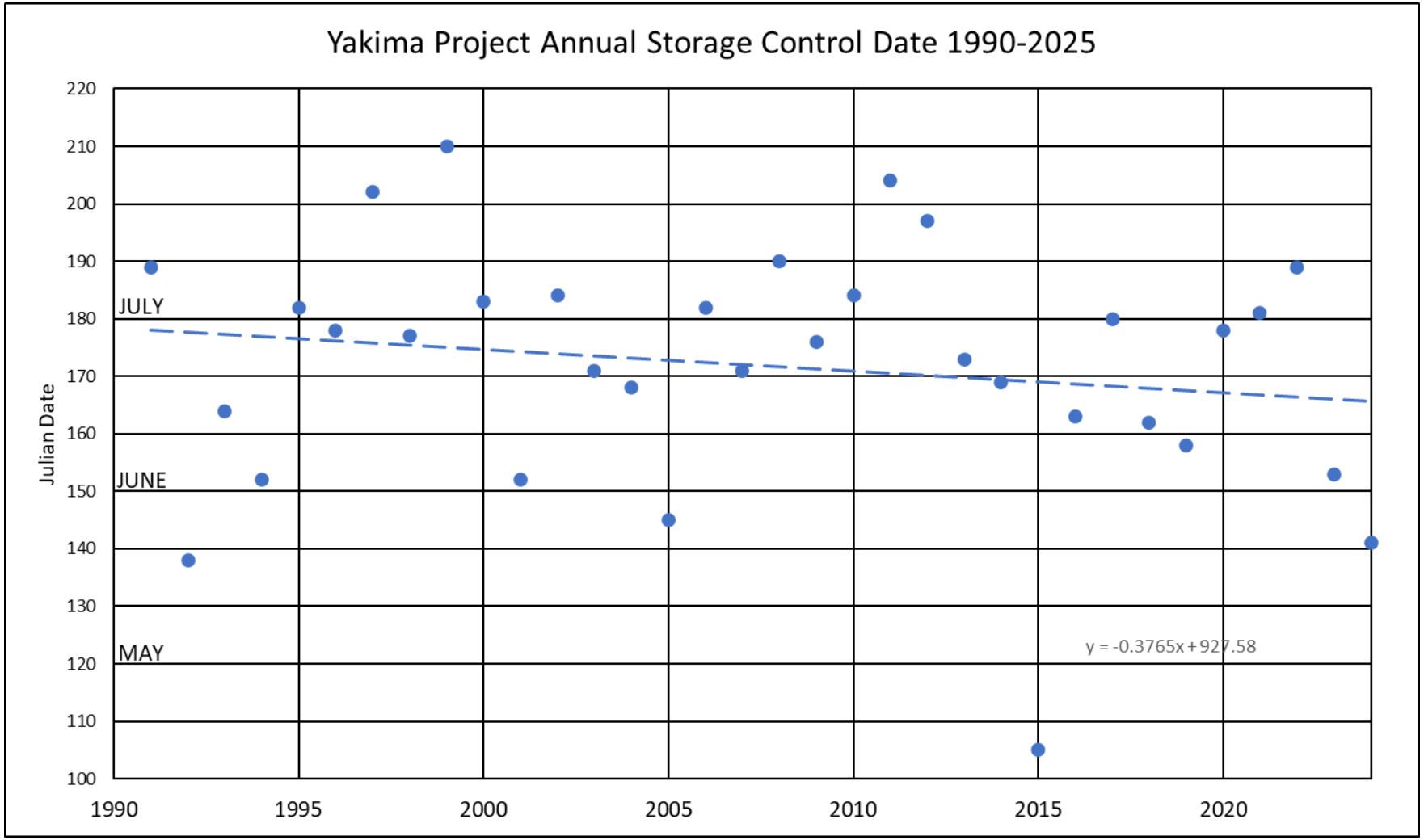
Tieton Dam passage upstream design at 30%, downstream still needs to be defined. Study was paused due to funding/prioritization of projects.

Clear Creek Dam fish ladder fully design, contracting paused until future budgets can accommodate new construction.

Permanent Fish Passage – Clear Creek Dam



Spring Pulse Flow Releases for Fish Migration in the Yakima River Basin

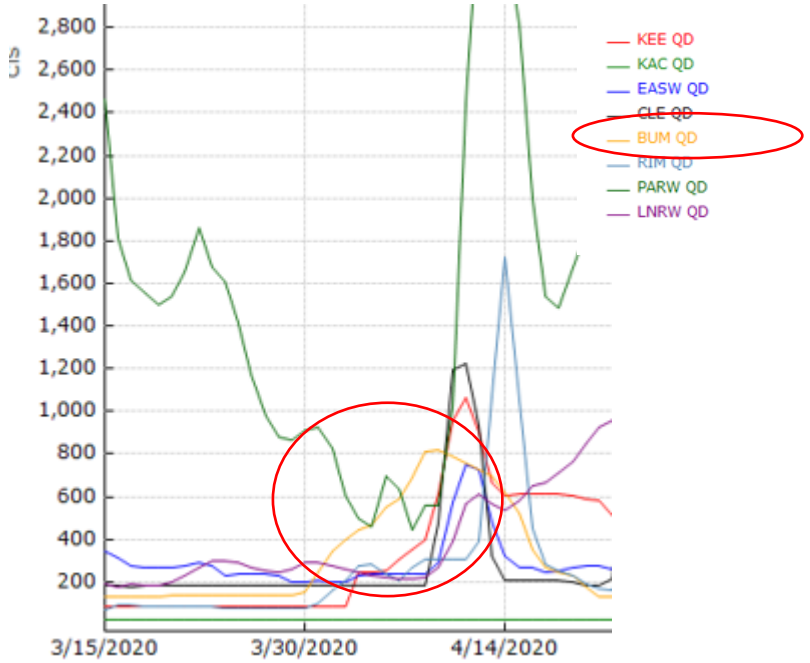


Storage Control Date is the annual date when reservoir releases exceed inflows.

Background and Methods

- Spring pulse flow timing and magnitude recommended by SOAC, approved by YFO manager, then released from reservoirs
- The volumes of pulse flows were estimated by determining when reservoir releases were increased, then subtracting the daily target flow cfs (or prior base flow) from the pulse flow cfs for each day, then summing across days
    - AF/DAY = ([Mean Q day of pulse] – [Mean Q baseflow])*1.98211
- Reservoir releases the focus rather than PARW flows because most of the time PARW supplemented by unregulated runoff
- Pulse flow sources included
    - mandatory operational spill to maintain flood space for storage
    - YRBWEP conserved water, water acquisitions, voluntary leases
    - Additional proposals to meet legal or treaty obligations
- May River Operations data for TWSA, YRBWEP were used for comparison among years
- Total flow at Parker and pulse flows calculated annually March 15-June 30

	cells in green were pulse flow releases from storage.						2020 TOTAL AF	
Pulse flow volume estimated by subtracting pre-pulse "base flow" from pulse flow amount a								
DATE	KEE QD	KAC QD	EASW QD	CLE QD	BUM QD	RIM QD	PARW QD	LNRW QD
3/15/2020	82	24	344.48	180	131	70	2467	189.38
3/16/2020	82	24	313.91	179.88	132	90	1817	177.17
3/17/2020	83	24	275.16	178.58	132	89	1615	188.43
3/18/2020	83	24	270.23	183	132	83	1557	182.51
3/19/2020	83	24	267.52	181.14	132	83	1502	184.71
3/20/2020	83	24	268.49	180.06	135	83	1540	197.94
3/21/2020	83	24	276.15	179.91	135	83	1653	229.31
3/22/2020	83	24	290.55	180	135	83	1862	267.59
3/23/2020	83	24	274.54	180	135	83	1678	295.74
3/24/2020	83	24	231.27	180	135	77	1609	298.16
3/25/2020	83	24	238.12	181.36	135	73	1419	287.05
3/26/2020	83	24	234.96	185.17	135	74	1169	266.92
3/27/2020	83	23	234.1	184.08	135	75	977	252.4
3/28/2020	83	23	226.51	183	135	75	879	246.53
3/29/2020	84	24	199.51	183	135	75	867	260.07
3/30/2020	85	24	202.26	183.09	152	75	909	289.8
3/31/2020	85	24	204.02	183	242	102	924	292.94
4/1/2020	85	24	202.25	183	344	157	828	276.26
4/2/2020	87	24	195.81	183	395	210	607	259.76
4/3/2020	246	24	226.88	183	442	276	494	244.38
4/4/2020	247	24	236.08	183	468	287	460	229.91
4/5/2020	255	24	240.71	183	550	239	698	218.67
4/6/2020	303	23	237.27	180.08	588	203	636	212.06
4/7/2020	354	24	235.45	180	685	265	442	212.92
4/8/2020	400	24	233.81	180.94	813	307	556	223.48
4/9/2020	611	24	290.1	474.55	817	307	561	271.14
4/10/2020	960	24	574.02	1195.21	787	307	1027	388.38
4/11/2020	1065	24	753.04	1224.3	756	307	2450	563.9
4/12/2020	906	24	730.42	930.32	725	392	3370	612.72
4/13/2020	662	24	478.89	322.58	695	1072	3275	564.19
4/14/2020	605	24	321.44	205.12	622	1720	3229	534.99
4/15/2020	613	24	270.21	207.27	522	1048	2810	579.5
4/16/2020	614	25	269.74	205.46	354	455	1994	649.09
4/17/2020	615	25	245.39	205.5	271	283	1536	663.34
4/18/2020	613	25	249.97	204.39	245	250	1485	714.56



Not all flow increases from reservoirs were included in pulse flow calculations. For example, Bumping Reservoir outflow started increasing 3/30 to make space for flood control, but the pulse flow at Parker was to coincide with a natural increase in flow that peaked on 4/13. Therefore, the Bumping pulse flow release accounting started on 4/7 through 4/17 (cells in green).

2020

In 2020 there was a significant amount of spring snowpack above the reservoirs but very little low elevation snow. Reservoirs were expected to fill and spill was available for pulse flow recommendations, which were a significant portion of flow over Parker that year.

Total for pulse flows: 106,710 af

Total flow at PARW: 415,252 af

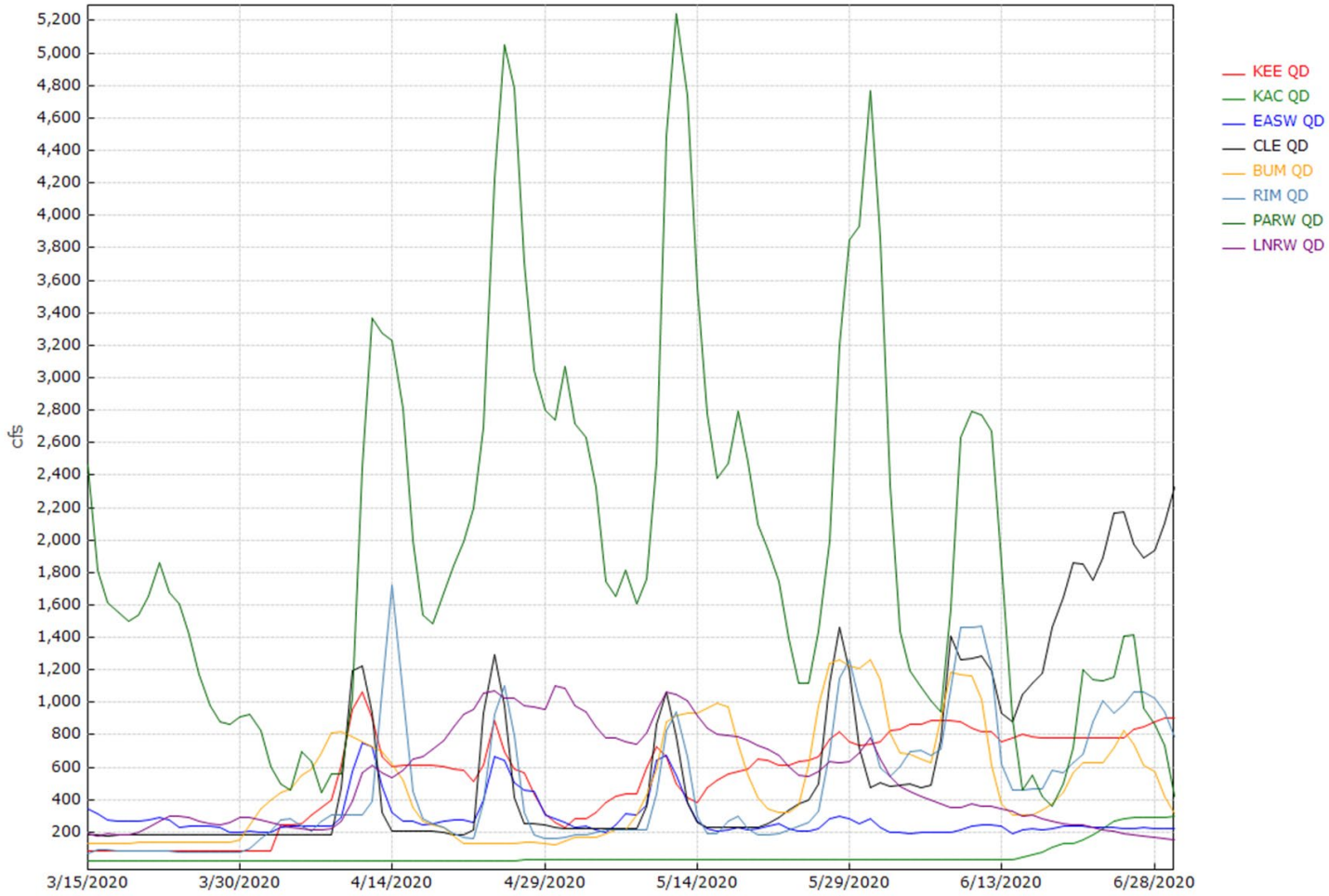
% of PARW from pulse flows: 26%

YRBWEP PARW target: 300 cfs

May TWSA: 2.31 maf

May prorationing: 91%

Storage control date: 27-June



Preliminary Data Do Not Cite

2022

In 2022 the water supply was above average. Pulse flow releases occurred in mid-April to mid-May. After that reservoir operations passed inflows and maintained adequate space for flood control but did not make deliberate pulse flow releases.

Total for pulse flows: 52,256 af

Total flow at PARW: 1,083,320 af

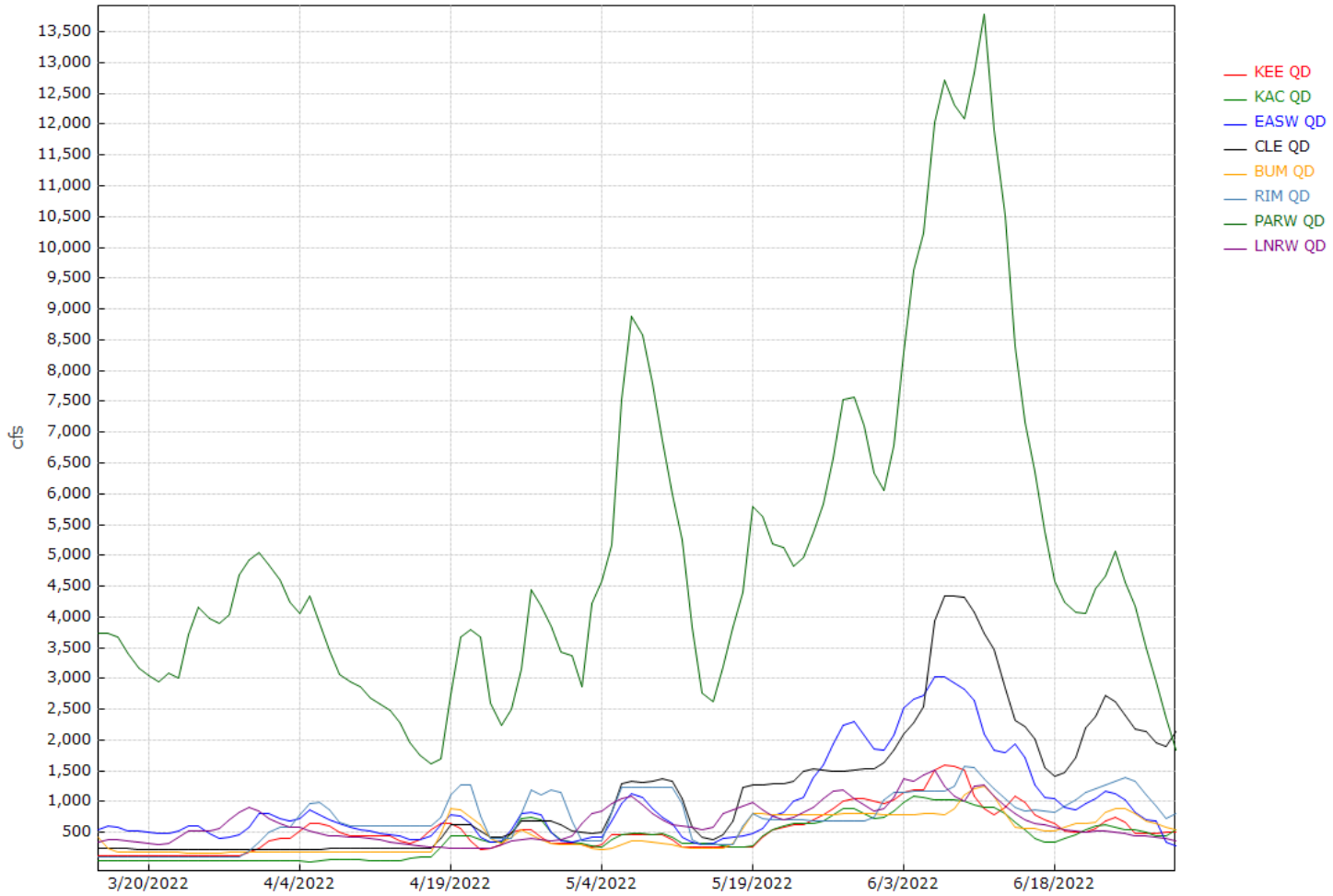
% of PARW from pulse flows: 5%

YRBWEP PARW target: 500 cfs

May TWSA: 2.78 maf

May prorationing: 100%

Storage control date: 8-July



Preliminary Data Do Not Cite

2024

In 2024 drought conditions persisted starting in fall and during the winter. Pulse flows occurred throughout the spring to coincide with natural runoff events.

Total for pulse flows: 50,422 af

Total flow at PARW: 370,230 af

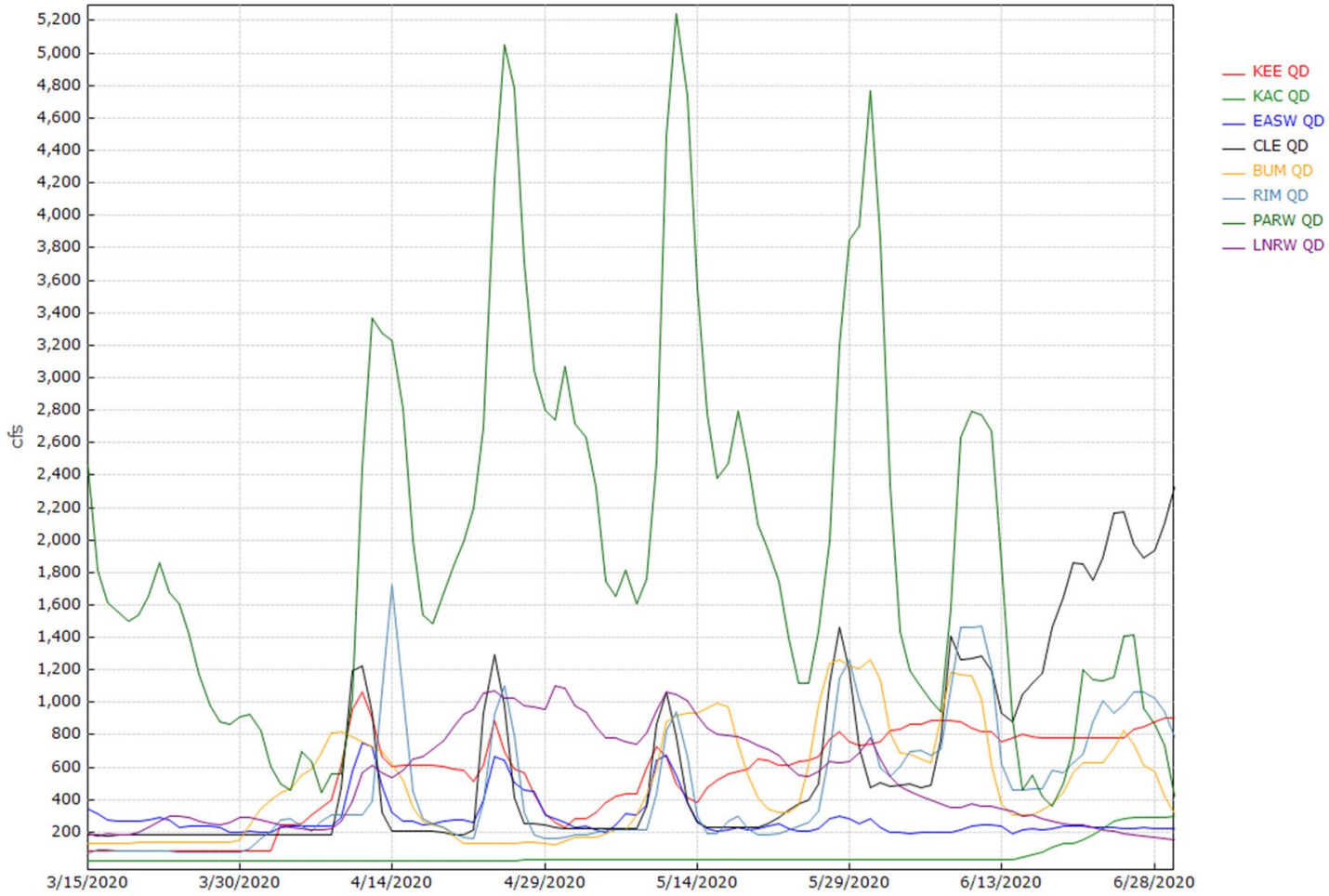
% of PARW from pulse flows: 14%

YRBWEP PARW target: 300 cfs

May TWSA: 1.81 maf

May prorationing: 54%

Storage control date: 21-May



Preliminary Data Do Not Cite

Other Activities

- Water Stargrass growth can compromise fish passage facilities
- Chandler/Prosser fish passage and survival
- Wapato Dam fish passage and survival
- Cle Elum Dam Fish Passage Construction Recovery (Lopez)
- System Operations Advisory Committee and pulse flows
- Post-construction studies of fish passage and operations at Cle Elum and Roza
- KAC SOD completed
- Grants, contracts, agreements