Contact: Wendy Christensen, 509-573-8050 **Tom Tebb, 509-575-3989**

Agenda
Yakima River Basin Water Enhancement Project Workgroup Meeting

City of Richland Public Library, Large Conference Room: 955 Northgate Dr., Richland, WA
June 5, 2024; 9:30 AM to 12:30 PM

9:30 – 9:40	Welcome/Introductions and Agenda Overview *Jamie Mooney, HDR*
9:40 – 9:50	YBIP Executive and Implementation Committee Updates *Wendy Christensen, Reclamation and Tom Tebb, Ecology*
9:50 – 10:05	2024 Water Supply Update - Carryover Storage *Chad Stuart and Chris Lynch, Reclamation*
10:05 – 10:35	Drought Economic Impacts Model *Jaclyn Hancock and Madi Roy, Washington Department of Agriculture*
10:35 – 11:05	Lower River Fish Passage Update – Prosser/Chandler and Yakima Delta Restoration *Jason McShane, KID; Mike Livingston, WDFW; Richard Visser, Reclamation; Cindy Boen, USACE*
11:05 – 11:15	Public Comment[1]
11:15 – 11:30	***Break***
11:30 – 12:00	Springwood Ranch *Peter Dykstra, Trust for Public Land (representative); Urban Eberhart, Kittitas Reclamation District, Cory Wright, Kittitas County; Mike Livingston, WDFW*
12:00 – 12:30	Roundtable Discussion/Recognition – Workgroup Members *Jamie Mooney, HDR*

12:30 – Adjourn

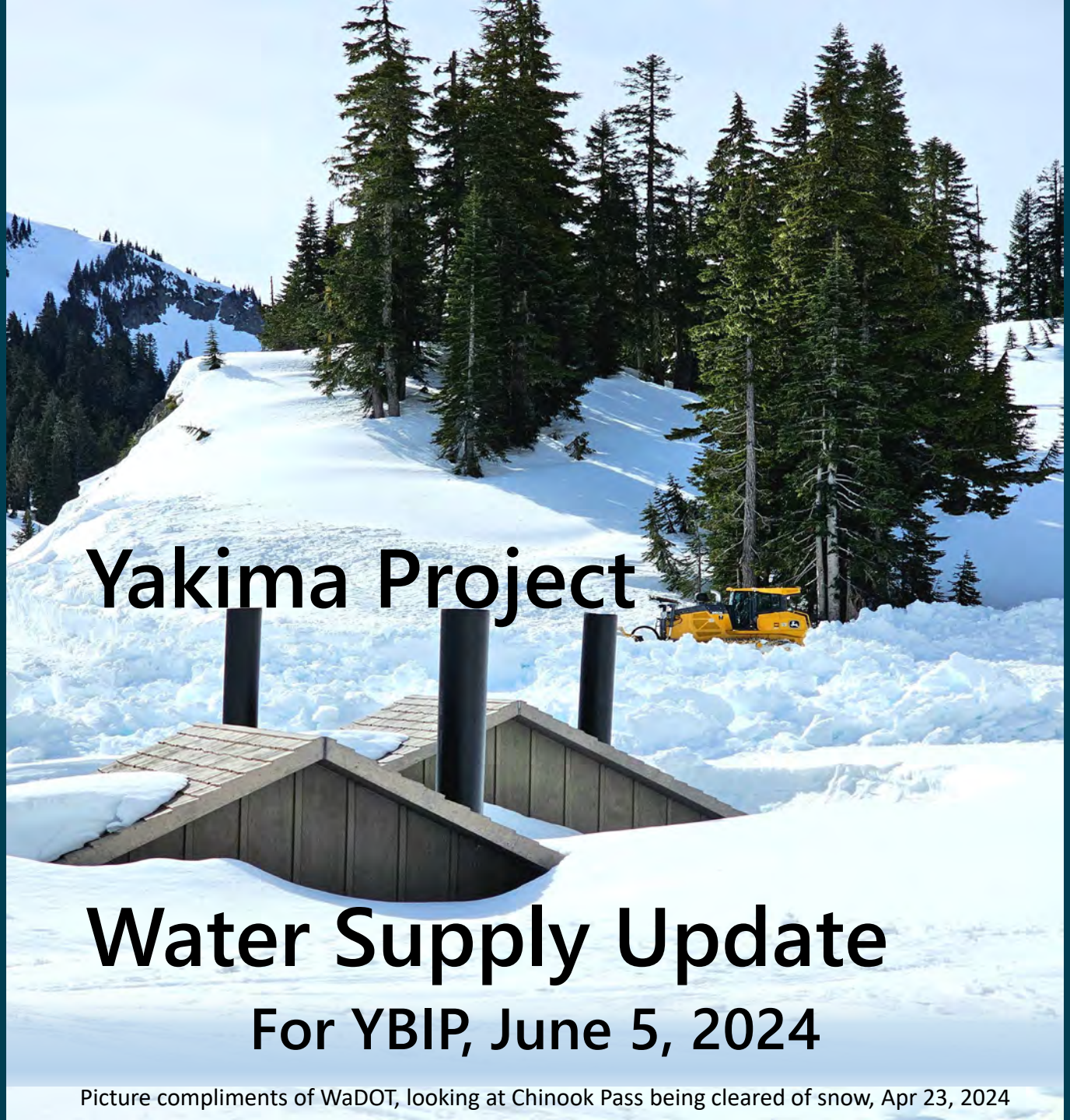
2024 YRBWEP Workgroup Meetings –September 11 (Toppenish), December 13 (Yakima)

For additional information, see the reports and documents available at this link:
http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/index.html

Link to the 2024 YRBWEP Teams Meeting

Meeting ID: 249 981 623 496
Passcode: ynv3fi

[1] Those wanting to provide public comment can do so during the designated agenda item. Each commenter will be limited to 2 – 3 minutes for comments (depending upon number of commenters) to maintain meeting schedule. Additional written material can be submitted with comments for inclusion in the meeting notes. Previously provided comments are noted and not necessary to repeat.

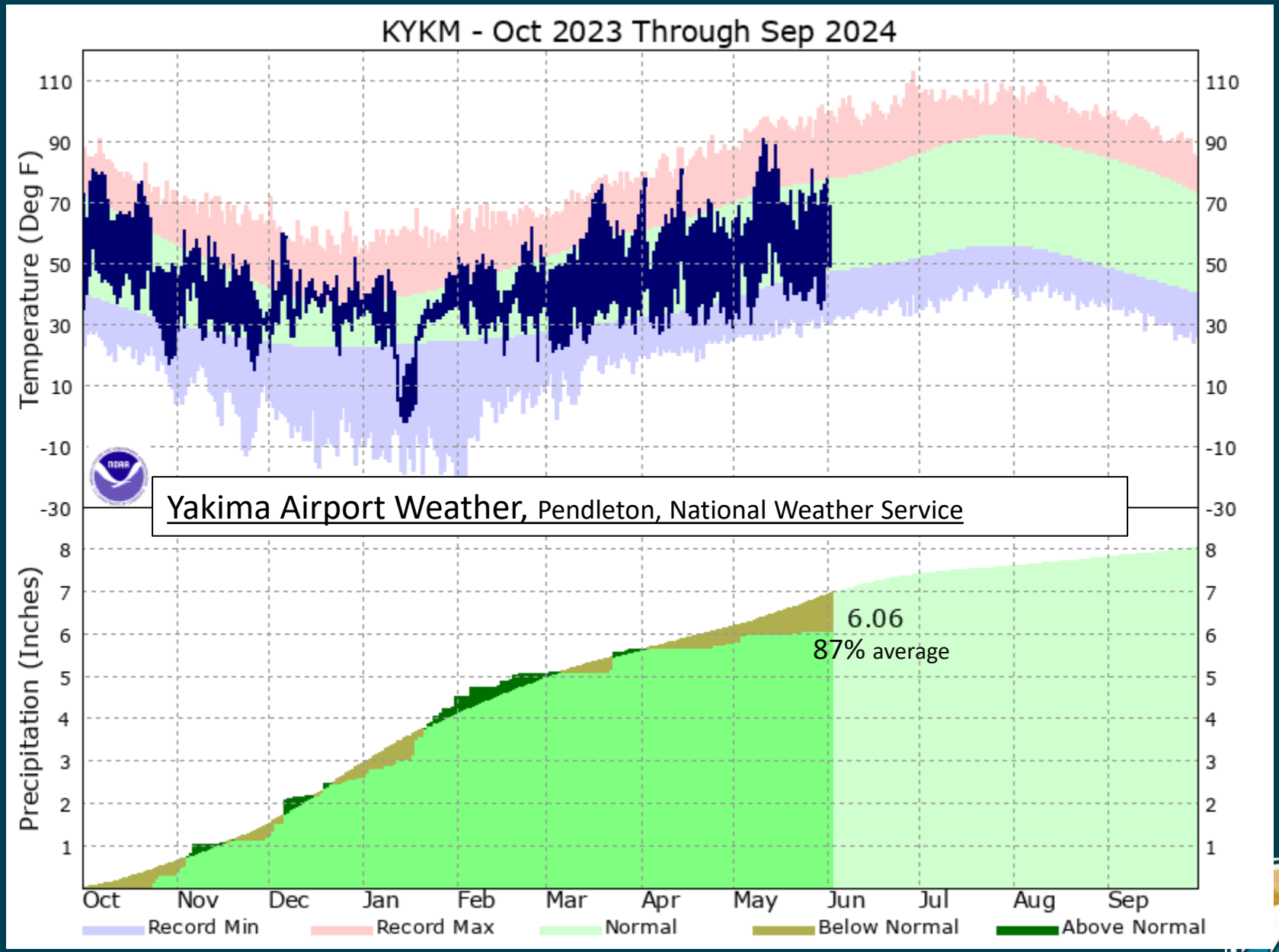


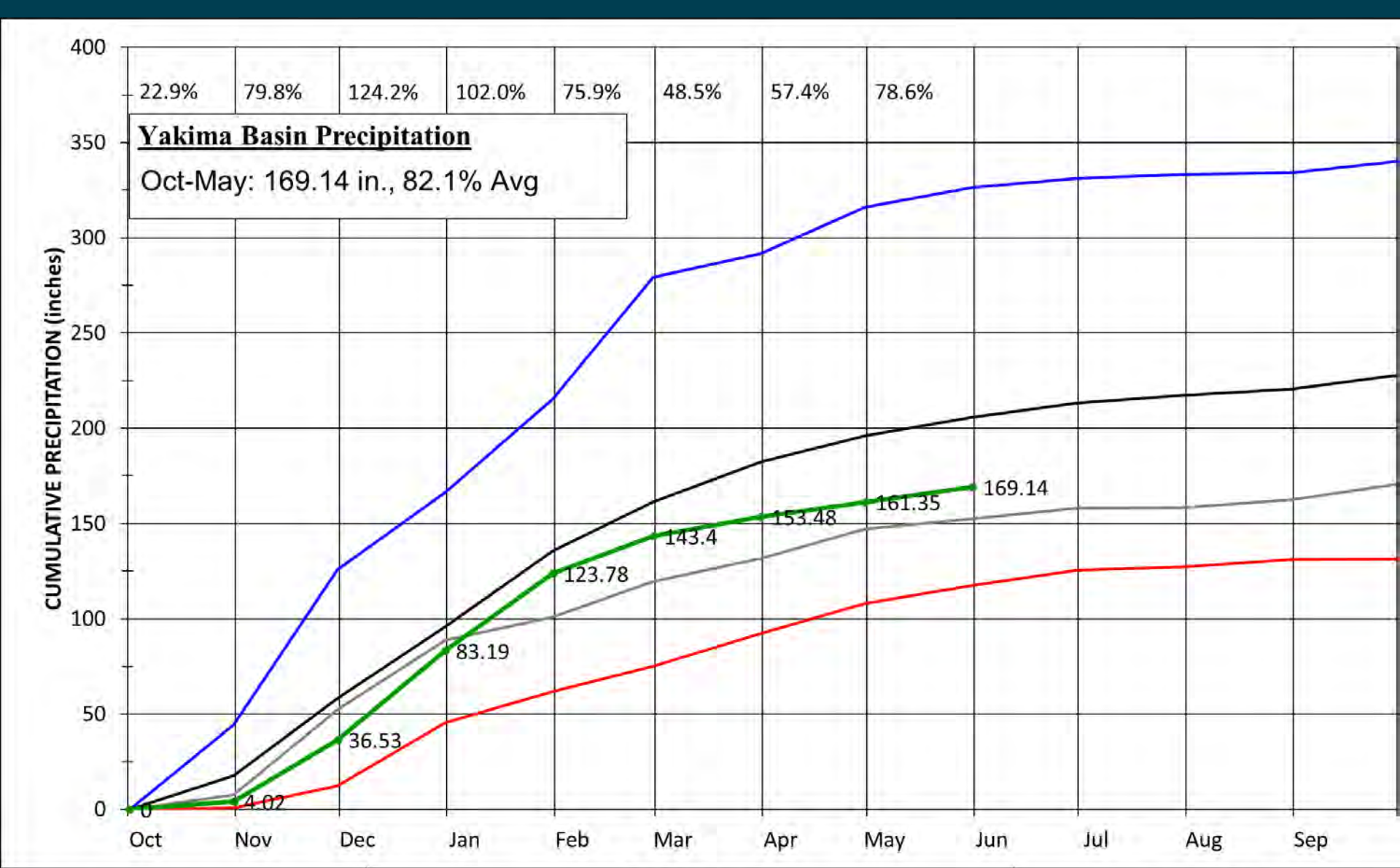
Yakima Project

Water Supply Update

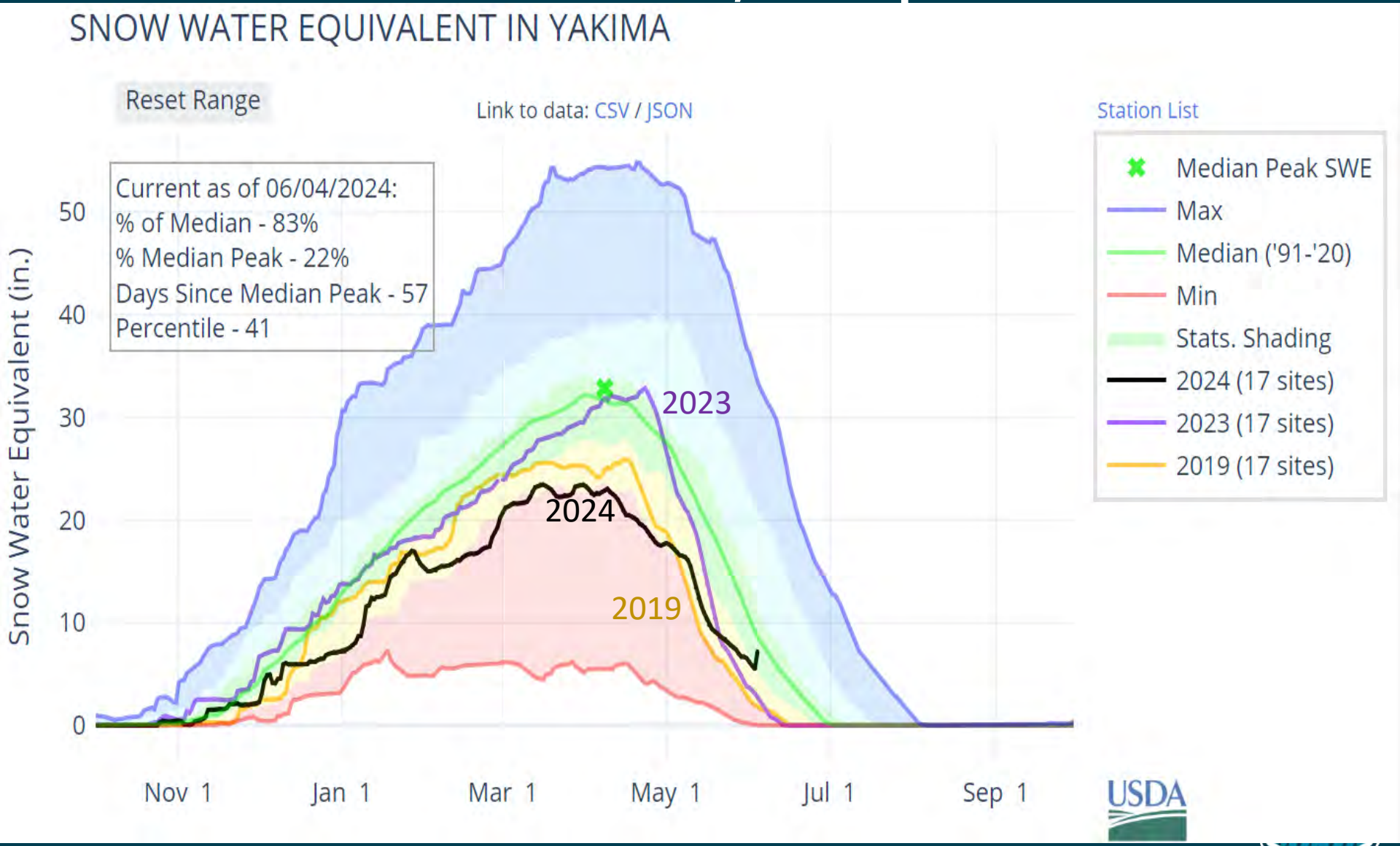
For YBIP, June 5, 2024

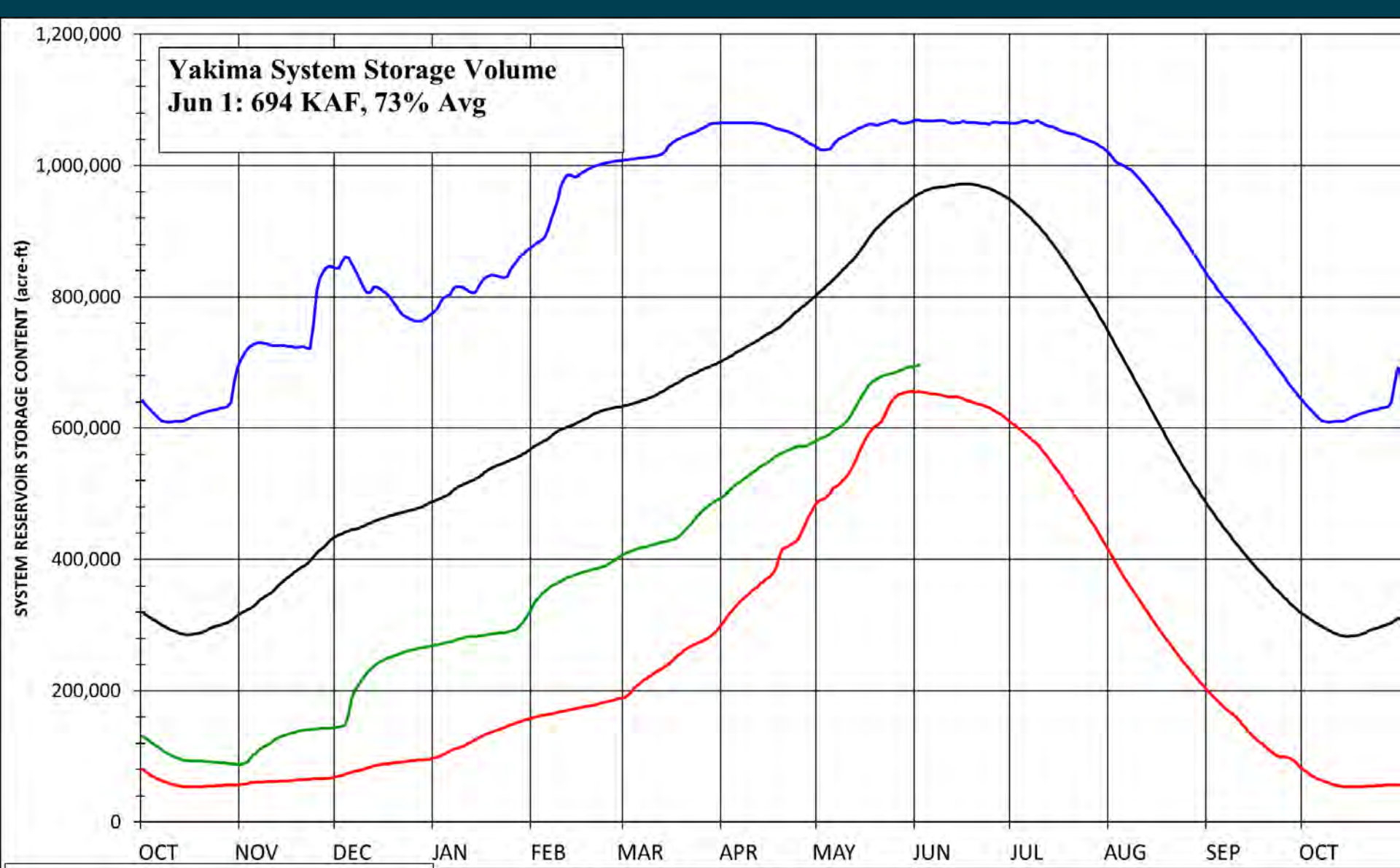
Picture compliments of WaDOT, looking at Chinook Pass being cleared of snow, Apr 23, 2024


KYKM - Oct 2023 Through Sep 2024
Temperature (Deg F)
110
90
70
50
30
10
-10
-30
Yakima Airport Weather, Pendleton, National Weather Service
Precipitation (Inches)
8
7
6
5
4
3
2
1
6.06
87% average
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Record Min
Record Max
Normal
Below Normal
Above Normal


22.9%
79.8%
124.2%
102.0%
75.9%
48.5%
57.4%
78.6%
Yakima Basin Precipitation
Oct-May: 169.14 in., 82.1% Avg
CUMULATIVE PRECIPITATION (inches)
400
350
300
250
200
150
100
50
0
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
0
4.02
36.53
83.19
123.78
143.4
153.48
161.35
169.14
Maximum
Average
Minimum
WY2023
WY 2024
YAKIMA BASIN
Combined Cumulative Precipitation
5 Reservoir Sites
WATER YEARS 1981-2010
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
YAKIMA FIELD OFFICE
1917 MARSH ROAD
YAKIMA, WA 98901

Yakima Basin SNOTEL, Comparison Years





YAKIMA PROJECT STORAGE
MEAN DAILY RESERVOIR VOLUME
SUMMARY HYDROGRAPH
WATER YEARS 1991-2020

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
YAKIMA FIELD OFFICE
1917 MARSH ROAD
YAKIMA, WA 98901

Low Reservoir Storage

	Yak System
	Cle+Kee+Kac+Rim+ Bum
1994	655227
2001	682238
2024	694171
1993	797124
1988	817182
1999	843803
2019	857974
2005	861625
1987	880612
2006	885252
2010	886366
1997	903730
2008	904107
1992	908311
2004	920084
2023	928171
1982	929007
1985	935896

	Upper Yakima
	Cle+Kee+Kac
2024	495353
2001	498618
1994	499074
1993	605120
1988	606848
2005	630299
2006	654672
1987	662411
1999	663278
2019	672087
2010	681215
2004	691151
2008	695761
2023	696972
1992	703210
1982	710668
1997	713999
2015	731987

May 1, 2024 TWSA ESTIMATE Comparison

May 1 - September 30

Parameter	"+/-/="	Mar's 2024	Apr 2024	May 2024
Apr 1-Sep 30 Natural Flow at Parker est.	+	1664	1502	948
Return Flow Estimate	+	320	320	285
April 1, Reservoir Content	+	476	493	580
TWSA	=	2460	2315	1813
SEP 30 EST RESERVOIR CONTENT*	-	76	76	76
FLOW OVER SUNNYSIDE DAM	-	420	380	200
TWSA FOR IRRIGATION	=	1964	1859	1537
NONPRORATABLE ENTITLEMENT	-	1070	1070	909
REMAINING TWSA	=	894	789	628
YRPW-KID		3	10	15
PRORATABLE ENTITLEMENT		1239	1239	1145
% RATIO= REMAINING TWSA/PRORATABLE ENTITLEMENT		72%	63%	54%
TITLE XII FLOW REQUIREMENTS, cfs	**April**	300	300	300
TOTAL FLOW AVAILABLE AT PARKER, cfs *#*		387	385	405

*Values are in 1,000 ac-ft unless otherwise specified.

State & YRBWEP Trust, Acquisition, & Conservation additions to Title XII flow.

Hydrologic Summary

- Yakima Reservoir Storage 703 KAF, 66% full, 73% avg.
- 3rd lowest on record for System Reservoirs
- Lowest on record for Upper Yakima Reservoirs.
- Four months of below average precip, Feb-May
- Prorationing is 54%* (*to be updated June 6)
- Title XII flow is 300 cfs plus 36 cfs, very low.
- Pulse flows released from storage using acquired waters
- Cle Elum Reservoir Helix is being commissioned

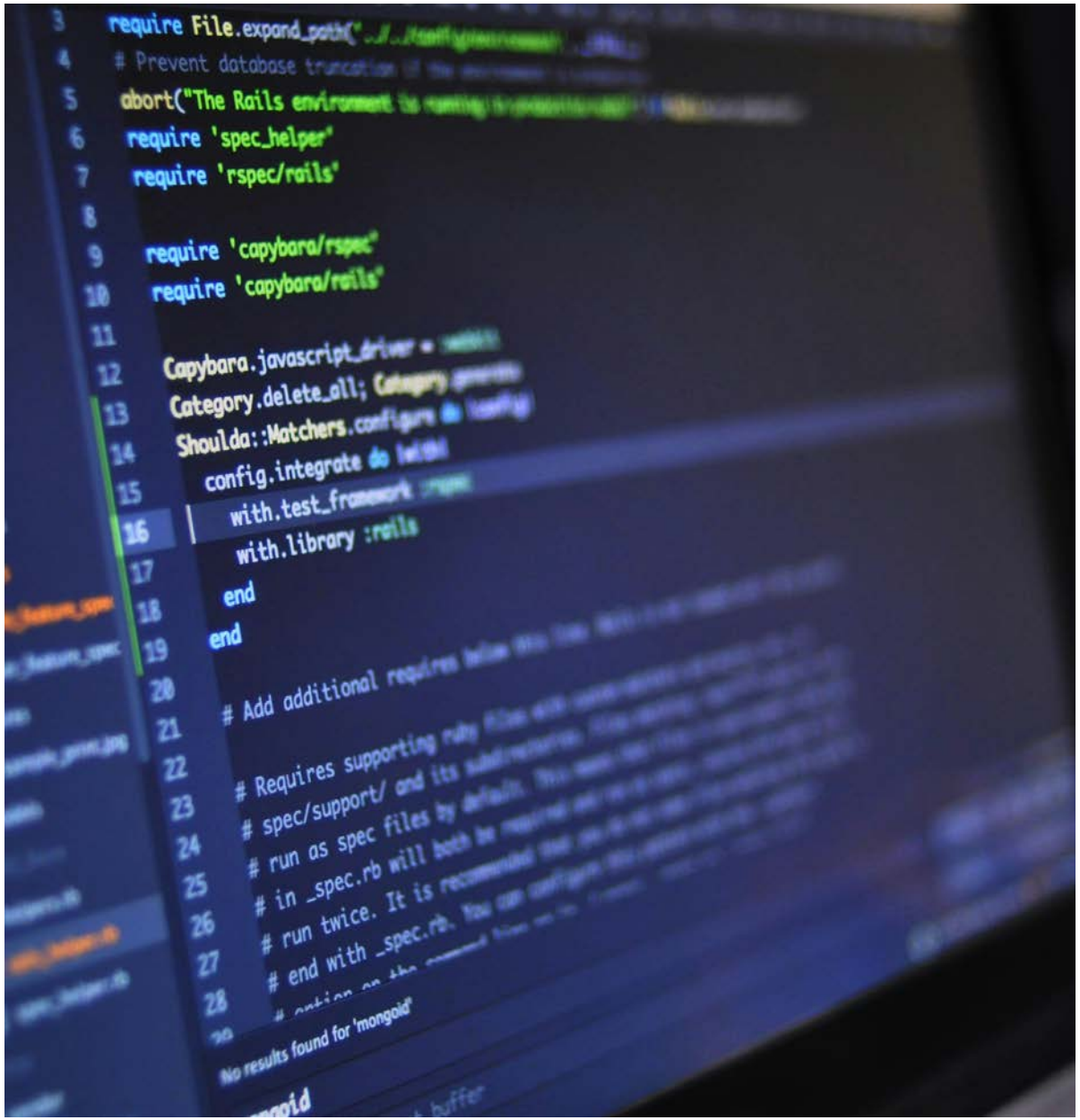
Drought Assessment Tool Deployment in the Yakima Basin

Presented By: Jaclyn Hancock

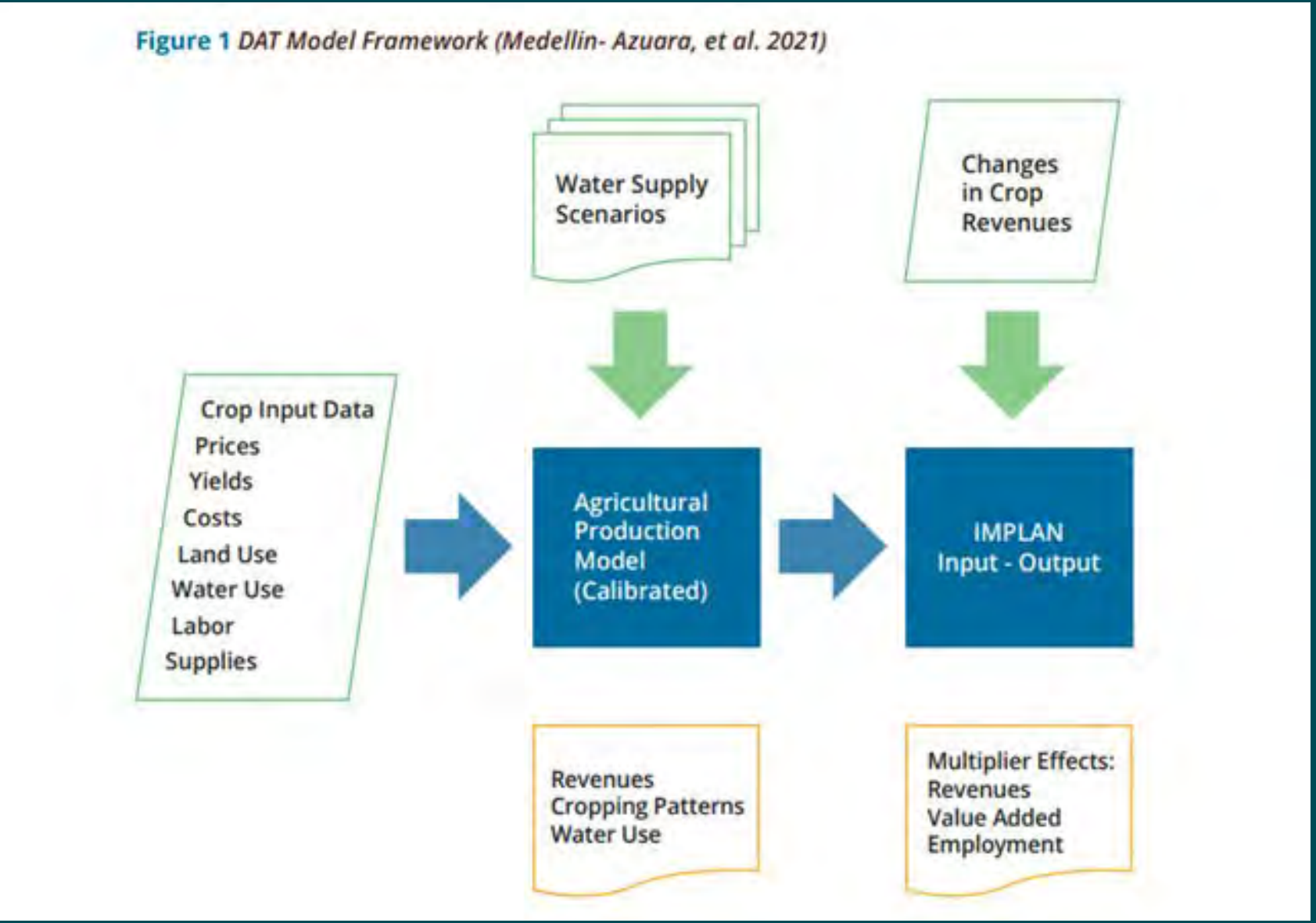
Washington State Department of Agriculture

Agenda

- DAT capabilities and intended uses
- First scenarios and input from partners
- Results of first study
- Connection to YBIP elements



Model Framework



Scope and limitations

This model provides insight into the magnitude of impact at the regional and commodity level

Drought impacts will vary by crop, location, farm, and field.

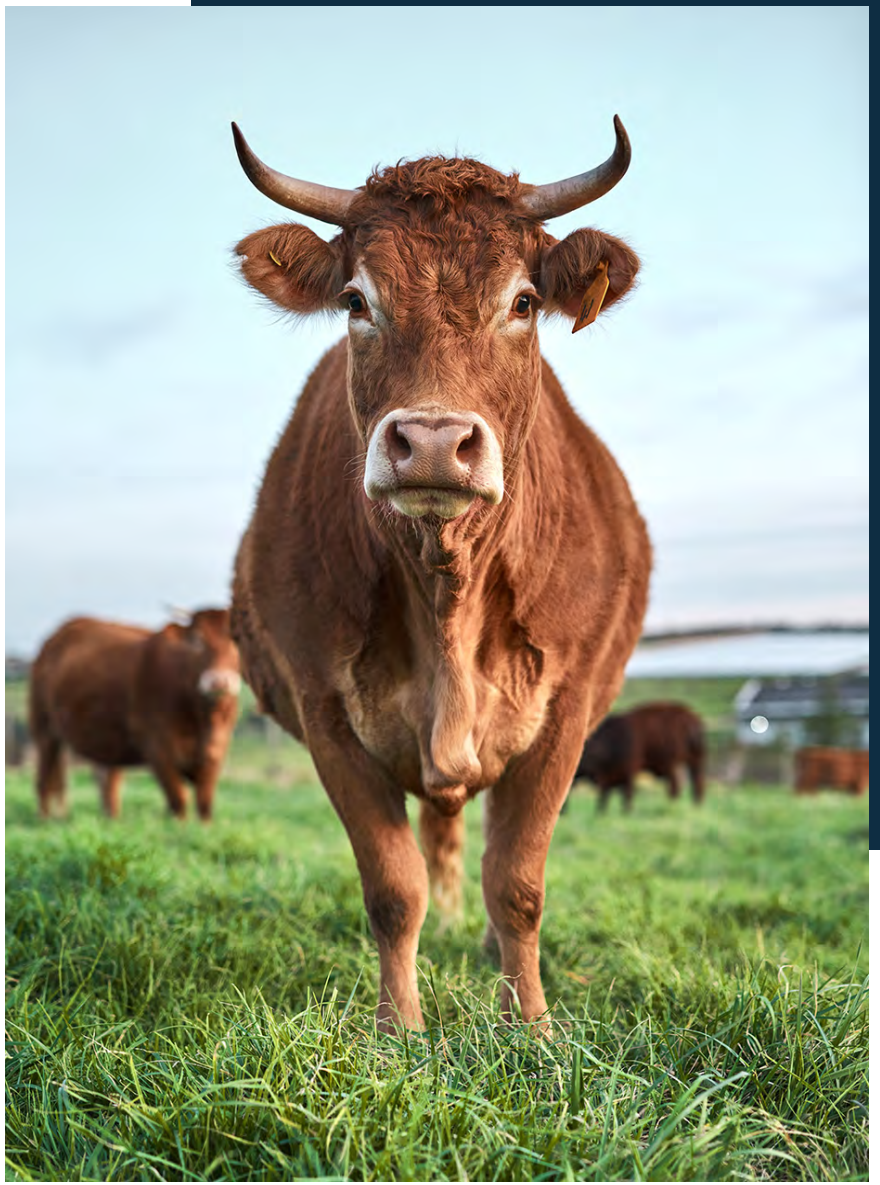
Terminology

Direct effects- monetary impact of reduced water supply on agricultural producers.

Indirect effects- monetary impact of reduced expenses from agriculture to the sectors that supply goods and services

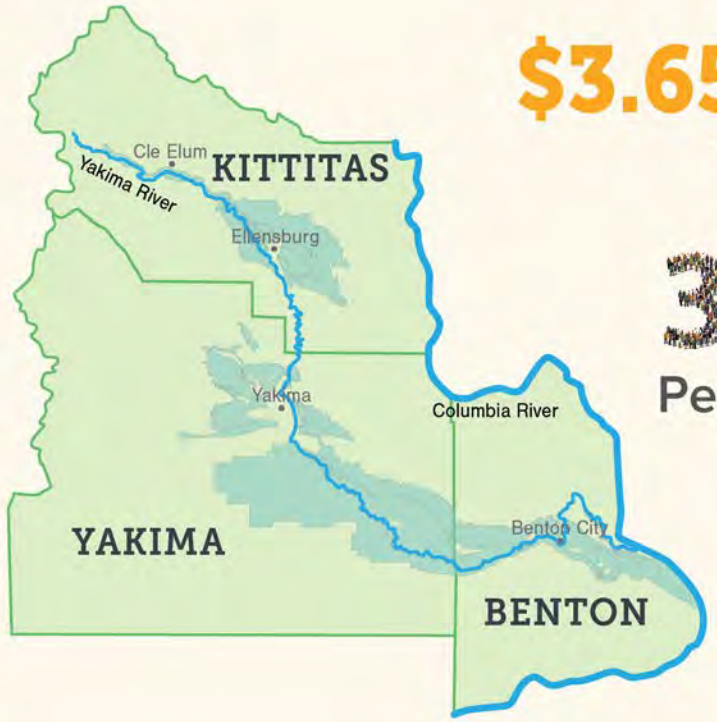
Induced effects- ripple effects of reduced spending from households reliant on agriculture for income.

Total losses- losses to the whole region's economy. Direct, indirect, and induced



Agriculture in Yakima- Producer Value

In times of drought, many irrigators in the Yakima Basin do not receive their full water supply. These irrigators account for 58% of Yakima Basin agricultural value. This makes the region especially vulnerable to economic and environmental impacts of drought.



$3.65 Billion

Total Revenue*

33,973

People Employed

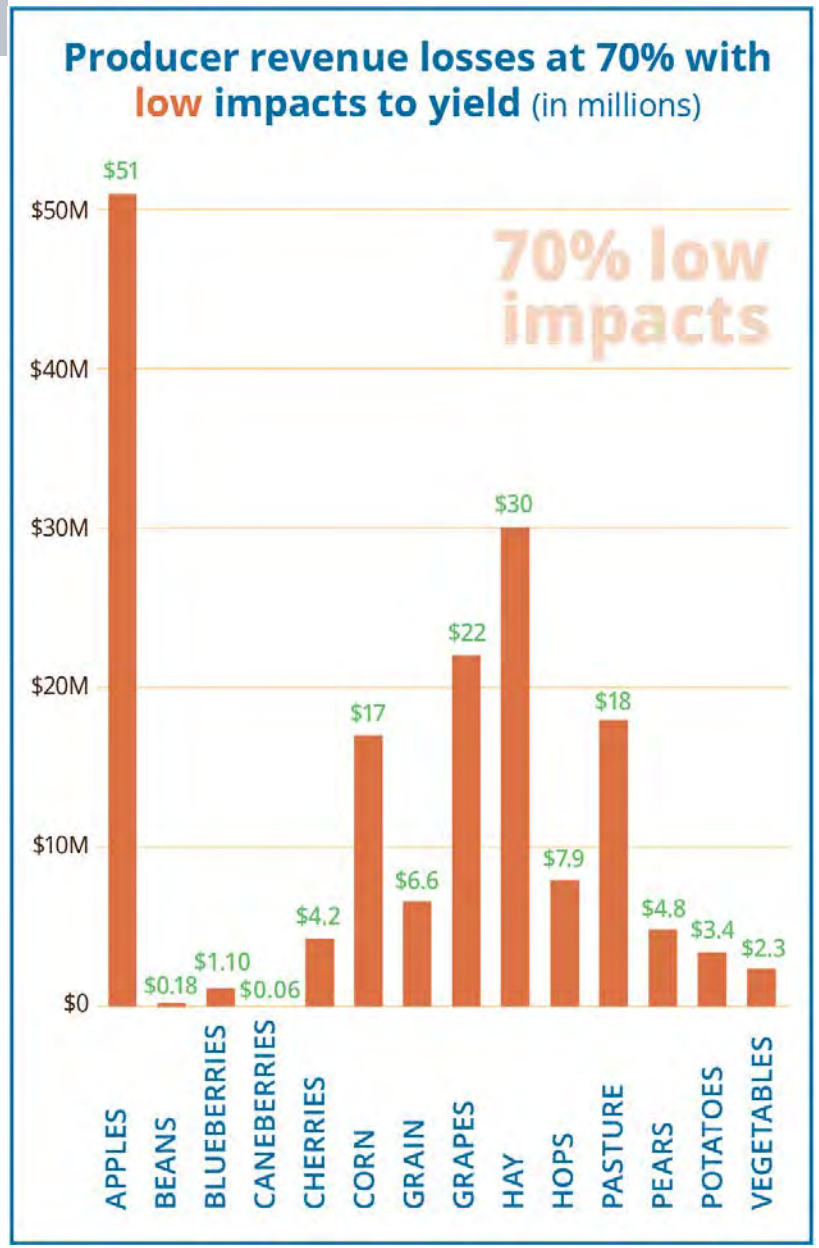
First Deployment

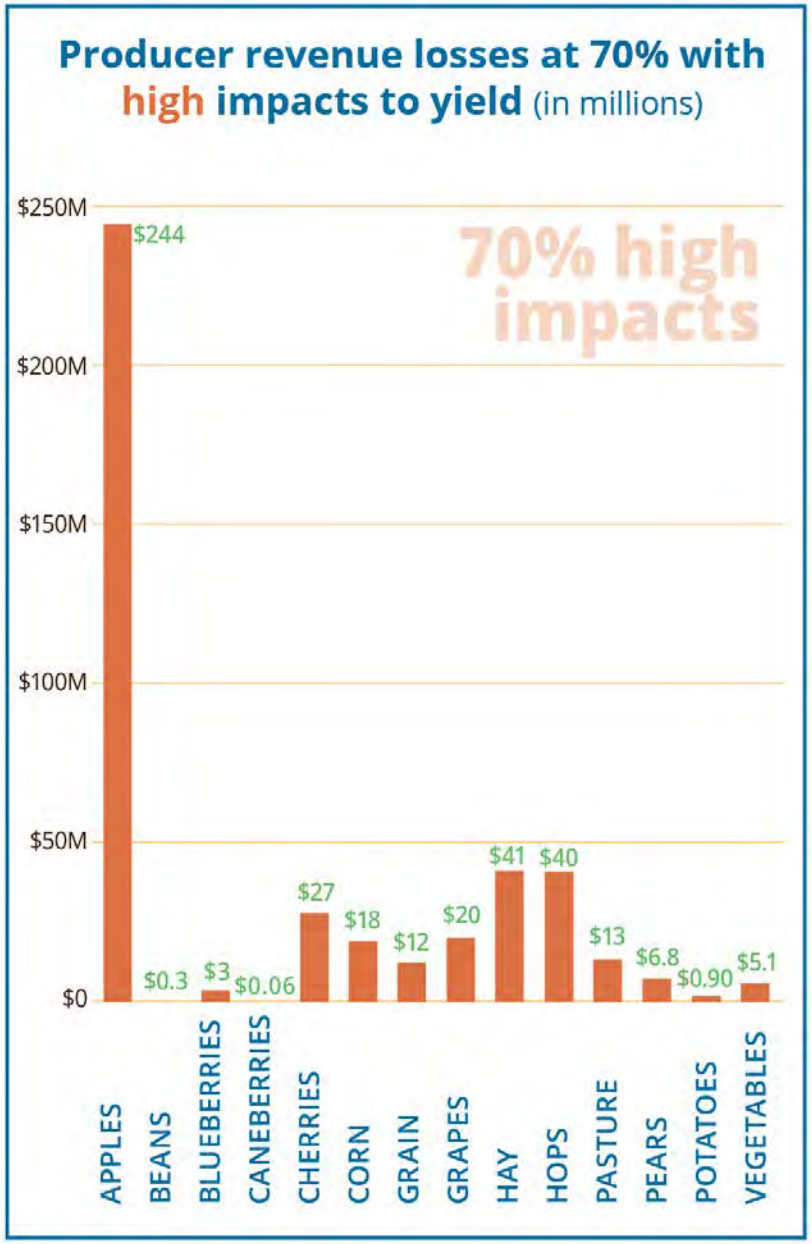
What is the value gained from increasing water supply to 70% from 50%?

- Yakima basin pro-ratable districts
- 4 model runs
  - 50% water: high and low yield impact
  - 70% water: high and low yield impact
- YBIP goal of increased surface water storage

Stakeholder Engagement

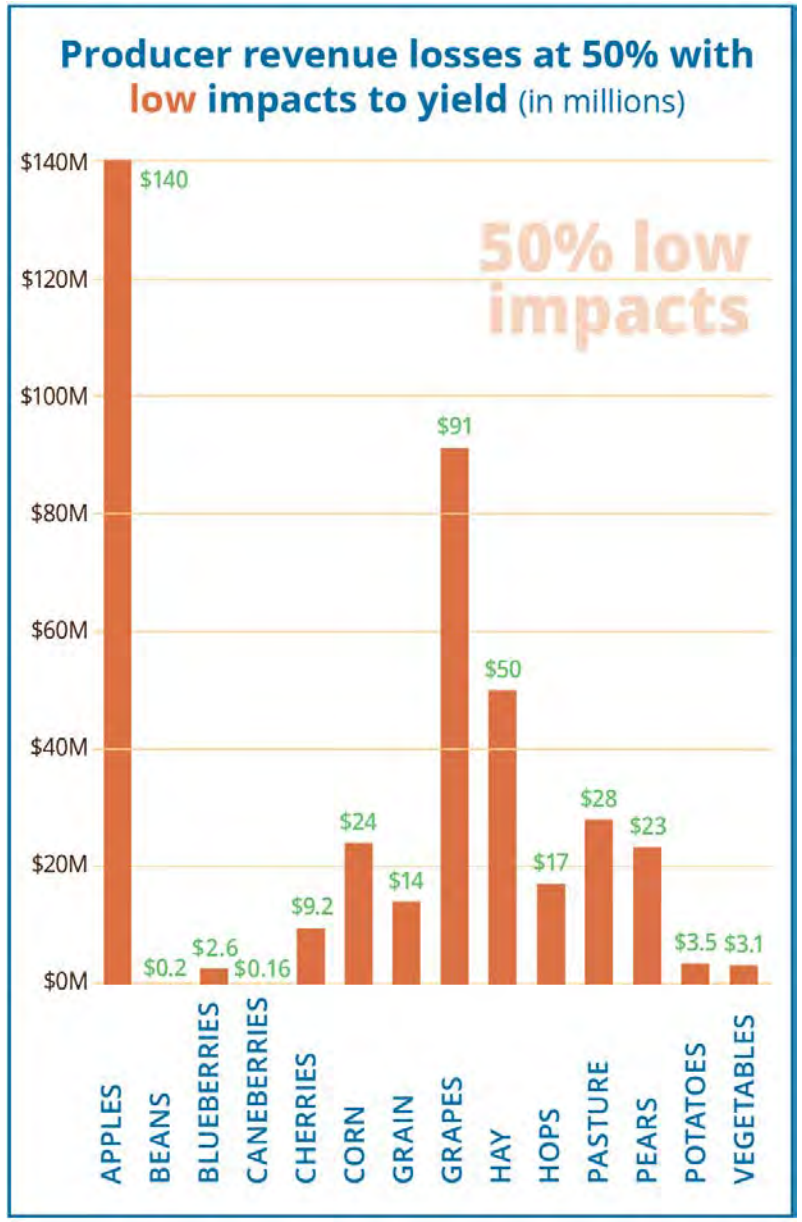
70% Scenarios

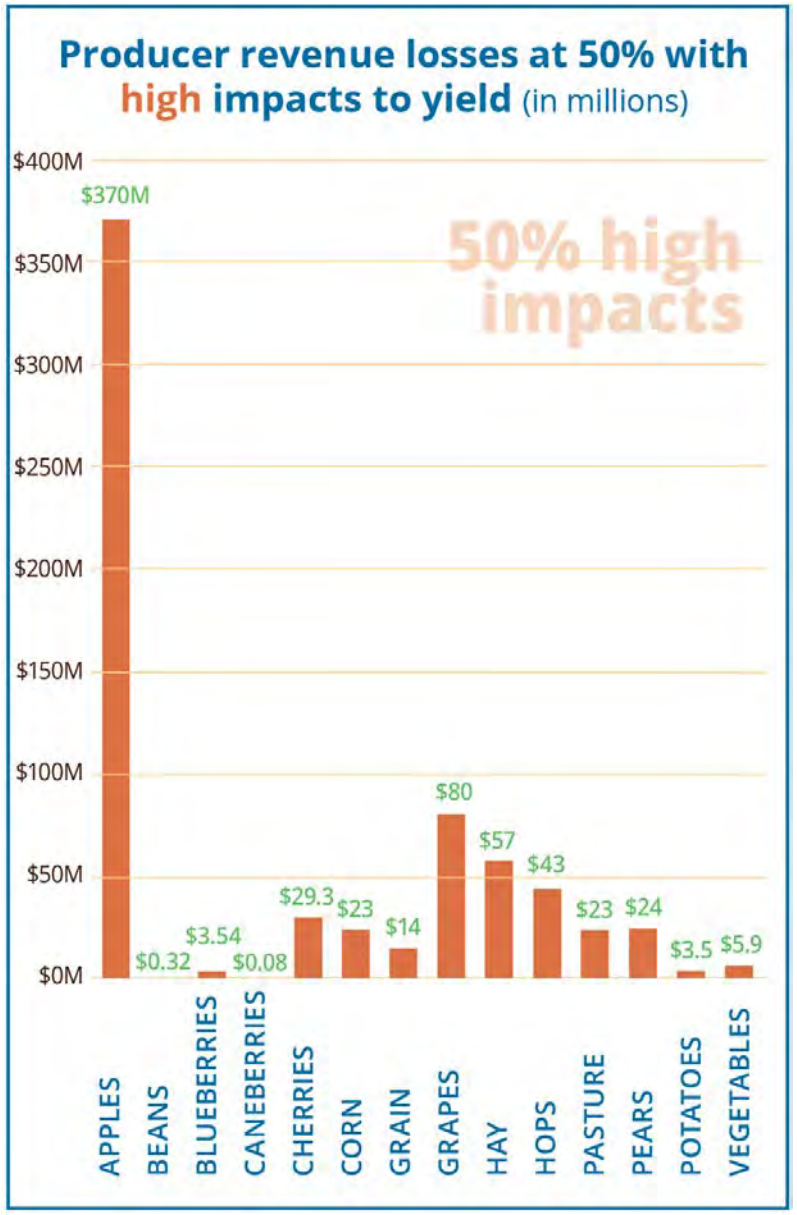




- Direct losses $161-$424 million
- Total impact up to$704 million
- Up to 6,539 jobs lost

50% Scenarios





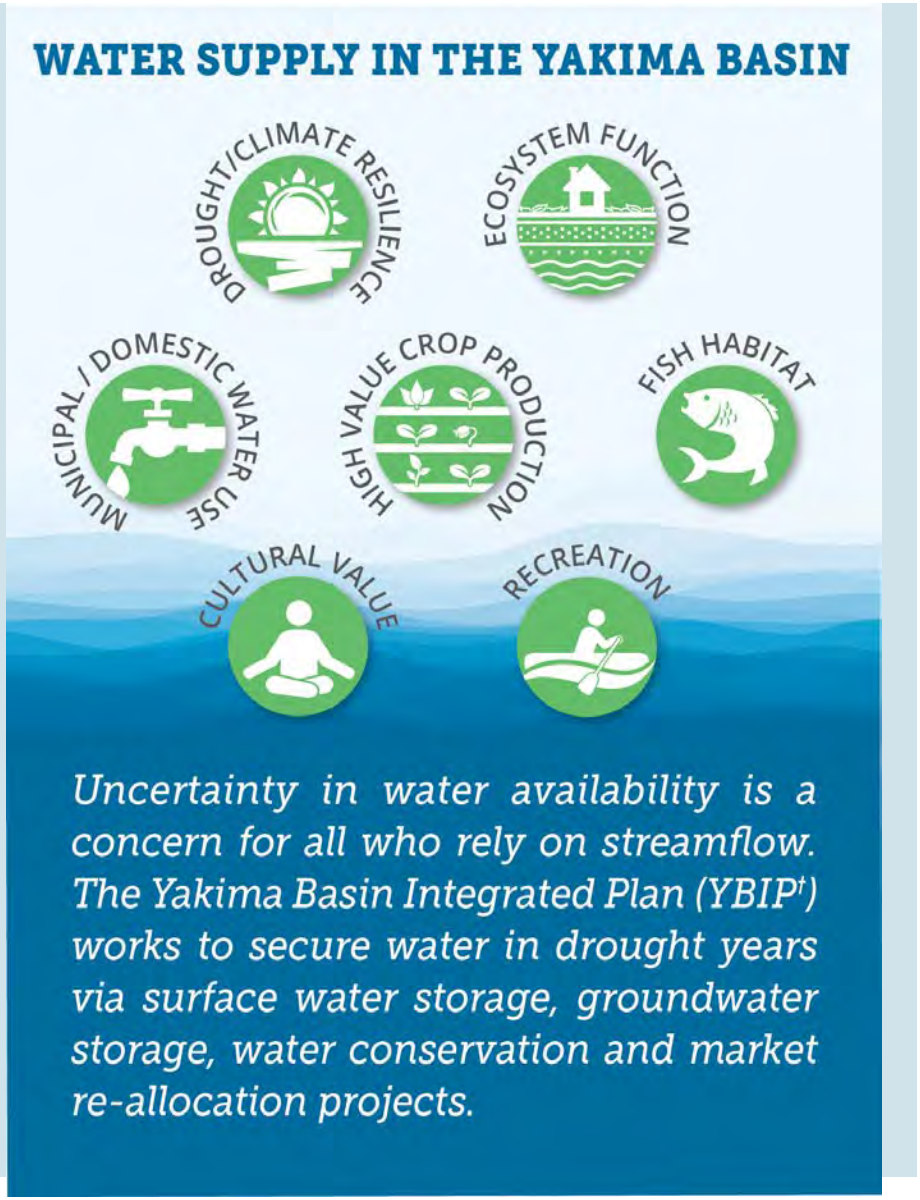
- Direct losses $397-$668 million
- Total impact up to $1.1 billion
- Up to 10,309 jobs lost

Potential Savings from YBIP

- If YBIP goal to secure 70% water supply for proratable users is met

	Direct	Total Impact
Revenue (in millions)		
Value-added (in millions)		
Jobs		

Need and Implications



- Ag sector value in terms others understand
- Support infrastructure investments
- Demonstrate that there are impacts at 70% water supply
- Reflect on potential impacts of back to back droughts

Questions

Contact Us

Jaclyn Hancock

Water Resources Scientist

jhancock@agr.wa.gov

Madi Roy

Agricultural Economist

MMRoy@agr.wa.gov

Agr.wa.gov/agscience

ROZA

IRRIGATION DISTRICT

Roza Irrigation District Overview

✓ 72,000 irrigated acres over 95 miles w/ 450 miles of canals.

✓ Total crop value of $1.5 billion +/- on mostly 2nd and 3rd generation family farms.

✓ 300+ miles of canals piped since 1983

✓ $85M+ in water conservation ($50M+ Roza funded)

✓ $4.1M drought fund (now drained!)

Keechelus Reservoir at 5% Oct 2023

ROZA IRRIGATION DISTRICT

How it started....

ROZA
IRRIGATION DISTRICT

How its going….

ROZA
IRRIGATION DISTRICT

A picture is worth…100,000 bins of Honey Crisps!

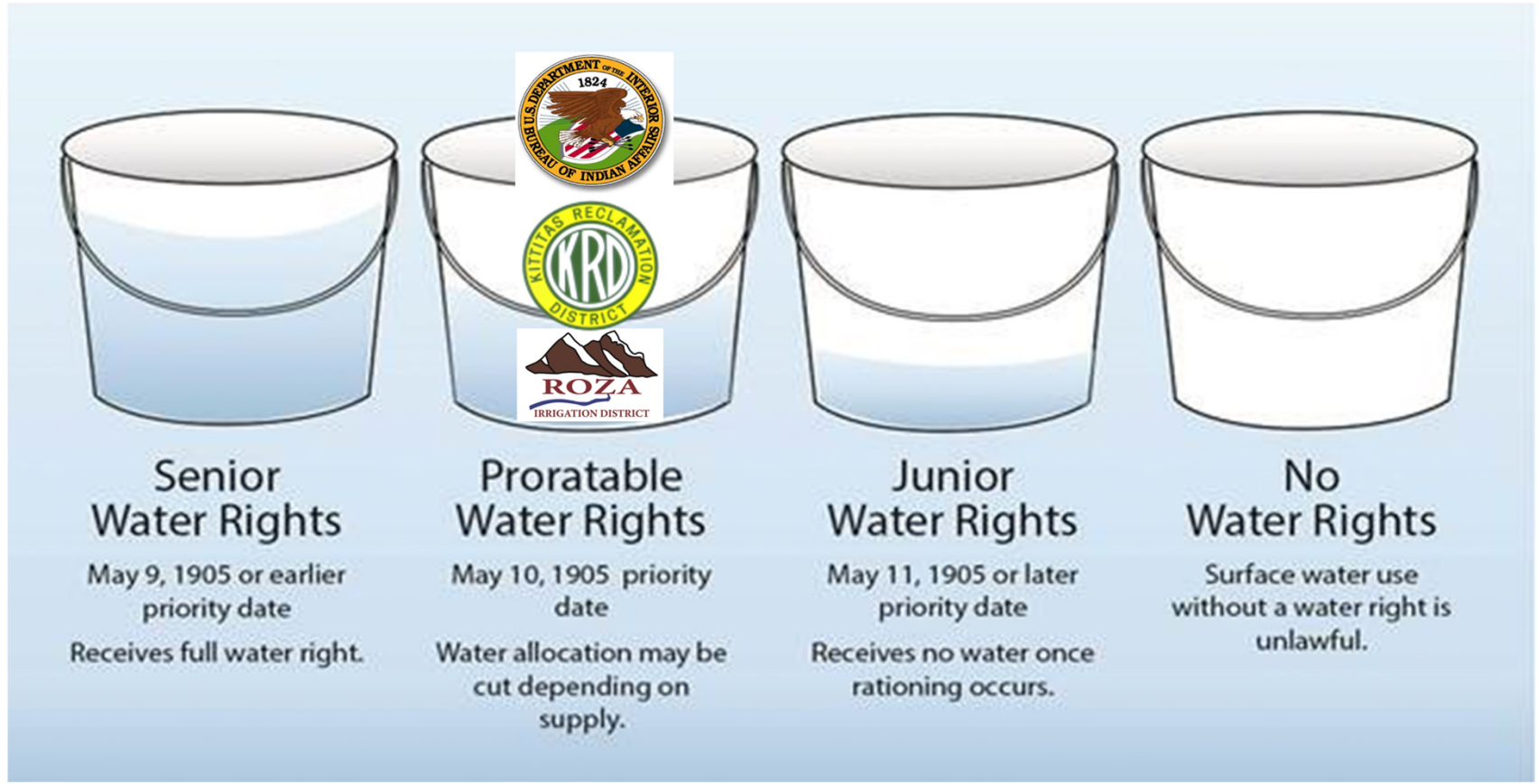
Empty Canal in May

ROZA IRRIGATION DISTRICT

Hops in the background

ROZA
IRRIGATION DISTRICT

Yakima River Basin Water Rights



Roza and KRD are 100% Proratable Water after April 1

ROZA
IRRIGATION DISTRICT

2024…An Unusual Irrigation Season….

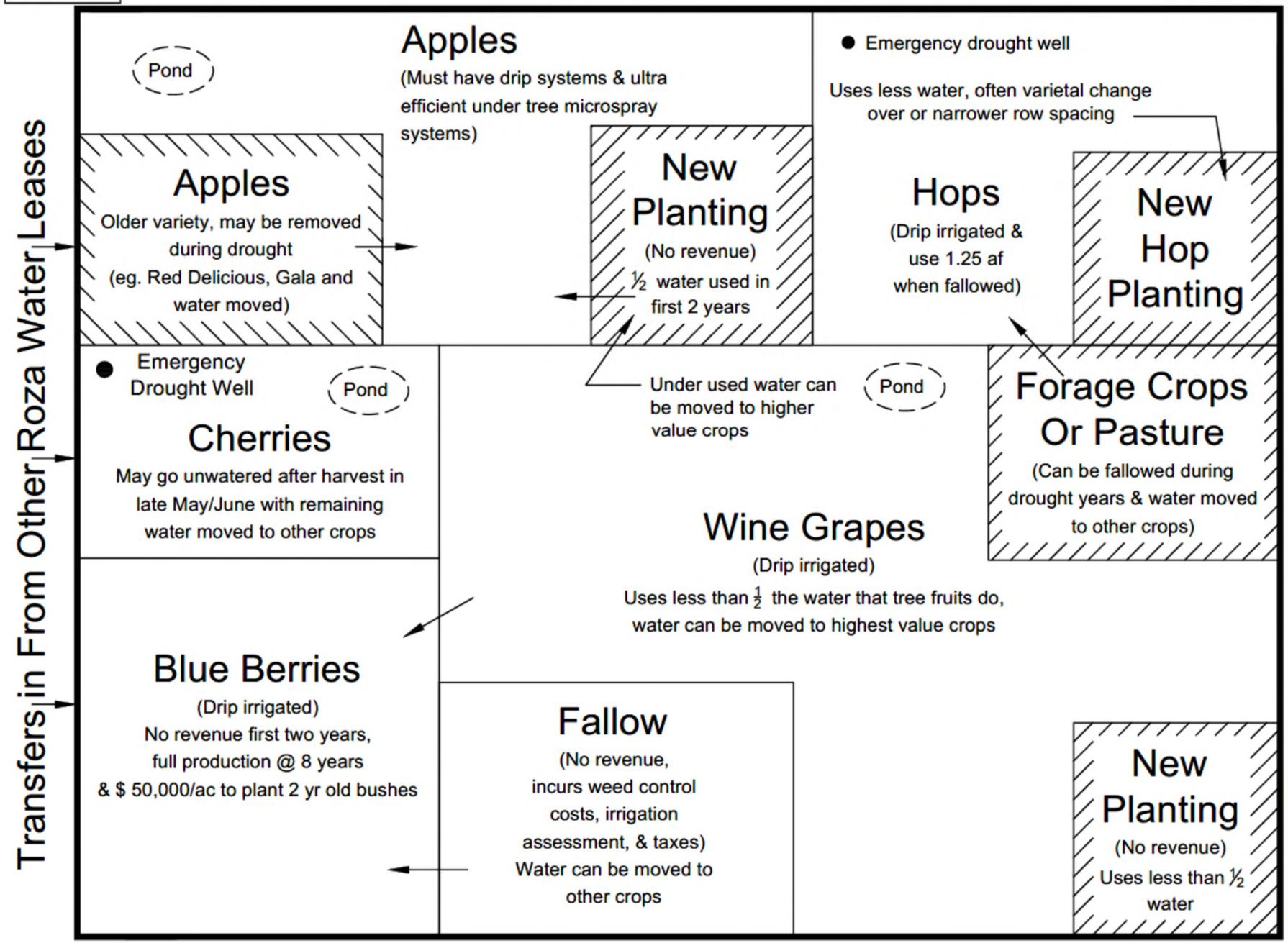
- ✓ 10 Day System Shutdown in May…Zero Water!
- ✓ By June 1st as peak demand approaches most of the things we can do during the season have been done!
- ✓ Water supply forecasts have ranged from 72% in March to 50% in May.
- ✓ There are significant hardships, and some effects won't be seen for months.

ROZA
IRRIGATION DISTRICT

Pump back recovery of water

ROZA
IRRIGATION DISTRICT

Example Roza Farm - Drought Management



On-Farm Drought Management in 2023

- Post-harvest fallowing of some crops
- Pooling of water between farms within the District
- Prioritization of the most valuable crops
- Leasing unused water from other water users
- Emergency well permits (90% are in Roza)

ROZA
IRRIGATION DISTRICT

Fallowed Hops…still need water!

ROZA IRRIGATION DISTRICT

Drought prep at Roza NEVER stops!

Since the 2015 Drought:

- ✓ Piped 70+ miles of canals ($19M Roza funds)
- ✓ New re-regulation reservoir on-line in 2017 ($31M)
- ✓ $1M+ in sealant applied to concrete lined canal sections
- ✓ 7,000 acres of drip irrigation conversions

ROZA
IRRIGATION DISTRICT

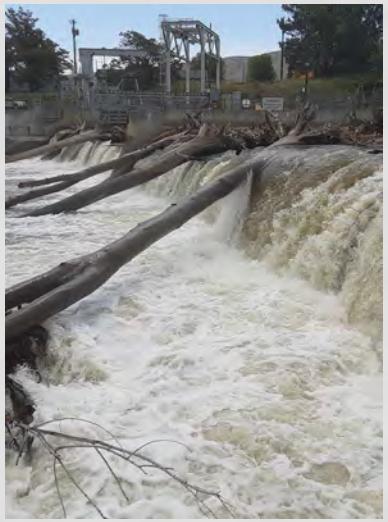
La Nina brewing???...2025 might be worse...

- ✓ Water leases
- ✓ Cloud seeding
- ✓ Piping 5 miles of canals
- ✓ Relentless planning to optimize operations during shortages
- ✓ Don’t forget fish and wildlife impacts
- ✓ Emptied Roza’s $4.1M drought fund!

We are acting now but still may need financial help!

ROZA
IRRIGATION DISTRICT

BUREAU OF RECLAMATION



LOWER RIVER FISH PASSAGE UPDATE: PROSSER/CHANDLER AND YAKIMA DELTA RESTORATION

WORK GROUP MEETING: JUNE 5, 2024

YAKIMA DELTA

Yakima River Delta is a Chokepoint!

- Every salmon and steelhead must pass through this area twice in their lifecycle
- 100s' of millions of dollars in fish passage & habitat restoration being invested
- USACOE Feasibility due late 2024

PROSSER/CHANDLER DIVERSION PURPOSE

- Divert water for Kennewick Irrigation District (KID)
  - Delivers water for irrigation
  - Delivers water needed to operate hydro pumps to lift water to KID canal
- Divert water for power generation
- Divert water and fish for the Prosser Fish Facility Operated by the Yakama Nation
  - Delivers water needed to operate fish production facility
  - Delivers fish to support basin fish monitoring
  - Delivers steelhead kelts for kelt reconditioning program

PROJECT NEED AND BACKGROUND

- Lower River Smolt Survival Study 2018-2021:
  - High numbers of migrating smolts (14-70%) were diverted into Chandler Canal proportional to the amount of river flow being diverted,
  - Fish entrained in Chandler Canal had significantly lower survival (11-32%) than fish remaining in the river
  - Fish survival in the river reach below the dam increased significantly with increasing river flow.

Conclusion: "Diversion dams are among the factors limiting salmon recovery in the Yakima River basin by reducing outmigration survival of juvenile Chinook Salmon and steelhead."

PROJECT FACILITIES

1. Prosser Dam
2. Intake Gates
3. Canal Spill Way
4. Fish Screens
5. Fish Bypass Entry
6. Fish Bypass Exit
7. Fish Facilities

PROJECT FACILITIES

1. Prosser Dam
2. Intake Gates
3. Canal Spill Way
4. Fish Screens
5. Fish Bypass Entry
6. Fish Bypass Exit
7. Fish Facilities
8. Chandler Power
9. KID Canal

VALUE PLANNING TEAM MEMBERS

POLICY CONSIDERATIONS

Four key policy or management issues were identified during the Value Planning Prosses that limited the VP Team's ability to fully evaluate project alternatives.

- Further subordination of power generation
- Pump exchange
- Pump electrification
- Fishery management and operations

The team decided that basin managers should provide guidance on how and to what level these items should be included in this passage project.

BUREAU OF RECLAMATION

ALTERNATIVES

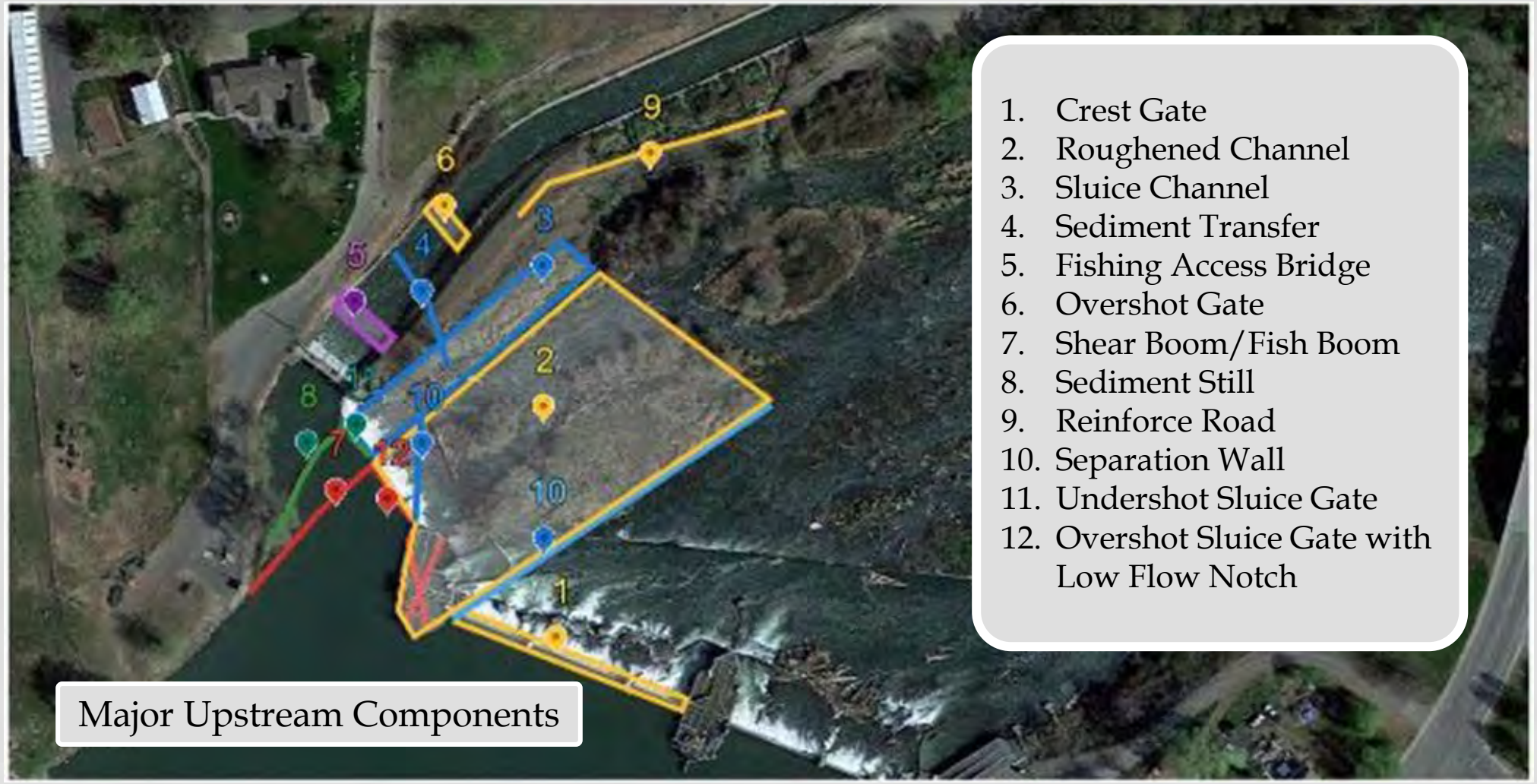
YAKIMA BASIN
BUILDING A FUTURE FOR WATER, WILDLIFE & WORKING LANDS

- **High Diversion** (1,500 cfs) w/ in-canal fish screen
- **High Diversion** (1,500 cfs) w/ in-river fish screen
- **Medium Diversion** (800-900cfs) for Hydraulic Drive Pumps Only
- **Medium Diversion** (800-900cfs) w/ Electrification
- **Irrigation Deliveries Only** with In-Canal Screens
- **Irrigation Deliveries Only** with In-River Screens
- **Irrigation Deliveries Only** with In-River and In-Canal Screens
- **Zero Diversion** (Pump Exchange KID) Dam Remains
- **Zero Diversion** (Pump Exchange KID) Dam Removed

- **17 Design Considerations**

ALTERNATIVE 1:

1,500CFS DIVERSION WITH IN-CANAL SCREEN

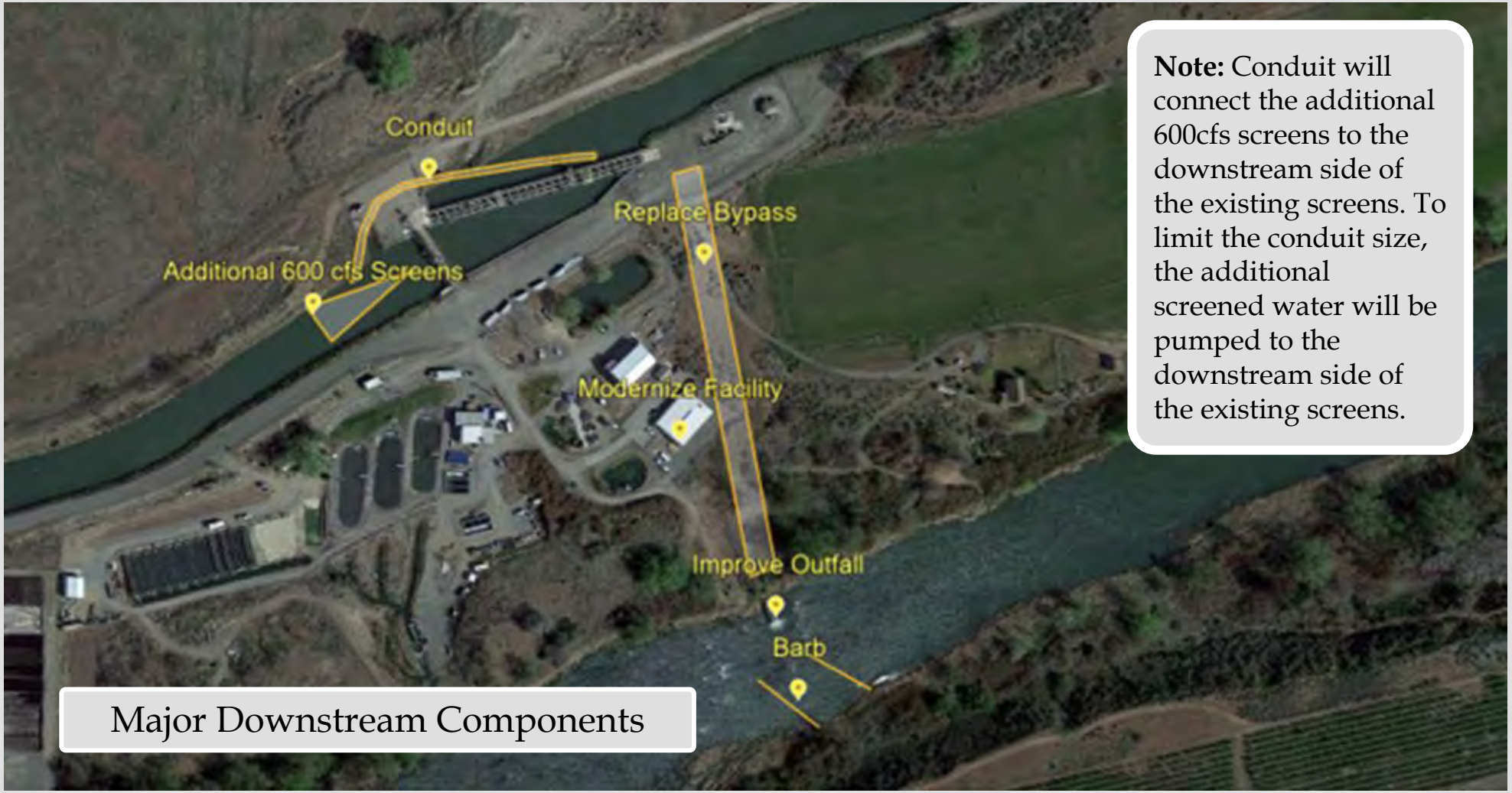


1. Crest Gate
2. Roughened Channel
3. Sluice Channel
4. Sediment Transfer
5. Fishing Access Bridge
6. Overshot Gate
7. Shear Boom/Fish Boom
8. Sediment Still
9. Reinforce Road
10. Separation Wall
11. Undershot Sluice Gate
12. Overshot Sluice Gate with Low Flow Notch

Major Upstream Components

EXAMPLE - ALTERNATIVE 1

1,500CFS DIVERSION WITH IN-CANAL SCREEN



Major Downstream Components

Note: Conduit will connect the additional 600cfs screens to the downstream side of the existing screens. To limit the conduit size, the additional screened water will be pumped to the downstream side of the existing screens.

ALTERNATIVES (CONT.)

99M	**High Diversion** (1,500 cfs) w/ in-canal fish screen
110M	**High Diversion** (1,500 cfs) w/ in-river fish screen
39M	**Medium Diversion** (800-900cfs) for Hydraulic Drive Pumps Only
240M	**Medium Diversion** (800-900cfs) w/ Electrification
320M	**Irrigation Deliveries Only** with In-Canal Screens
330M	**Irrigation Deliveries Only** with In-River Screens
350M	**Irrigation Deliveries Only** with In-River and In-Canal Screens
1.4B	**Zero Diversion** Dam Remains
1.4B	**Zero Diversion** Dam Removed

NEXT STEPS

- Handoff policy topics to appropriate policy group
  - Subordination of power generation
  - Pump exchange
  - Electrification
  - Fishery management and operations
- Cultural evaluation of alternatives
  - Work with the YN Cultural Program (e.g., cultural landscape preservation, roughened channel, etc.)
- Power analysis – YBIP Scale
- Continue to plan and develop project alternatives

NEXT STEPS CONTINUED

- Field Data Collection this Summer Include:
  - Lidar & Sonar Bathymetry
  - Infrastructure and Pool Elevations
  - Sediment Cores for Physical and Chemical Characteristics
- Models to Guide Project Development and Design Include:
  - Hydraulic Model – Reclamation TSC
  - Sediment Model – Reclamation TSC
  - Physical Model – Reclamation TSC
  - Fish Behavior Model – Yakama Nation & USACE
  - Fish Survival Model - USGS

FUTURE LOWER YAKIMA RIVER PRESENTATION TOPICS

Predation and Invasive Species

Nutrient Loading and Water Quality

Diversions and Associated Facilities

LOWER RIVER BIL FUNDING LANDSCAPE

Lower River BIL Funding Landscape			
Year	**Funding Opportunity**	**Status**	**Proposed Cost**
2022	2022 NOAA Fish Passage	Received	$3.6M
2023	Environmental Water Resources Projects (WaterSMART)	Selected	$2.25M
2023	Aquatic Ecosystem Restoration Program (WaterSMART)	Selected	$3.1M
2023	Aquatic Ecosystem Restoration Program (WaterSMART)	Selected	$3.1M
2023	USACE Assistance to States CAP (3 projects)	Selected	~2M
2023	NOAA Tribal Fish Passage	Selected	$3.1M
2023	NOAA Fish Passage	Selected	$14M
2024	Aquatic Ecosystem Restoration Program (WaterSMART)	Submitted	$3.1M
Total			$34.25M

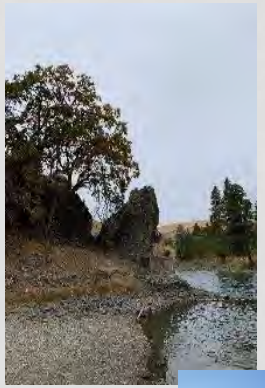
Photo Credit: Washington State Historical Archives

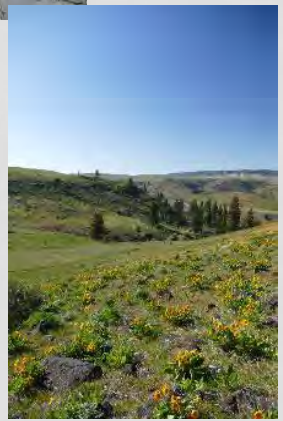
SPRINGWOOD RANCH

YAKIMA BASIN
BUILDING A FUTURE FOR WATER, WILDLIFE & WORKING LANDS

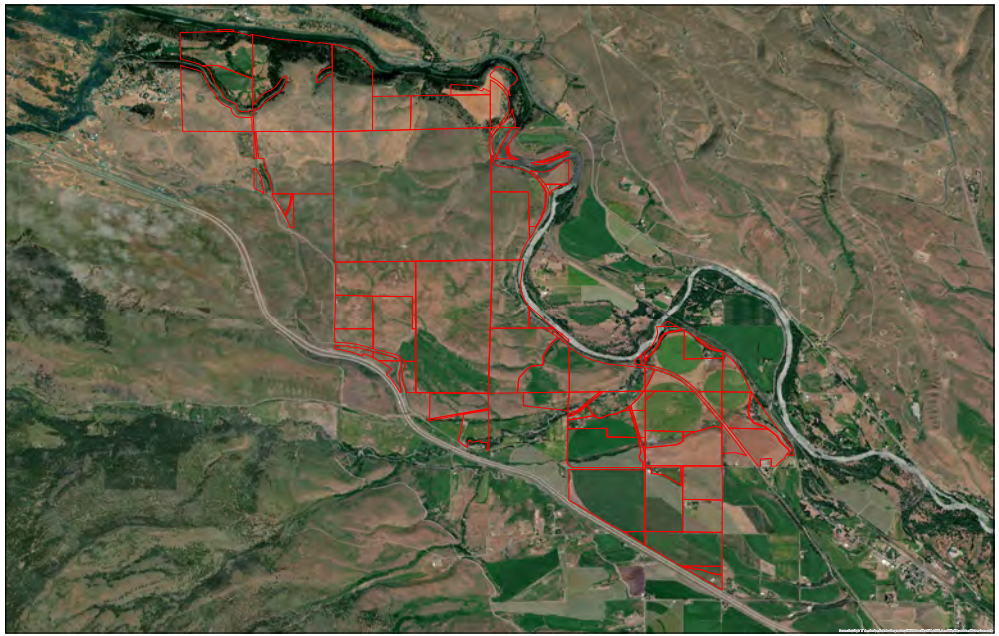
YRBWEP WORKGROUP – JUNE 5, 2024

SPRINGWOOD: A RARE OPPORTUNITY





SPRINGWOOD RANCH: OVERVIEW



- Listed for sale for $24 million.
- Unique features for potential off-channel water storage in important location in Basin.
- Seller only willing sell entire property in one sale.
- Sought appropriation in 2022 and received $10 million with recommendation of $12 million more in future biennium.
- TPL secured PSA in August 2022 and purchased for $21.6 million on March 2023.

Springwood Ranch: A Rare Opportunity

NEW SECTION. Sec. 3073. FOR THE RECREATION AND CONSERVATION FUNDING BOARD Springwood Ranch in Kittitas County (91001663)

The appropriations in this section are subject to the following conditions and limitations:

(1) Except as provided under subsection (4) of this section, the appropriations in this section are provided solely for a grant from the agency to The Trust for Public Land to cover the costs of the Trust's acquisition, disposition, and temporary management of real property in upper Kittitas County known as Springwood Ranch in exchange for an agreement to reconvey the real property for public purposes as described in this section.

(2) The **recreation and conservation office** shall enter into a grant agreement with **The Trust for Public Land** that allows for the disbursement of the funding described in subsection (1) of this section to The Trust for Public Land for the following purposes:

(a) To convey a portion of the Springwood Ranch property to **Kittitas County** for its ownership and management, including maintenance of existing agricultural uses and future uses allowed under current zoning or that provide a public use or benefit;

(b) To convey a portion of the Springwood Ranch property to the **department of fish and wildlife** for its ownership and management to provide public use and benefit;

(c) To convey a portion of the Springwood Ranch property to the **Yakama Nation** for its ownership and management to provide public benefit;

(d) To convey a portion of the Springwood Ranch property to the **Kittitas Reclamation District**, which shall hold the property until a transfer, without compensation and subject to section 8039 of this act, **to the United States bureau of reclamation for the purposes of construction of a water supply reservoir for managing instream flow in accordance with the Yakima Basin integrated plan,** or until such purpose is declared by the bureau of reclamation as no longer feasible; and

(e) To assist in achieving the goals of the Yakima Basin integrated plan.

(3) If the bureau of reclamation determines that the construction of a water supply reservoir is not feasible as described in subsection (2)(d) of this section, the Kittitas Reclamation District must work with Kittitas County, the Yakama Nation, the department of fish and wildlife, and other interested stakeholders to identify the appropriate public owner and manager and convey, without compensation and in accordance with RCW 87.03.136, as amended in section 8039 of this act, the Kittitas Reclamation District's portion of Springwood Ranch to that entity.

(4) The recreation and conservation office may use up to one percent of the appropriations in this section, if necessary, to recover its administrative costs.

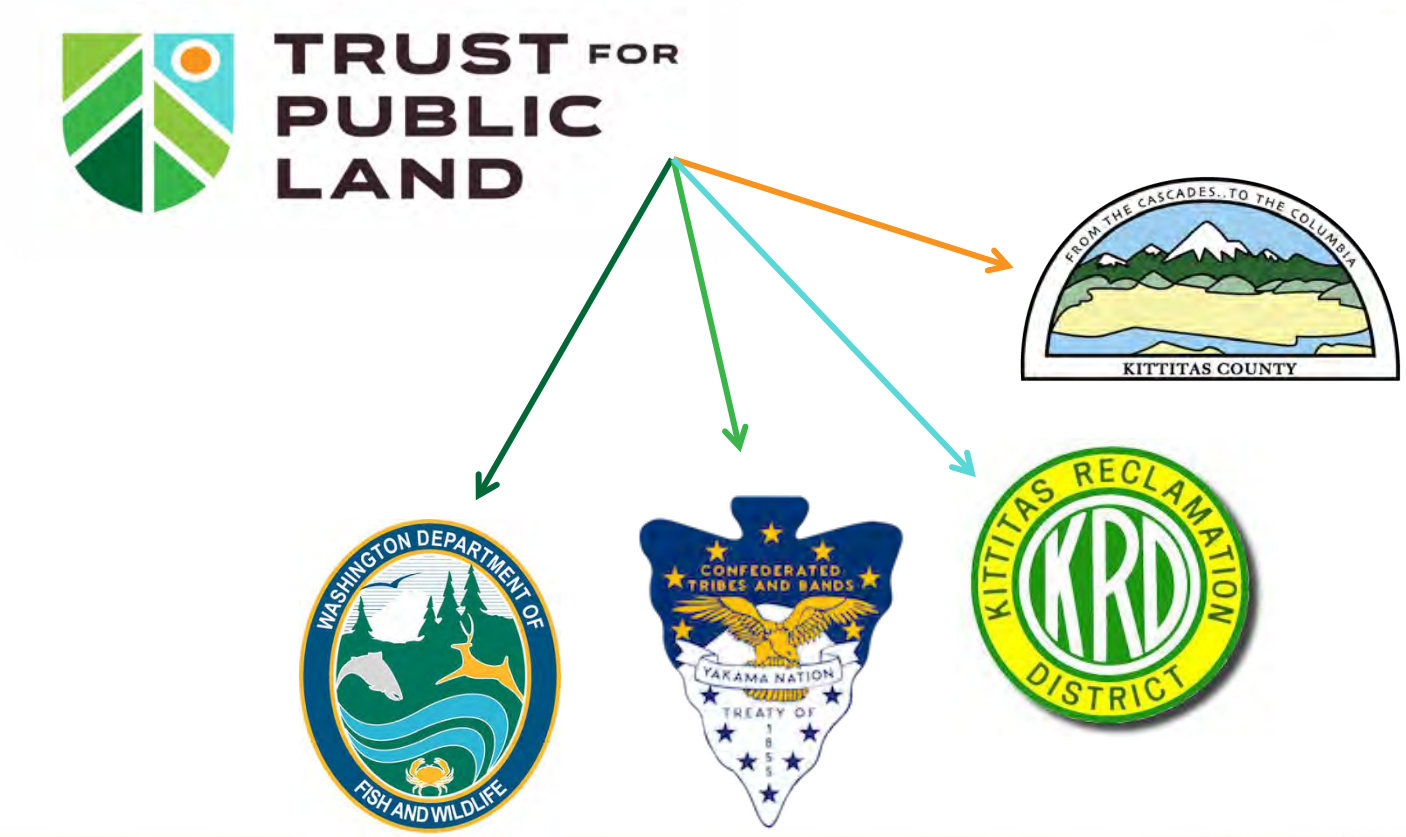
Reappropriation: State Building Construction Account—State. $10,000,000

Appropriation: State Building Construction Account—State. $11,600,000
State Taxable Building Construction Account - State. $2,400,000
Subtotal Appropriation. $14,000,000

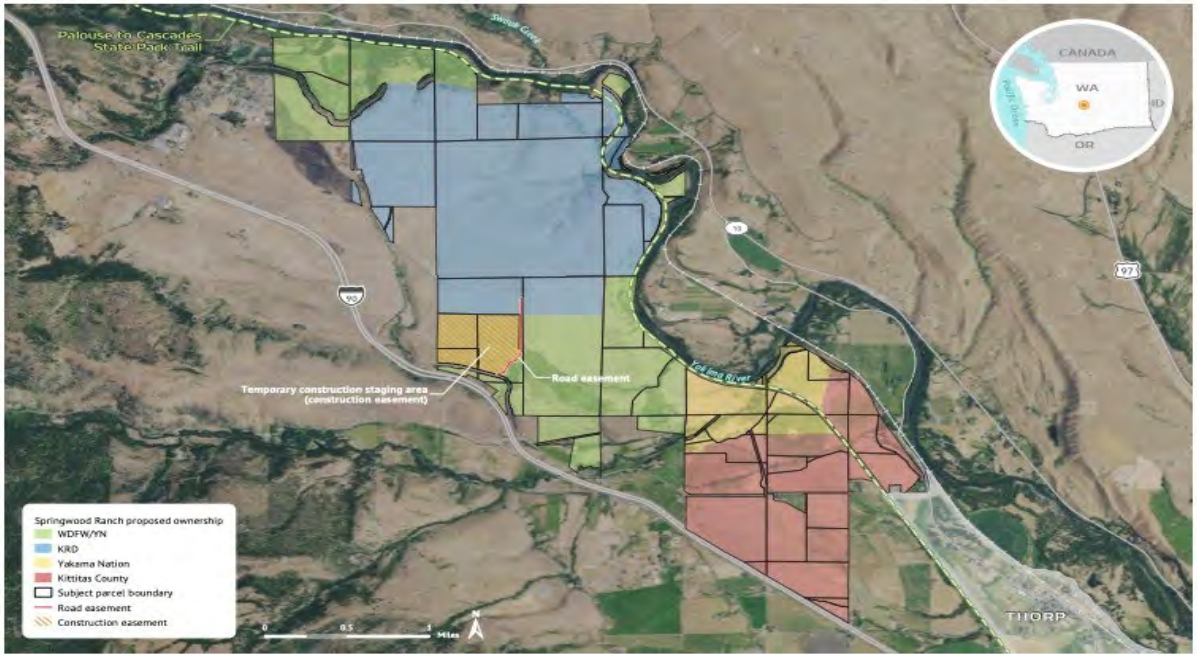
Prior Biennia (Expenditures). $0
Future Biennia (Projected Costs). $0

TOTAL. $24,000,000

Springwood Ranch in Transition



FUTURE OWNERSHIP @ SPRINGWOOD



Springwood Ranch

KITTITAS COUNTY, WASHINGTON