

An aerial photograph of the Wapato Irrigation Project. The image shows a winding river flowing through a lush green landscape. To the left of the river, a multi-lane highway runs parallel to the water. In the background, a large, arid hillside rises. In the foreground, a dam structure is visible, with water flowing over it. The overall scene depicts a blend of natural beauty and human infrastructure.

Wapato Irrigation Project

Conservation and Modernization

Richard Dills - YN
Brady Kent - YN

March 10, 2021

Wapato Irrigation Project

Conservation and Modernization

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Outline

History

Map

What's Wrong?

Two Reports

Previous Projects

Present Projects

Future Projects

Estimated Budget

Diversion Dam

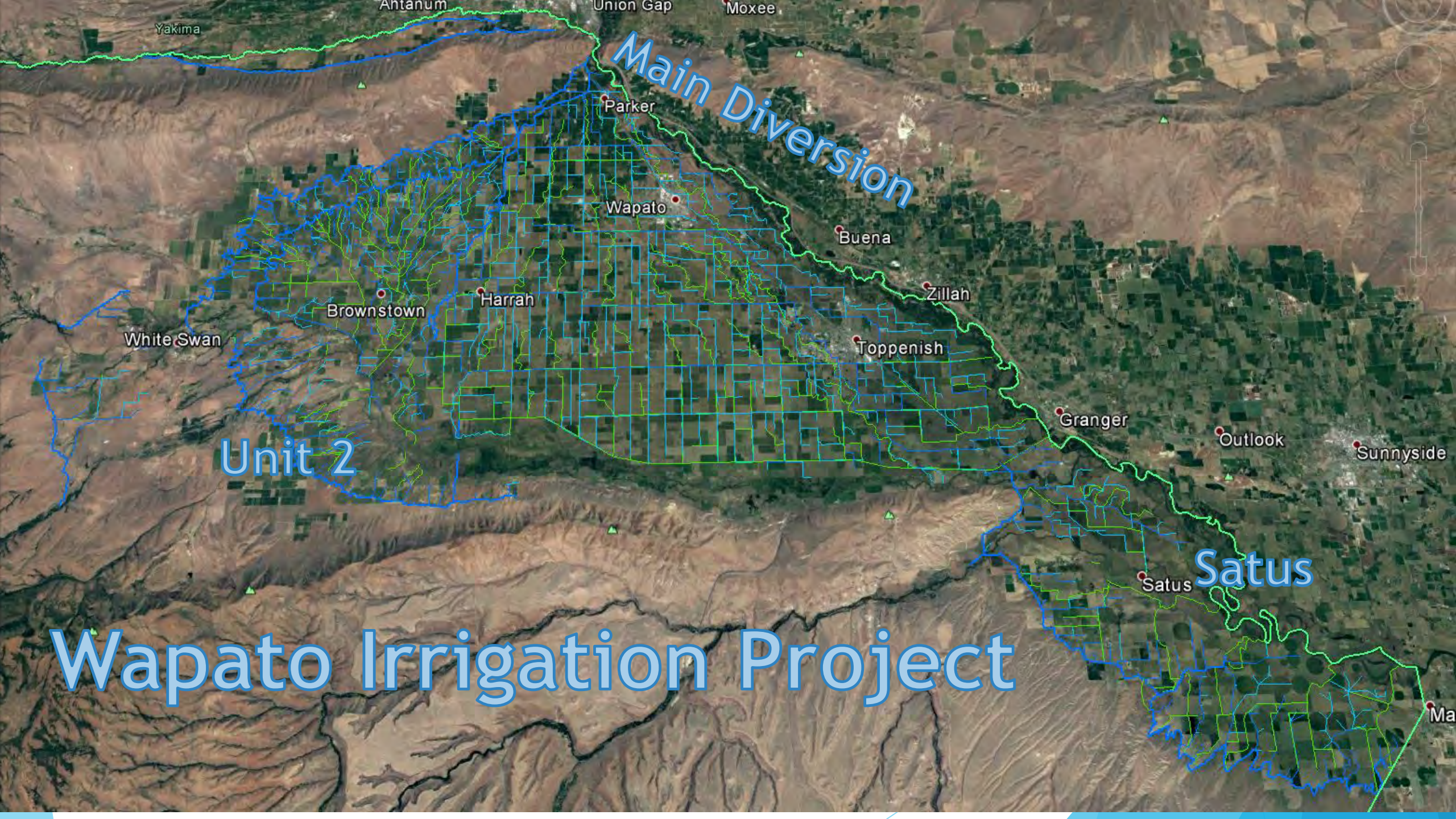
Questions



WIP History

- ▶ Land is on the Yakama Nation Reservation
- ▶ Treaty 1855 12.2 million acres ceded
 1.3 million acres reserved
- ▶ **Late 1800's Indian Irrigation Projects started**
- ▶ WIP Authorized in 1904; Construction 1916
- ▶ 142,000-145,000 irrigated acres (GAO 97 & 06)
- ▶ 60% / 40% Irrigation Project Land Ownership split between Yakama and Non-Yakama





Wapato Irrigation Project

GAO Reports What's Wrong

- ▶ Deterioration prevents users from receiving water
 - ▶ Long Term Sustainability → Depress Lease & Water Rates
- ▶ Lack of regular maintenance led to users making their own repairs and/or modifications
 - ▶ Decrease system stability (Drought !!)
- ▶ Understaffing; Too few to operate & maintain
- ▶ Previously, crisis-style management
 - ▶ Lack of planning & preventive maintenance



Led to Two Current Reports

Cal Poly - Irrigation Training & Research Center

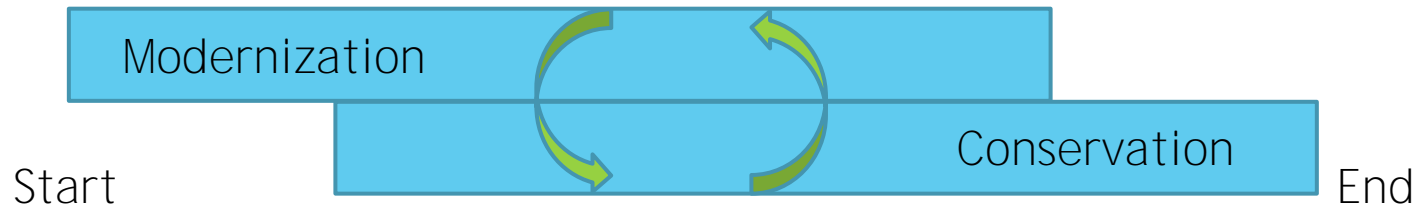
BIA paid for & contracted

YN Modernization Plan March 2018

YN Conservation Plan July 2019

Same people = Better Continuity

Charles Burt PE/PhD and Daniel Howes PE



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WIP Capability Increased

Funding Sources

\$\$ Reclamation
\$\$ WA ST Ecology
\$\$ USDA - NRCS
\$\$ BIA Const. & Maint.
\$\$ WIIN Act



Projects, Repairs,
Material Acquisition
Leveraged by the BIA
through YN 638 contracts

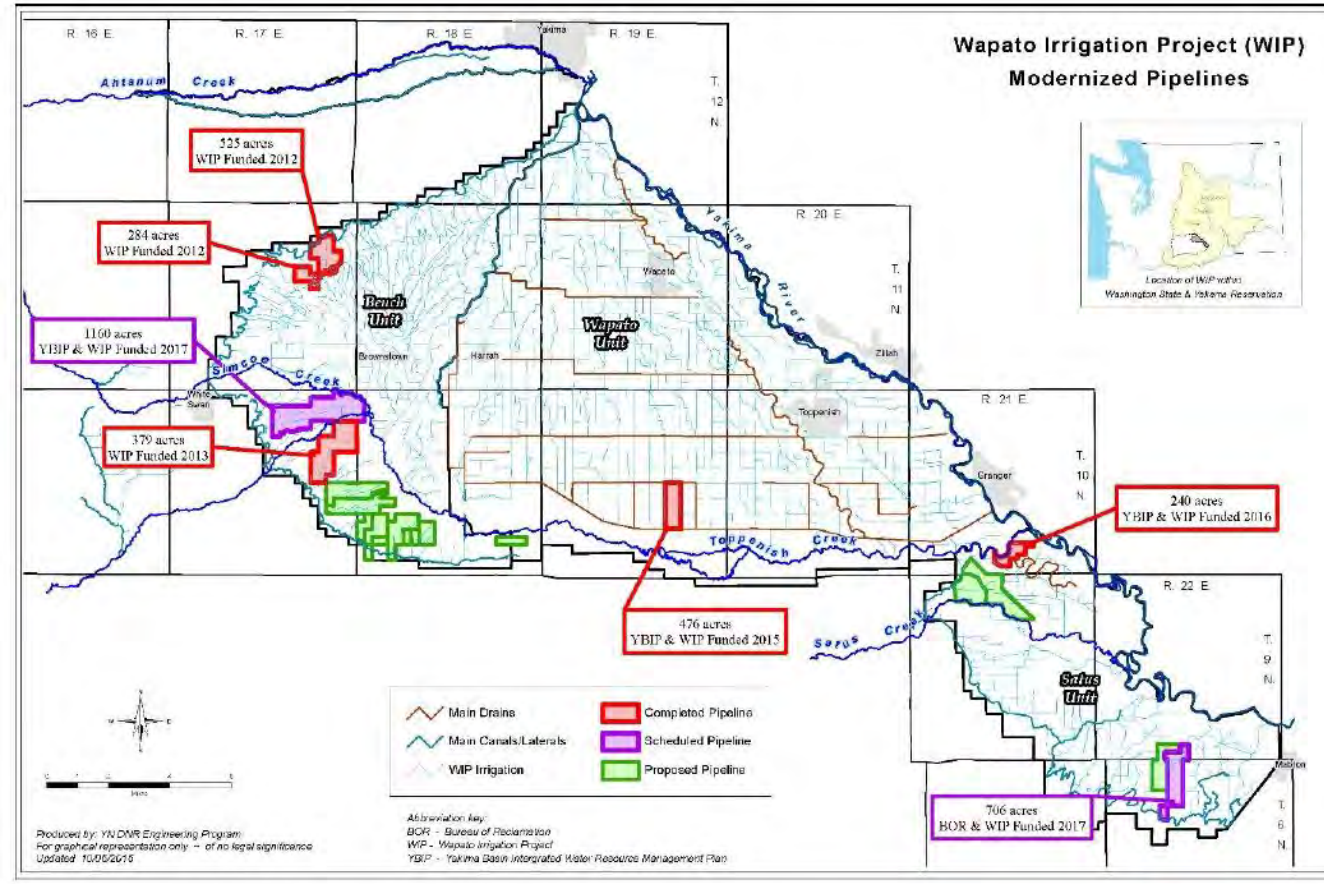
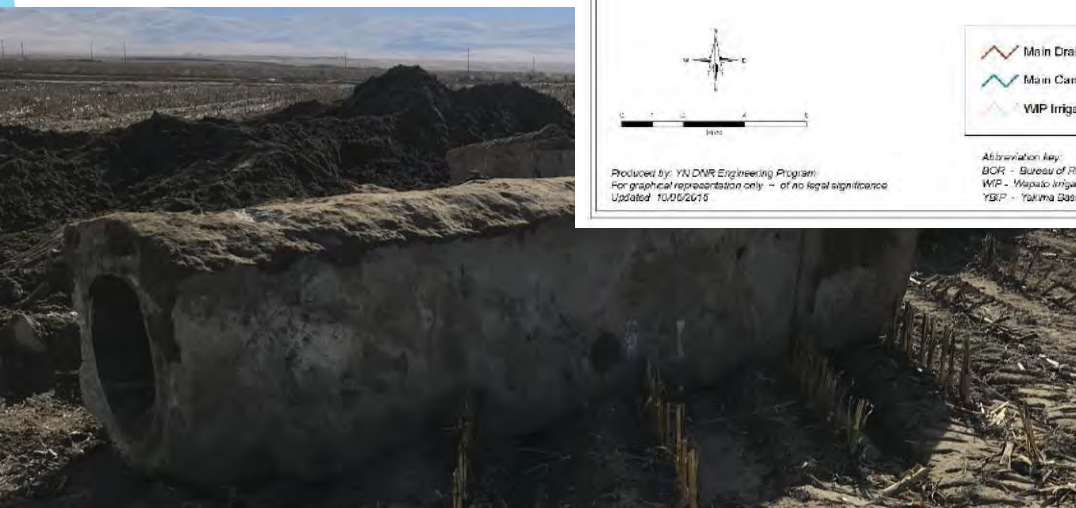


Crisis Style Management

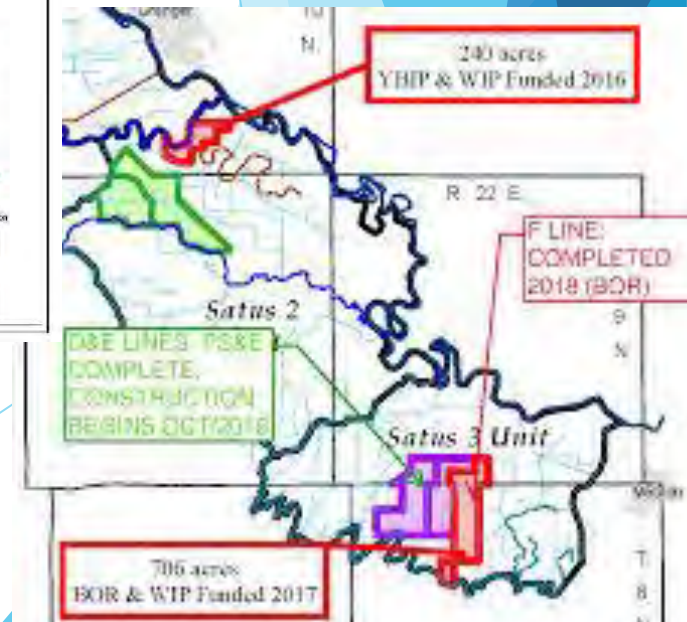
Previous Projects

Unit 2

Canal Lining
Lateral Piping



Satus
Lateral Piping
& E Line



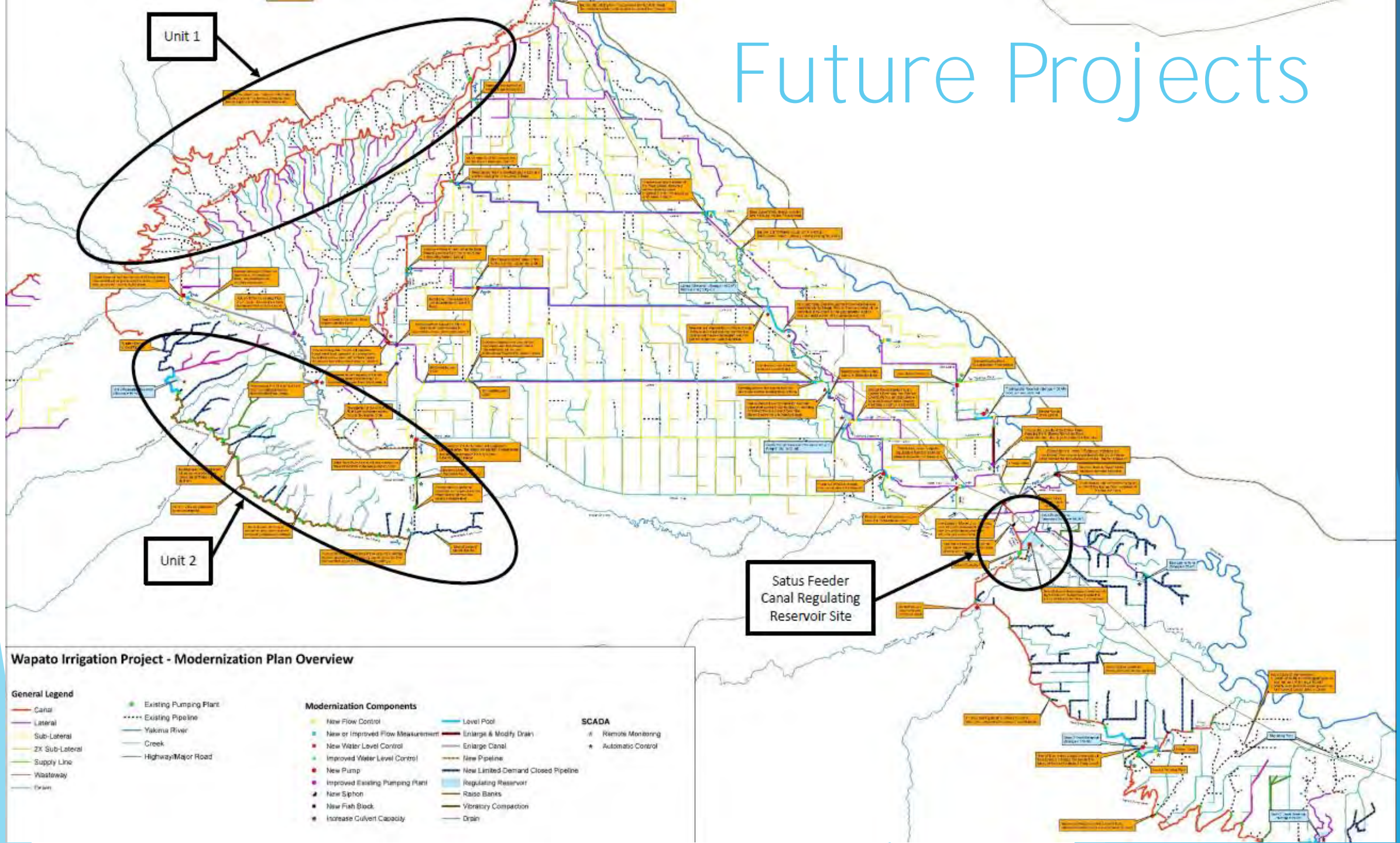
Present Projects



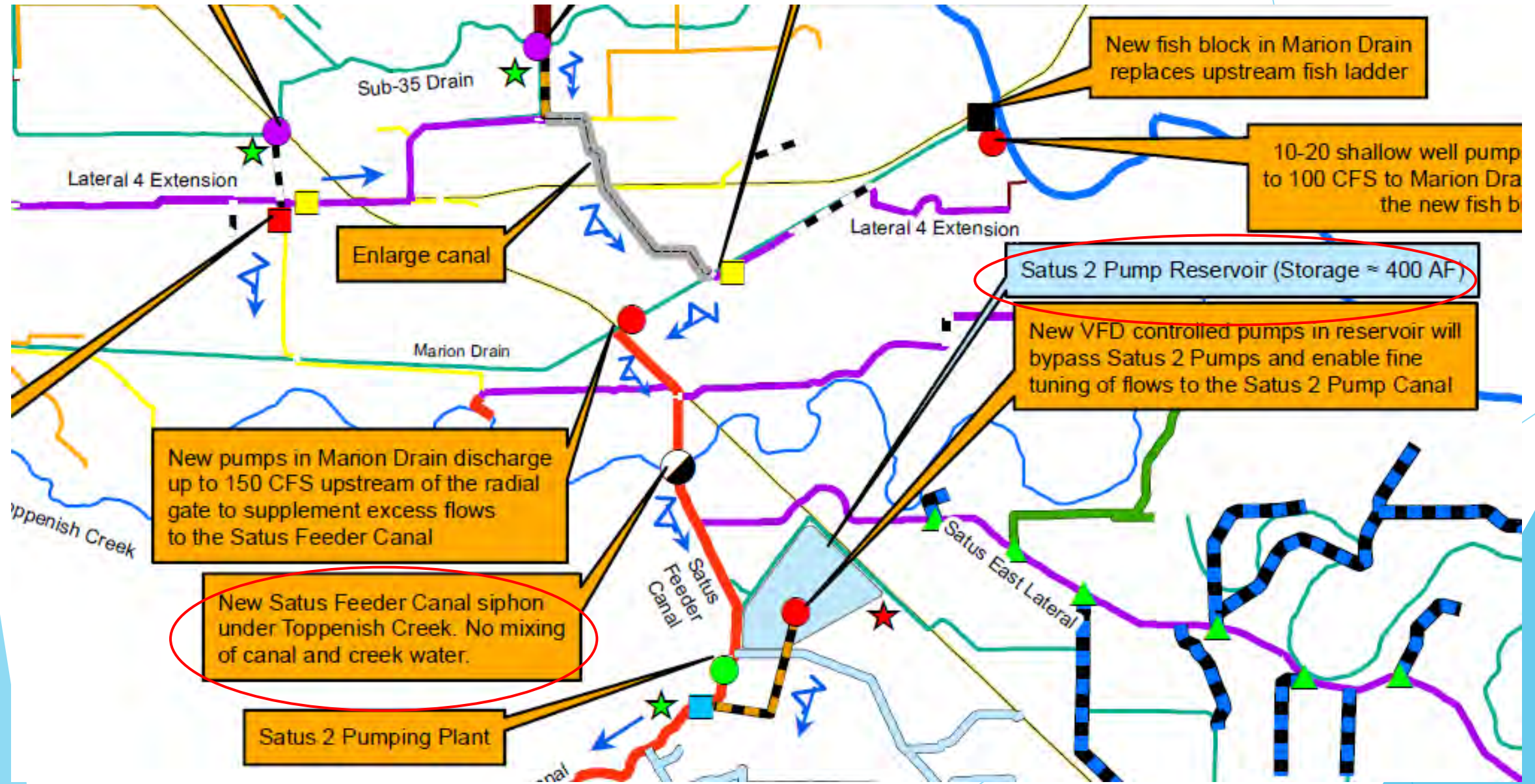
30 Miles pipe installed to date
~11,000 Acre/Feet Saved per year



Future Projects



Future Projects



Estimated Budget

Wapato Irrigation Project

Dam Replacement, Main Canal Diversion Control Structure & Flow Measurement	\$	40,000,000.00
Upper Ahtanum Diversion	\$	1,500,000.00
Pipe Ahtanum Canal and lower canal	\$	6,000,000.00
Lateral 1,2,3,4 Diversion Control Improvements & Supplemental Drain Diversions	\$	11,000,000.00
Lateral 4 checks	\$	2,450,000.00
Piute Lateral to Marion Drain Connection System	\$	7,800,000.00
Harrah & Marion Drain Connection to Toppenish Feeder System	\$	7,400,000.00
East Branch Unit 2 Pump Canal Limited-Rate Demand Closed Pipeline	\$	2,500,000.00
Unit 2 Reservoir and Pipeline System	\$	11,000,000.00
Unit 2 canal checks	\$	2,000,000.00
Safety upgrade to unit 2 pump station Add 15cfs VFD pump to system	\$	3,000,000.00
Lateral 3 Reservoir System	\$	5,700,000.00
Lateral 4 Extension Diversion Improvements	\$	700,000.00
Wanity Slough Reservoir System	\$	7,000,000.00
Lateral 4 Extension Pump Restart	\$	1,500,000.00
Track Lateral Reservoir System	\$	6,000,000.00
Track Lateral to Satus Feeder Connection System	\$	7,500,000.00
Satus Feeder Canal Reservoir System	\$	15,000,000.00
Satus East canal pump station and limited rate demand closed pipeline system	\$	15,000,000.00
Satus 2 Pump Canal Limited-Rate Demand Closed Lateral Pipelines	\$	18,000,000.00
Satus 2 Canal Reservoir System	\$	12,000,000.00
Satus 3 Canal Reservoir & Pipeline System	\$	15,000,000.00
SCADA Infrastructure Backbone - Office base station, repeater sites, etc.	\$	1,000,000.00
Turnout & Lateral flow measurement Improvements	\$	10,000,000.00
Automation and repairs of drop 1 mechanicals, electrical pumps and canal controls	\$	10,000,000.00
Total Cost	\$	219,050,000.00

These projects will be implemented over the next 20 years and have an estimated peak spending level of \$15 million / year

Funding needs to be sustained over time in order to allow phasing and progressing of projects

WIP Main Diversion

Dave Fisher - BIA

95 % of the water for WIP is diverted
from the Yakima River



Questions & Comments

