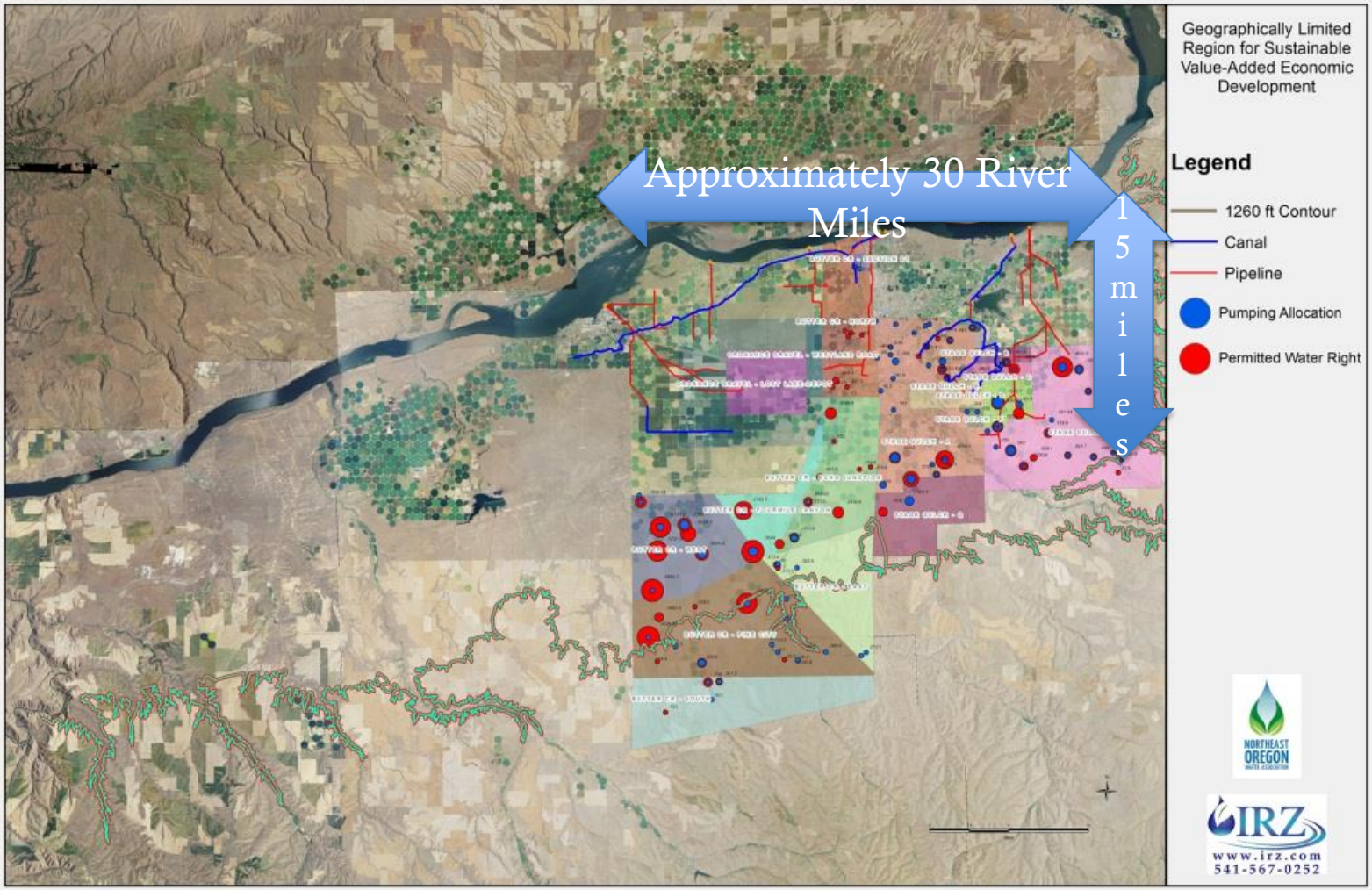
NORTHEAST OREGON WATER ASSOCIATION

LIFE DEPENDS ON WATER, WE DEPEND ON YOU.

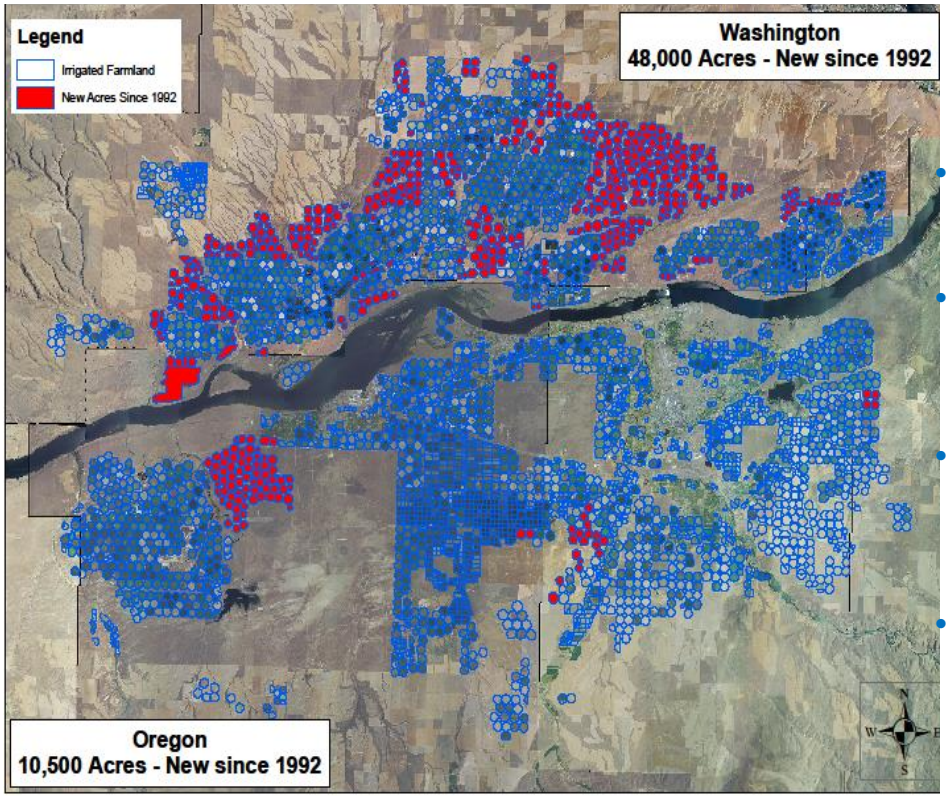
Water Background:



What we mean by Geographically Limited and Irreplaceable

LITERALLY: THE BEST HIGH-VALUE AG IN THE WORLD

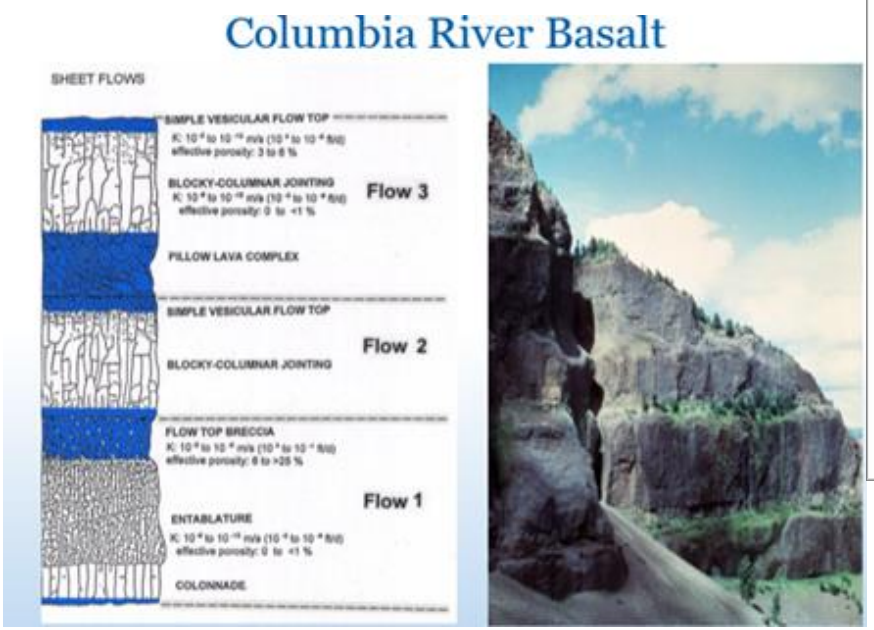
- WATER LIFT
- WEATHER
- EXISTING SYSTEMS
- TERRAIN
- PROCESSING
- ALTERNATIVE FUEL NEEDS

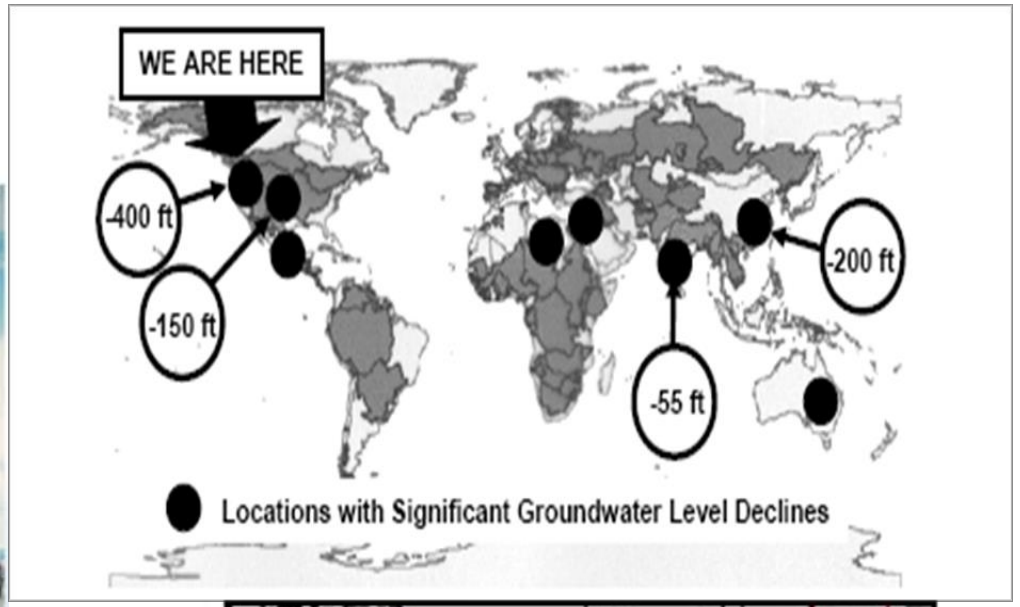


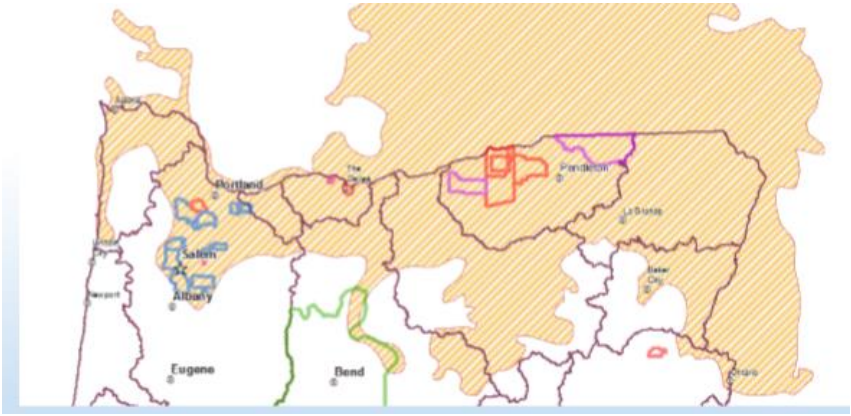
VALUE OF WATER "From Dry to Fry"

- Dryland wheat - $100
  - 40 bushel fallow wheat
- 1st Acre Foot - $500
  - 100 bushel irrigated wheat
- 2nd Acre Foot - $1,500
  - Hay, Some vegetables, grass seeds, etc.
- 3rd Acre Foot - $5,000+
  - High value root crops
  - Full Rotation

Basalt Aquifers







CRB Compartmentalization

Willamette,
Deschutes,
Klamath…

Columbia River
Basalt

Water Terminology

- 1 Cubic Foot
  - +/- 7.5 gallons
- 1 Cubic-Foot-Second (cfs)
  - 1.98 acre-feet/day
- 1 Acre-Foot
  - 43,559 cubic-feet
  - 326,692 gallons
- Full Rotation Farmland
  - 3.5 AF/Acre
- Sustainable Annual Yield (SAY)
  - Amount of water that can be taken out of an aquifer and still maintain the static level at even

1 cfs =

1/2

SAY

Water Source Facts

Basalt Groundwater

- Total acres affected
  - +/- 250,000
- Total certificated groundwater rights
  - 190, 466 AF/year
- Total water right volume cut off through CGA restrictions
  - 127,038 AF/year (67%)
- Total currently pumped: 63,428/year

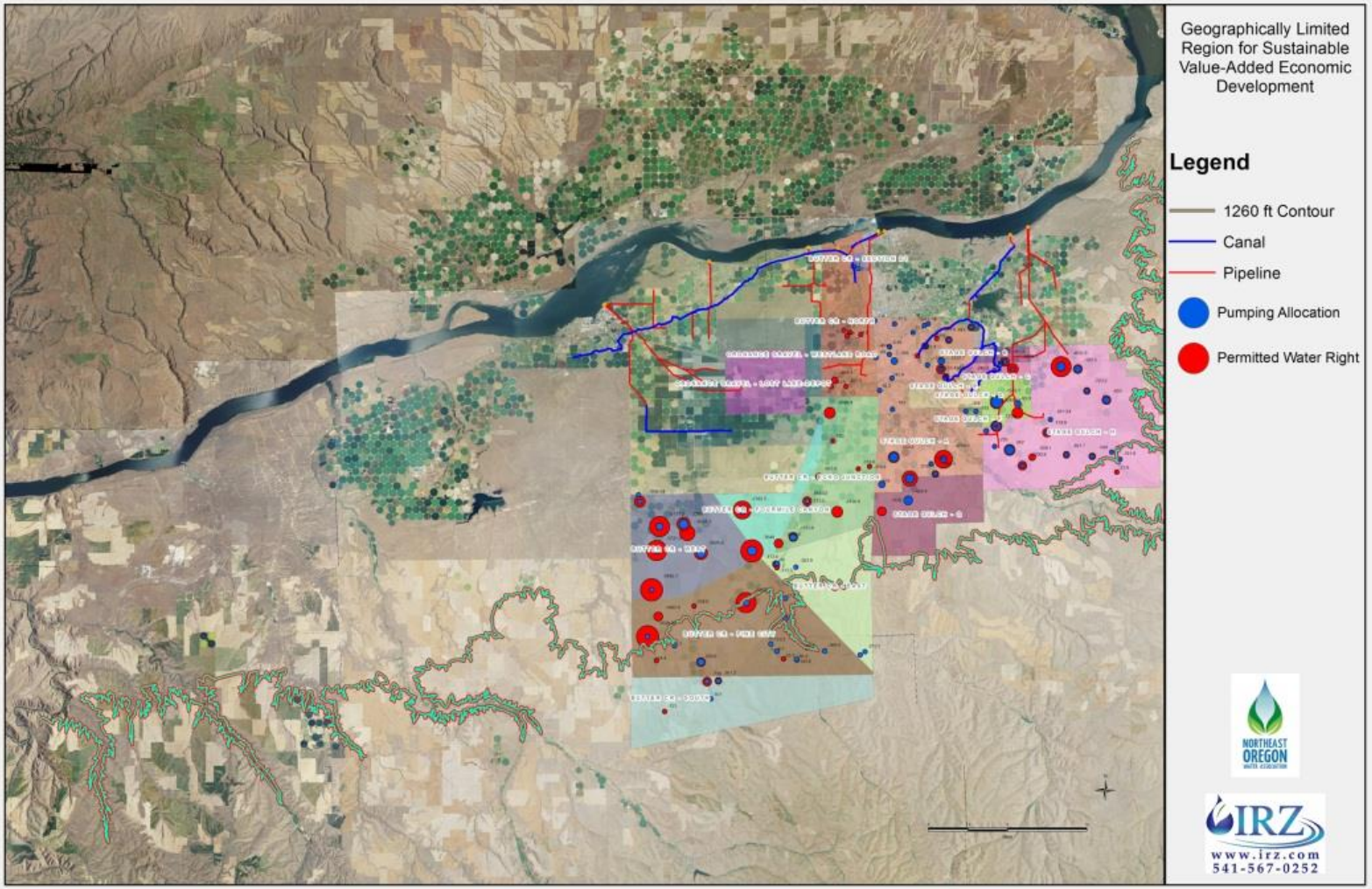
Columbia River

- Average Daily flow
  - 180,000 cfs
  - 356,000 AF/day
- Total pumped under pre-1994 water rights
  - +/- 1,200 cfs (0.6%)
- Total new mitigated water rights issued
  - 180 cfs (0.1%)

Compressed Basin Timeline

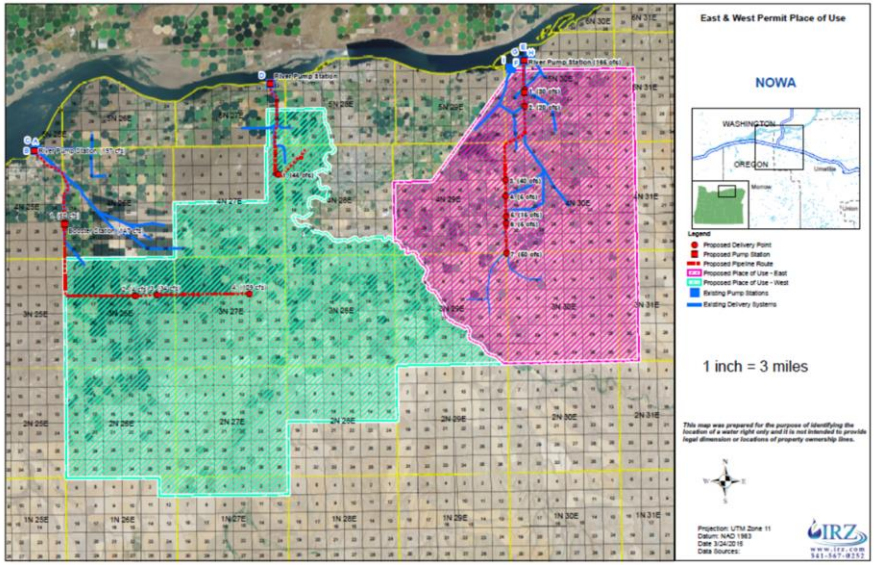
- 1855 Treaty with the Walla Walla, Cayuse and Umatilla Tribes
- 1916 Adjudicated decree of water rights to use waters of Umatilla River and its tributaries
- 1954 Pendleton Project Investigation by BOR. Concluded that potential irrigable land far exceeded available water supply
- 1958 First reports of water table decline in Butter Creek area
- 1966 Bureau of Reclamation reports that any significant increase in pumping from basalt aquifers would likely result in accelerated decline of water tables
- 1976 OWRD designates Butter Creek a Critical Groundwater Area (remanded until 1986)
- 1976 Critical Groundwater Area designated by OWRD for Ordnance Basalt and Gravel
- 1977 Lost Lake/Depot well owners initiated project to artificially recharge shallow gravel aquifer using existing canal system
- 1986 Critical Groundwater Area designated by OWRD for Buttercreek Basalt
- 1988 Umatilla Basin Project authorized and funded by Congress -- allows irrigators to exchange Umatilla River water for Columbia River water
- 1990 ODEQ declares 352,000 acres in Umatilla and Morrow counties as a groundwater management area (GWMA) due to nitrate contamination
- 1991 Critical Groundwater Area designated by OWRD for Stage Gulch Basalt
- 2004-2008 Development of the Umatilla Sub-Basin 2050 Water Management Plan
- 2008 Oregon Legislature passes SB 1069 authorizing $750 K to complete a feasibility study of the Umatilla Basin Aquifer Restoration Project (A milestone in state water planning efforts – OR and AK w/o plan)
- 2009 Oregon legislature passes HB 3369 authorizing $2.5 million in grants and loan funding (a milestone in state water development efforts)
- 2010 - Umatilla Basin Water Commission forms to coordinate the implementation of the Umatilla Basin Aquifer Restoration Project and address basin wide needs
- March 2011 – Stage I of Umatilla Basin Aquifer Restoration Project Completed
- August 2013 – Umatilla Basin Water Commission completes work authorized by IGA
- August 2013 - Northeast Oregon Water Association forms to continue water development projects under a coordinated, comprehensive effort
- 2013 – Northeast Oregon Water Association unveils plan for short and long-term water supply certainty in the Umatilla Basin that takes pressures off of fish rearing tributaries of the Columbia River, improves aquifer conditions and builds the local economy
- 2015 – Oregon legislature approves $11 million in funding for regional Columbia River water supply projects

Let's Fix One Basin:



Local Definition of Success (2013 OBC):

- USE OF:
  - 150,000 (500 cfs) – Acre-Feet (500 CFS = .0025% of average daily flow, or .004% at low flow) of Columbia River water.
    - Negotiated down to 180 cfs for first phase due to mitigation water right totals
- AND:
  - Infrastructure penetrating our four critical groundwater areas
    - Three Projects to facilitate a fix!
- WHICH WILL:
  - Give large and small acreage owners a chance to make a difference
  - Encourage innovation and entrepreneurship
  - Generate billions in economic activity and thousands of local and regional jobs (all sectors)
  - Take pressures off of over-appropriated groundwater and Columbia River tributaries
  - Guarantee commitment to and access to future long-term main-stem projects
  - Build a customer base for regional partnerships in NE Oregon



The Regional Plan

Step #1 (2015): Mitigated Water rights and infrastructure

- Facilitates economic benefit
- Facilitates environmental benefit
- Facilitates social benefit if protections are established to prevent speculation and splinter efforts
- Note: Only two of three infrastructure projects funded

Step #2: Basalt Relief/Bank

Step #3: Permanent Mitigation Program and, hopefully, a functioning basalt savings and banking program

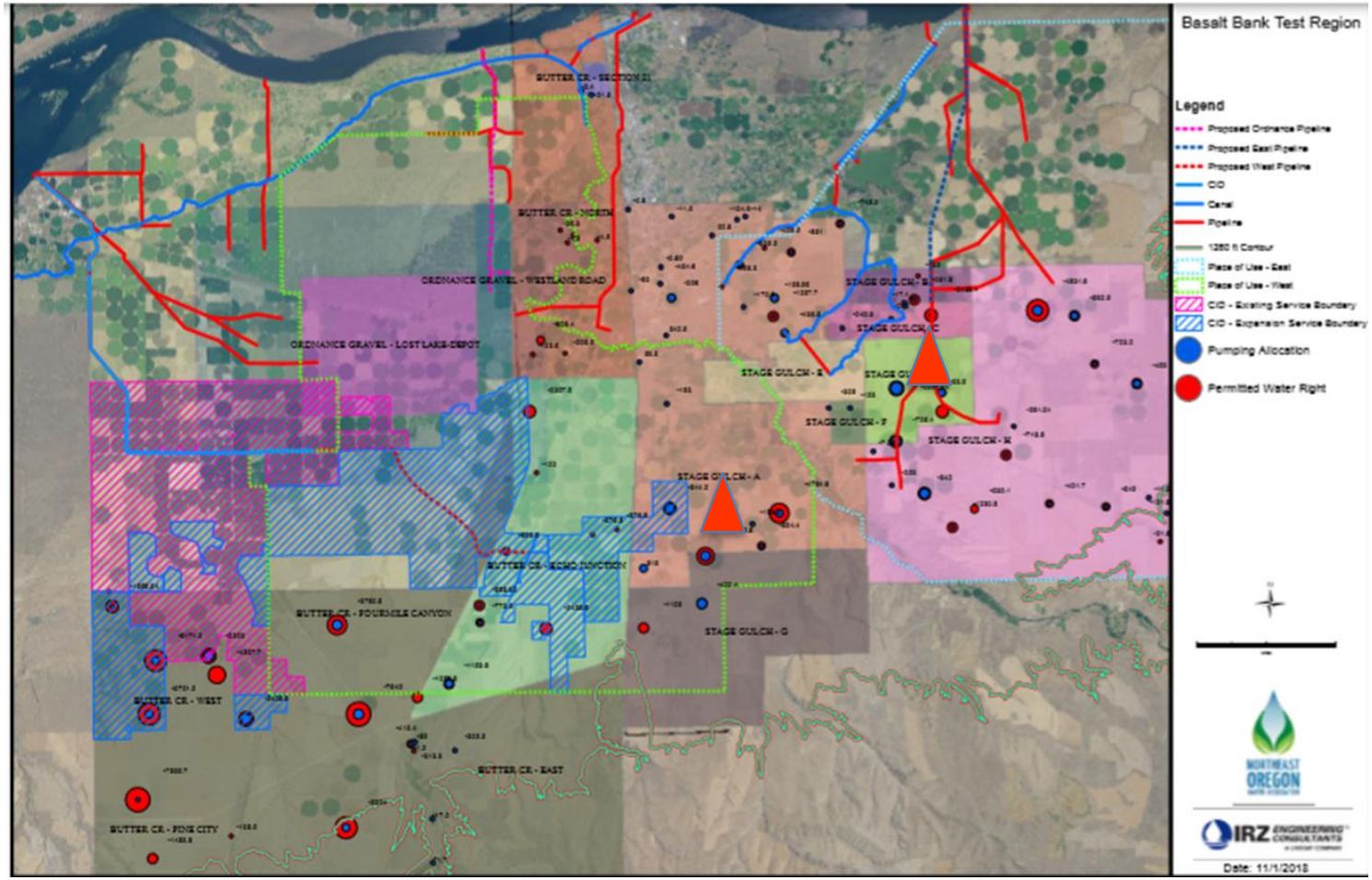
Water 2.0 (The Agenda is Set)

- Support settlement CTUIR Water Rights Claims
- Complete all THREE infrastructure Projects (Note: the Basin cannot fix the State's over-appropriation problems without all three projects)
- Umatilla Basin "Basalt Bank"
  - Basin has documented commitment to testing basalt savings and restoration, a key climate resilience need
- Development of Permanent Upper Columbia Mitigation Program
  - Mainstem Mitigation Credit program above John Day Dam

Promises the Basin Made and Remains Committed too:

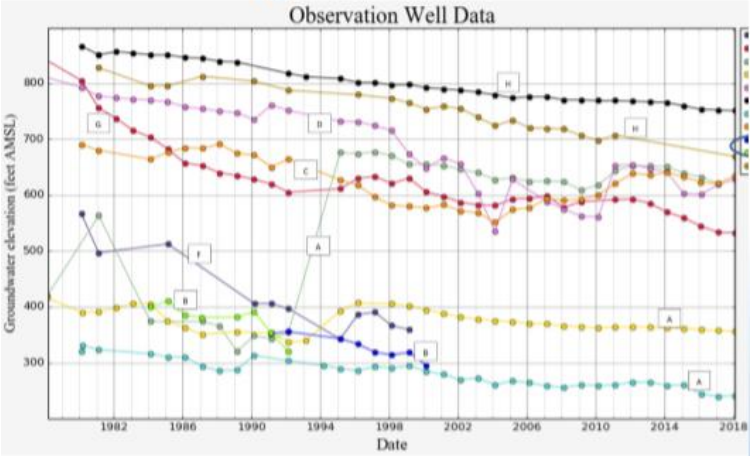
- Private Business will Pay its fair share
  - The first two projects (not counting time value of money) breakdown to the following
    - East and West costs = $83 Million ($11 million public/$72 million private)
    - 14% public/86% private investment
    - $122.00 af public/$744.00 af private
- Projects will facilitate measurable economic return
  - The new Port of Morrow Economic Impact Analysis is out!
  - Over $600 million in new plant investments in the last year alone
- Projects will facilitate tangible environmental and public benefit (note for discussion here)
  - Basalt Savings and Banking
  - Fish Screens
  - Mitigation

Water Rights, Projects and Basalt Bank Test Region

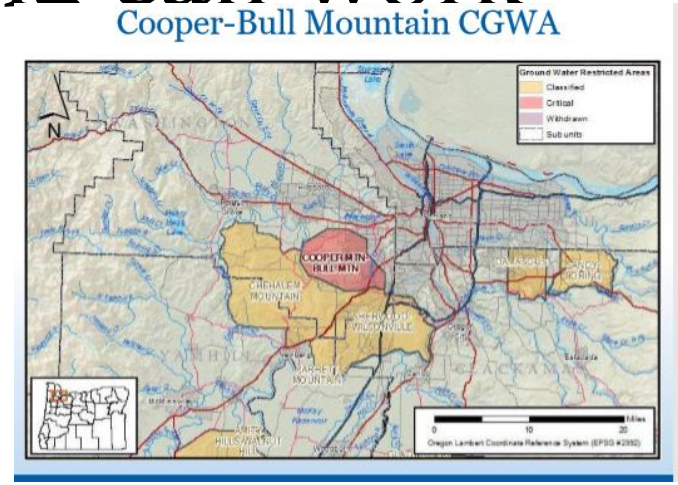


Basalt Hydrographs
Why we think basalt savings/banking can work

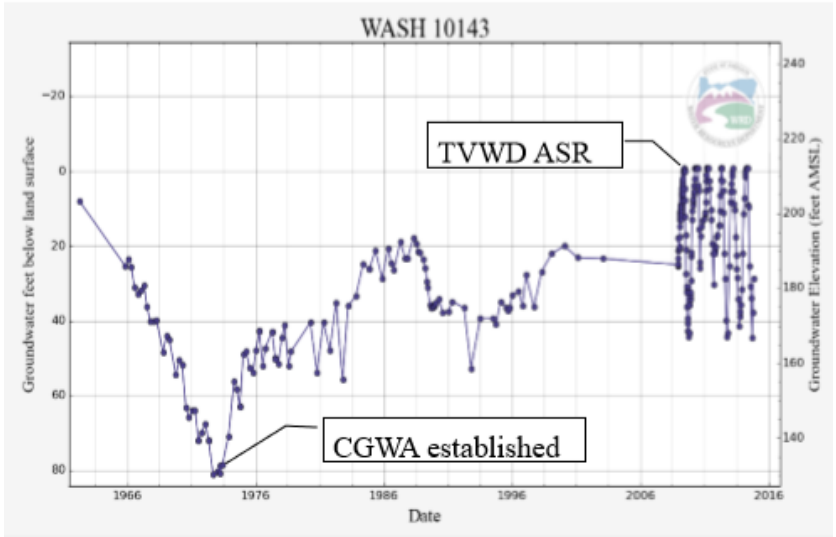
Stage Gulch CGWA



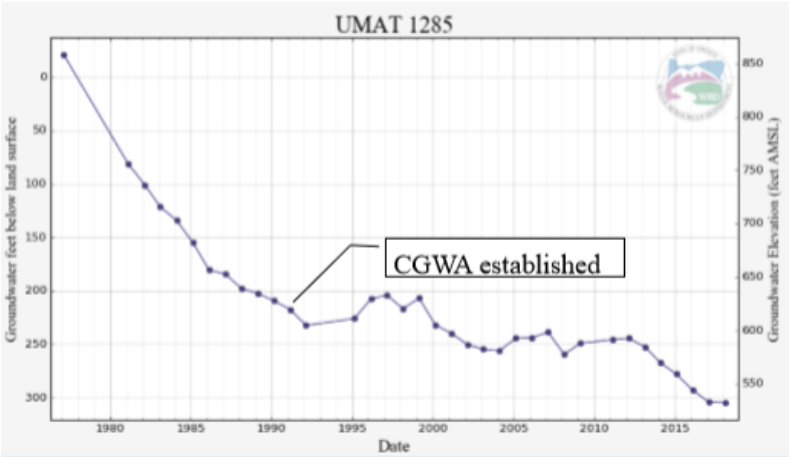
Cooper-Bull Mountain CGWA



Cooper-Bull Mountain CGWA



Stage Gulch CGWA – Subarea G



Basalt Bank Testing Needs

Need #1: Replacement Water

- No way to relieve pressures on basalt without replacing basalt allocation with a different water source

- Note: We can't buy our way out of this problem

Need #2: Need to make Columbia River cost equal to or less than groundwater pumping cost

- Cost to pump groundwater is +/-$60
- Cost to pump Columbia River water is $125
  - Need to either get state to pay for full pipe or use a trust account to pay the farmer the difference (+/- $65) to make going to the river a wash

Need #3: A way to protect participants and saved groundwater, and monitor the aquifers response (5 year test)

What does HB 2819 Do?

Needs and Purpose of HB 2819

Regional Needs (identified through the 2018 Basalt Stabilization Work Group):	**What HB 2819 Does:**
Need #1: To test strategies to save and bank groundwater currently being pumped, senior water rights holders need assurance that both their water rights will be protected and that water they agree not to be pump will be protected from others pumping it during the testing period.	**HB 2819** ensures that landowners participating in a groundwater savings program will: 1) Be protected from losing their current water rights 2) See that water they save will be protected by the State from further appropriation
Need #2: As the Columbia River projects are currently more expensive than pumping groundwater, a cost share must be instituted to make up the difference between pumping sustainable Columbia River water and pumping native groundwater.	**HB 2819** provides funding, during a pilot period, to make up the difference between pumping the more expensive Columbia River water and pumping native groundwater, ensuring that water right holders will be able to participate in the program without being harmed financially.
Question to be Answered through Pilot: Can we recover our groundwater aquifers **naturally**	

Four planning efforts have lead us to this step:
Umatilla Basin Groundwater Task Force (1986), Umatilla Sub-Basin 2050 Water Management Plan (2008), Columbia River – Umatilla Solutions Task Force (2013), Governor's Basalt Stabilization Work Group (2018)

Questions that Basalt Stabilization and Bank Testing Could Help Answer:

- Are Sub-Areas and SAY's accurate (who's connected to who and how much pumping is sustainable?
- Can mother nature stabilize or recover statics without artificial injection?
- Can the Umatilla Basin meet its water demands sustainably while also building an underground storage account for drought and climate change resiliency?

Resources

- 2050 Plan and Appendices
  - http://www.co.umatilla.or.us/planning/pdf/2050%20Plan%20Final.pdf
- USGS Information on Stage Gulch CGA
  - https://pubs.usgs.gov/sir/2012/5261/
- OWRD Groundwater Studies
  - http://www.oregon.gov/owrd/pages/gw/gw_pubs.aspx

NORTHEAST OREGON WATER ASSOCIATION

Contact Information

J.R. Cook, Director

MAILING: P.O. Box 1026, Pendleton, Oregon 97801

PHONE: 541~969~8026

EMAIL: JRCOOK@NORTHEASTOREGONWATER.ORG

WEB: NORTHEASTOREGONWATER.ORG