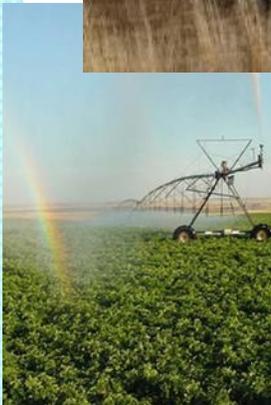


# Odessa Groundwater Replacement Program (OGWRP)

## Columbia River Basin Water Management Program - Policy Advisory Group (PAG)

October 15, 2015; Ellensburg, WA



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# Overview

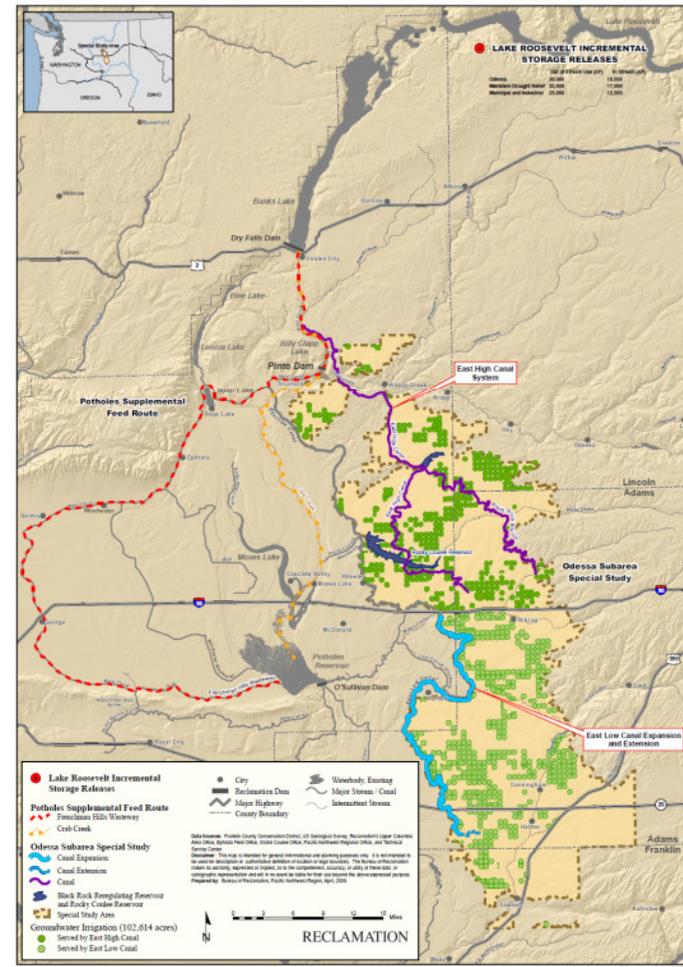
- Columbia Basin Projects
- OGWRP Partnerships
- OGWRP Water Supplies
- East Low Canal Improvements
- OGWRP Delivery Systems
- EL47.5 Delivery System
- Moving Forward
- Questions/discussion





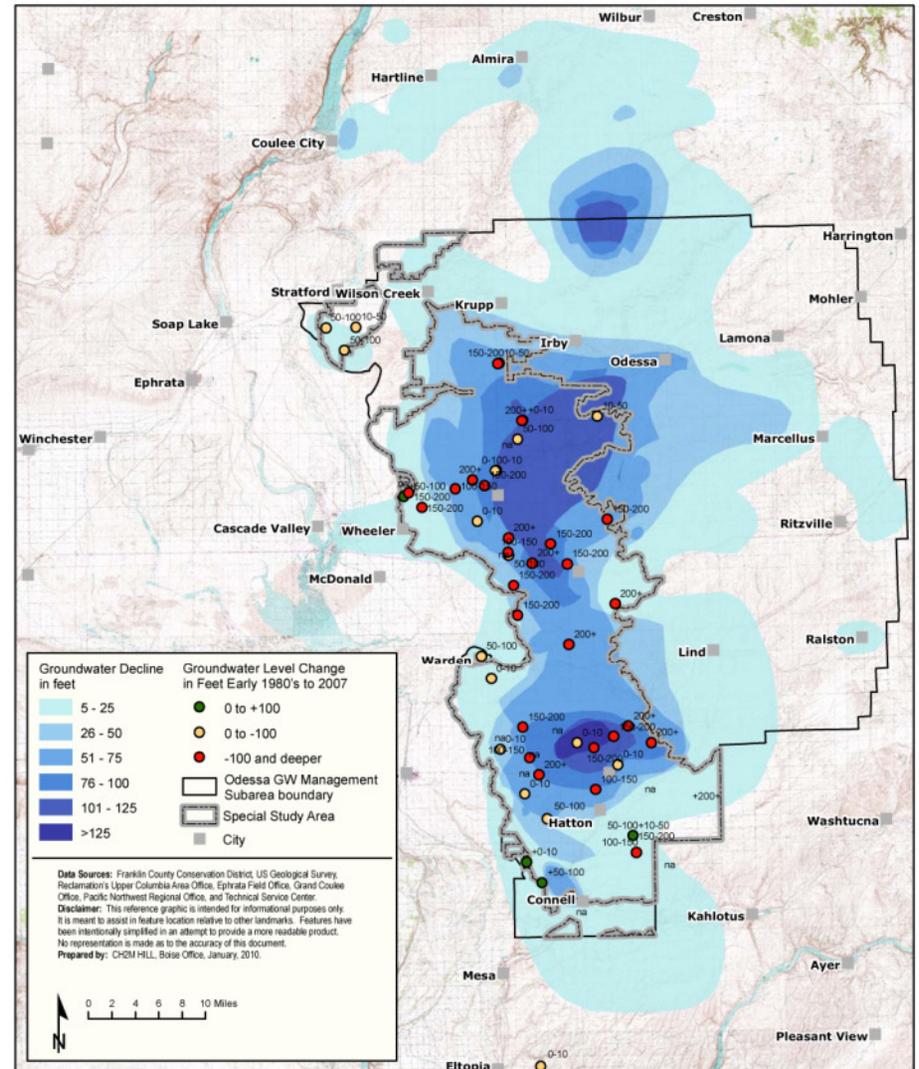
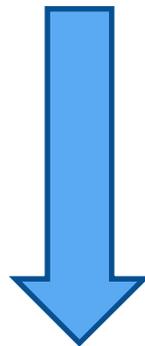
# Columbia Basin Projects

- Weber Siphon Complex
- Lake Roosevelt Incremental Storage and Releases Program (LRIRP)
- Potholes Supplemental Feed Route
- Odessa Groundwater Replacement



# Odessa Subarea

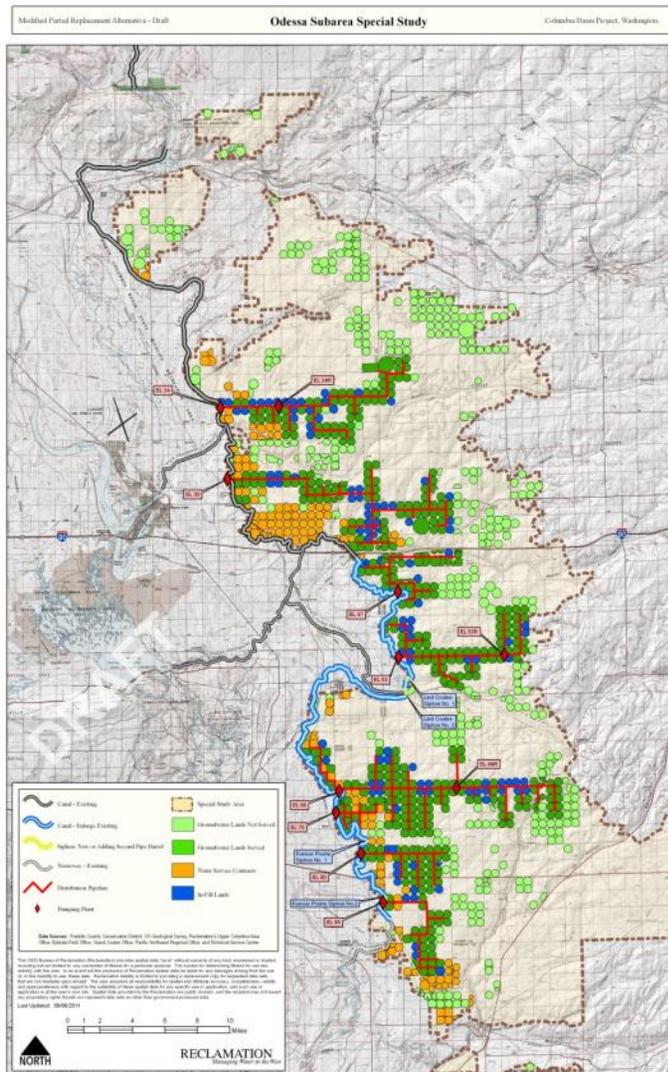
a declining aquifer



Odessa Subarea Special Study  
 Columbia Basin Project, Washington

Map 2  
 Groundwater Level Decline in Aquifers  
 of the Odessa Subarea, 1981 to 2007

# Odessa Subarea Special Study



- Replace current groundwater irrigation in Odessa Subarea with CBP surface water
- Avoid economic loss and address declining groundwater for agriculture & other uses
- Fulfill obligation made by Reclamation and Ecology in the Columbia River MOU

# Odessa – Final EIS

## Modified Partial Replacement Alternative

- Maximize use of existing federal infrastructure
- Provides replacement water both north and south of I-90
- Allows phased development



East Low Canal at Bifurcation Plant

# Weber Siphon



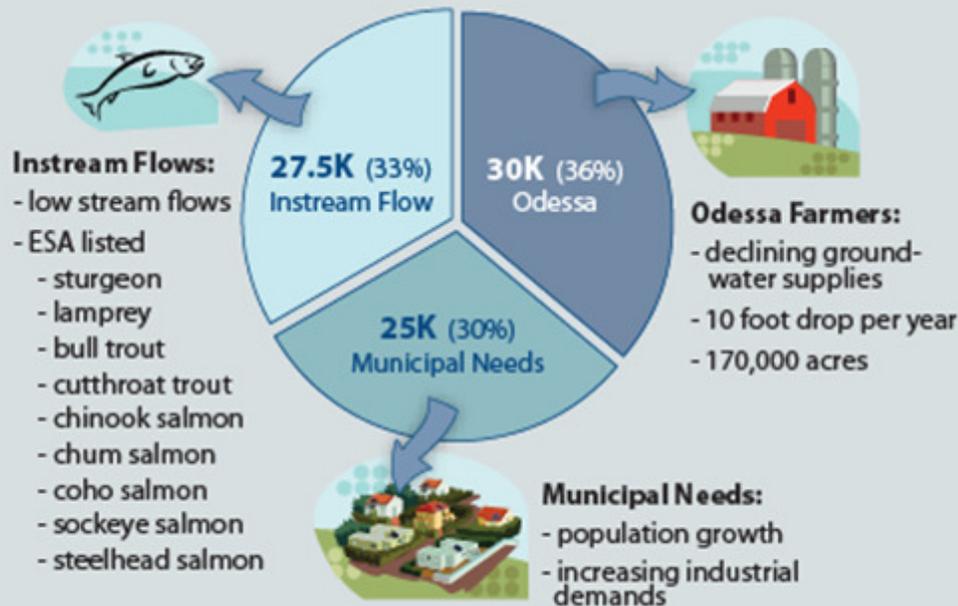
- To deliver surface water from the Columbia River to Odessa lands, existing water conveyance systems require improvements.
- This include installing new siphons (Weber Siphon Complex) under Interstate 90.

# Lake Roosevelt Incremental Storage Releases (LRIRP)

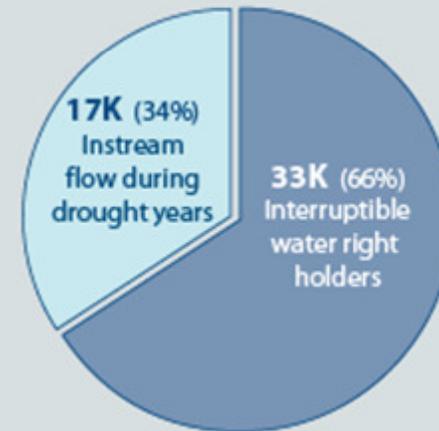
## Lake Roosevelt Incremental Storage Releases

Operational change of 1 foot annually and 1.8 feet during drought

The Lake Roosevelt storage release would divert up to 82.5K ac-ft of water for:

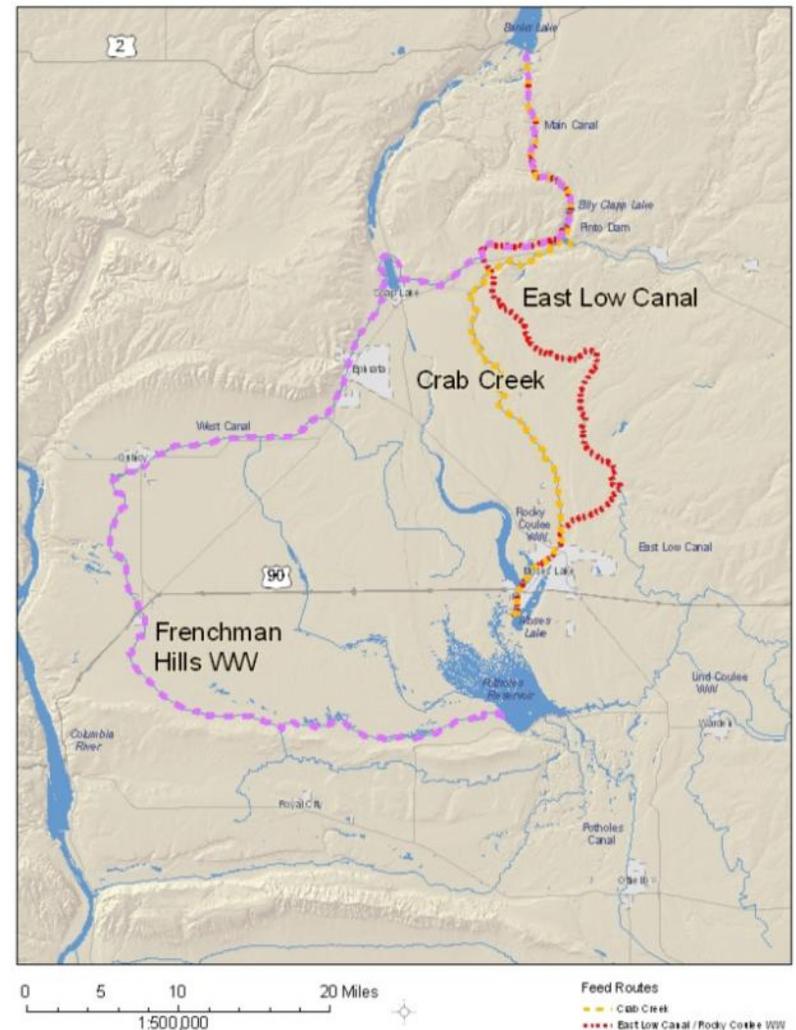


In a drought year an additional 50K ac-ft of water for:



# Potholes Supplemental Feed Route

- **Goal to provide alternative feed routes to secure South Columbia Basin Irrigation District CBP water supply (to Potholes Reservoir)**
- **Frenchman Hills Wasteway**
  - **Additional Capacity**
    - 25,000 acre-feet
- **Crab Creek**
  - **Annual Capacity**
    - 100/500 cfs
    - 126,000 acre-feet
  - **Spring Flow Capacity**
    - 500 cfs
    - 54,000 acre-feet



# Coordinated Conservation Program

- Piping and lining projects between all three CBIDs
- Current limit 30,000 acre-feet (MWSC)
- Approx. 26,000 acre-feet conserved since 2009





# OGWRP Partners

- **Department of Ecology**
  - Funding, Secondary use permit
  - Office of Columbia River & Eastern Regional Office
- **U.S. Bureau of Reclamation**
  - Columbia Basin Project (CBP) Federal facilities, Water Right
- **East Columbia Basin Irrigation District**
  - Contract with Reclamation for O&M
  - WSC with landowners
- **Landowners**
  - Participation; WSC with District



# State Contribution

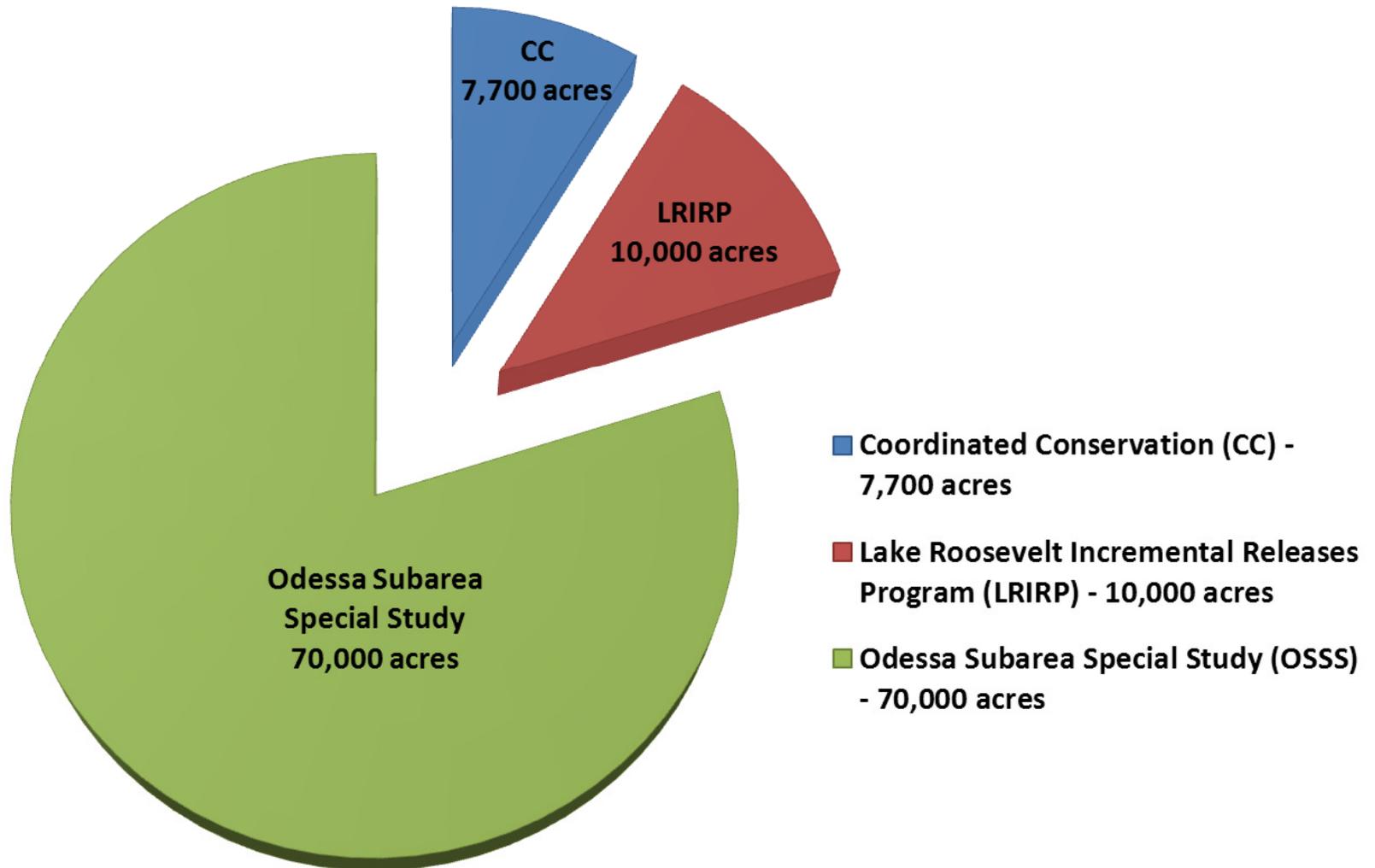
- Since 2005, the State has invested nearly \$75 million in Odessa related projects to-date, including:
  - Lake Roosevelt Incremental Storage Releases Program
  - Potholes Supplemental Feed Route
  - Coordinated Conservation Program
  - Odessa Subarea Special Study
  - East Low Canal Improvements

# OGWRP Water supplies

- OGWRP Total = ~87,700 acres
  - Odessa Subarea Special Study (OSSS)
    - 70,000 acres
  - Lake Roosevelt Incremental Storage Releases Program (LRIRP)
    - 10,000 acres
  - Coordinated Conservation
    - ~7,700 acres



# OGWRP Water Supplies



# OGWRP Water supplies

- **Coordinated Conservation & LRIRP**
  - 17,700 acres available
  - ~10,000 acres for District system (EL47.5)
  - ~7,700 acres for non-District systems
  - Water Service Contracts (WSC)







## ELC Improvements

- Zone 1 – 96% complete (13 miles ELC)
- Zone 2 – 60% complete (31 miles ELC)
- ~2.5M cubic yards of total material
- Earthwork to be completed May 2016
- District crews and machinery performing widening activities
- Roughly \$2.2/C.Y.
- O&M road, seeding spoils, riprap install

# ELC Improvements



# ELC Improvements





## ELC Improvements

- 2 county road bridges in Zone 1 are being addressed by the District
- Working w/ Adams Co. and Grant Co.
- Contract with design engineers
- 1 bridge replacement/ 1 bridge improvement
- Additional bridge work required:
  - 2 bridges in Zone 1
  - 8 bridges in Zone 2

# ELC Improvements



# ELC Improvements





# ELC Improvements

- **Lind Coulee Siphon No.1 & 2**
- Reclamation Technical Service Center (TSC) design work (funded by DOE)
- District Project Management/Contract Administration
- Technical support from USBR (MOA)
- Currently ~60% complete (May 2016)
- Three (3) additional siphon barrels and five (5) additional radial gates required

# ELC Improvements



# ELC Improvements



# ELC Improvements









# OGWRP Delivery Systems

- Original alignment from USBR feasibility study – anticipates infill lands
- Currently 7 canal side pump station systems
- Normalized cost for full OGWRP implementation costs
- Lands must meet Ecology, Reclamation, District eligibility criteria for a WSC

# OGWRP Delivery Systems

- Closed pressurized system
- Delivery of 3 acre-feet/acre
- Max. availability 6.0 gpm/acre
- 10 psi minimum delivery pressure
- Optimization: System efficiency, cost

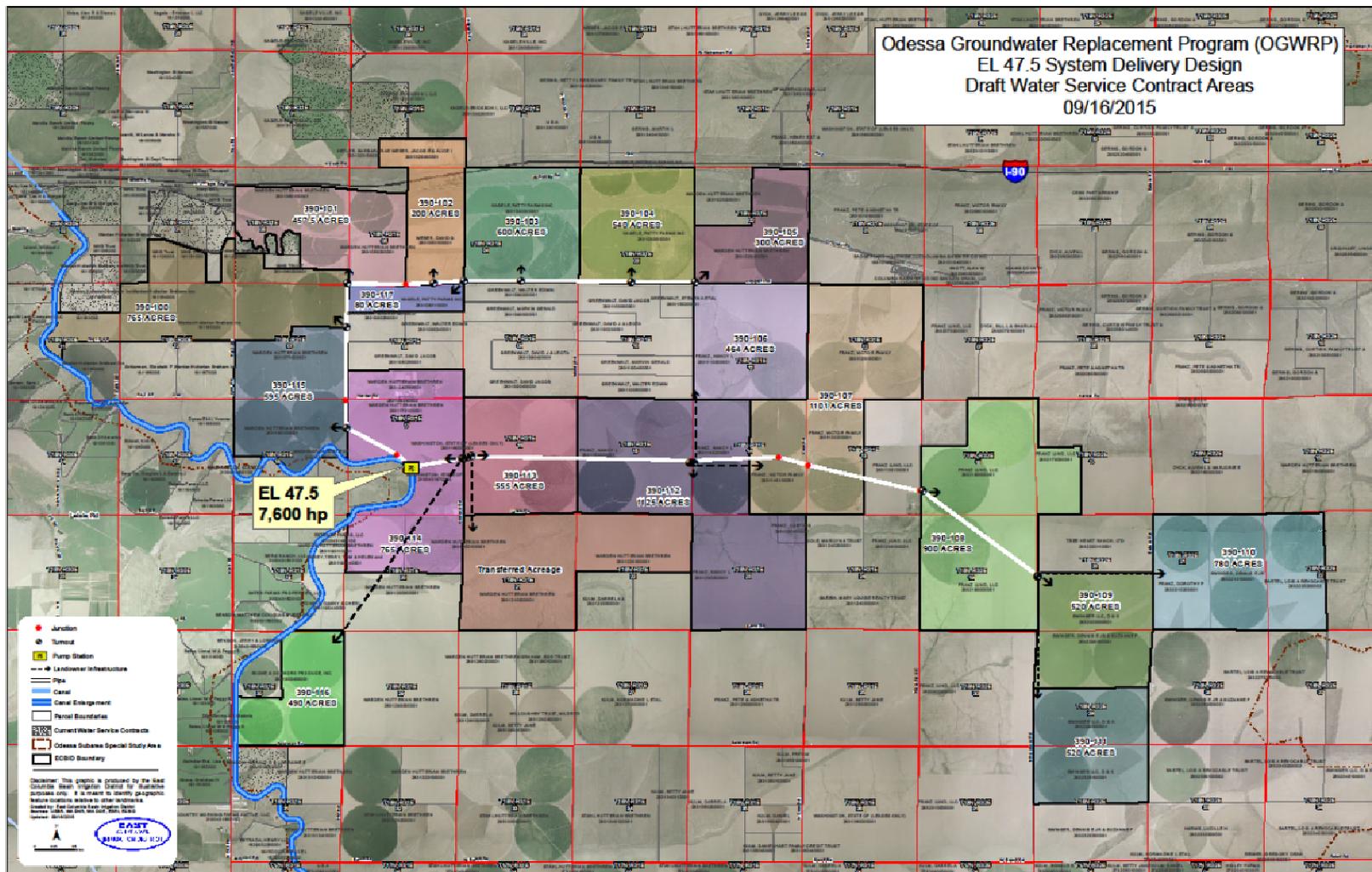


# EL47.5 Delivery System

- The District Board has prioritized ~10,000 acres GW replacement water
- 7,600 hp canal side pumping plant
- 10.5 miles of buried pressurized pipe
- Acquiring District easements, to become Reclamation easements



# EL47.5 Delivery System



# EL47.5 Delivery System

- WSCs are being drafted
- Outstanding issues
  - Maximum potential financial burden on landowners
  - Time frame for WSC execution
  - EL47.5 landowners currently not in agreement with potential ceiling and other provisions
- Financing for continued OGWRP implementation
  - Delivery system construction
  - Additional ELC improvements





## Moving Forward

- Continuing of ELC improvements under DOE Grant
  - Currently set to expire July 2016
  - ~\$13.5M expended
  - Potential additional improvements possible
- Continued EL47.5 Delivery System Design
- Continued OGWRP delivery system designs



# Moving Forward

- Continue securing financing
  - Requires Water Service Contracts (WSCs)
- Continue to work with USBR:
  - Reclassification/inclusion of lands for WSCs
  - Amended/supplemented MWSC
- Continue to work with DOE:
  - Eligible acre evaluation, water right transfers, landowner information

# Questions/discussion



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