

# Harney Basin 2017 Observation Well Drilling

Harney Basin Groundwater Study  
Advisory Committee Meeting  
April 20, 2017



Darrick Boschmann, RG  
Hydrogeologist  
Oregon Water Resources Department

# 2017 Drilling Locations

## OWRD Observation Well Pairs:

- Expand well net coverage
- Collect stratigraphic information (cuttings/core)
- Continuous data collection (every 1-2 hours)
- Shallow deep pairs
  - Determine vertical gradients
  - Investigate shallow and deep parts of GW system
- Investigate GW-SW interaction

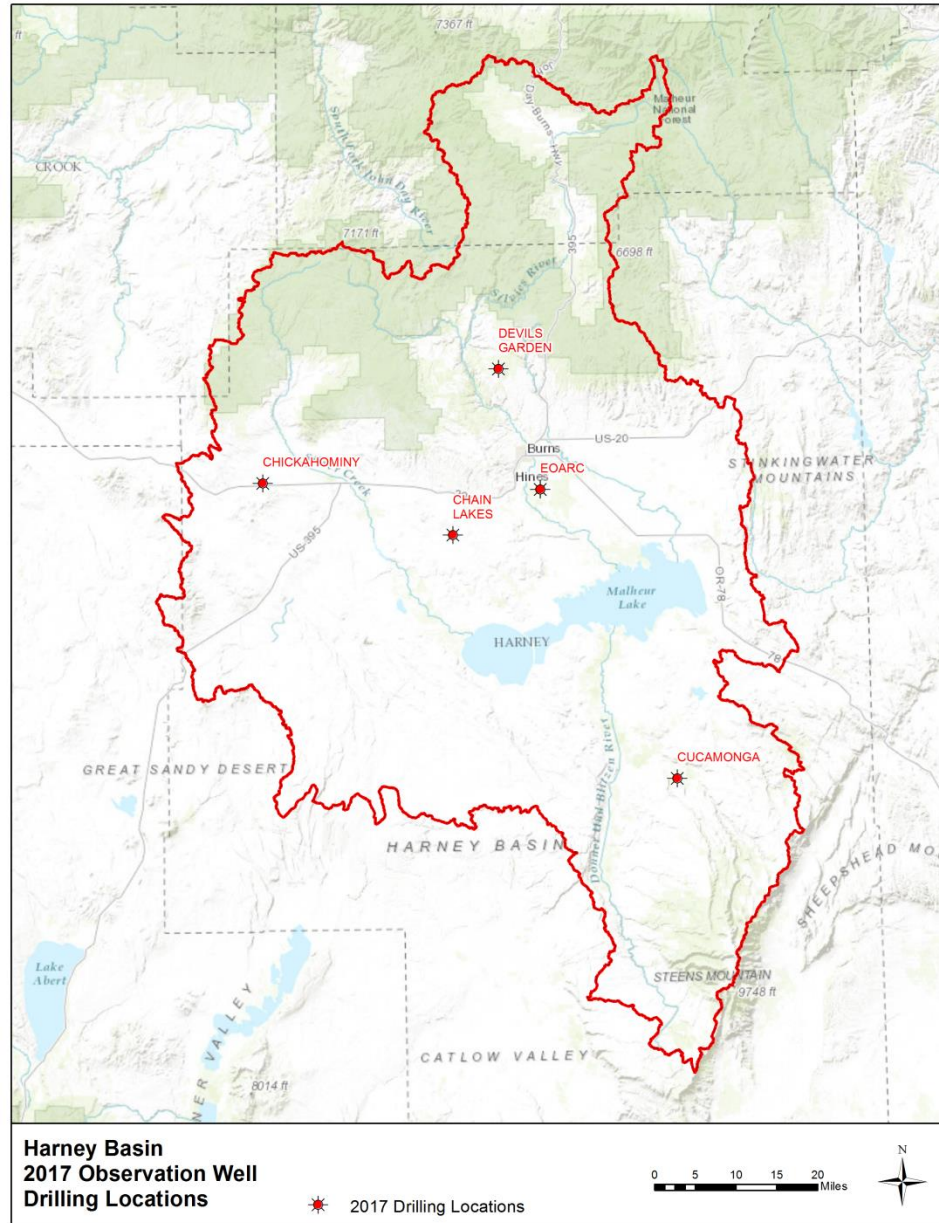
## Site Selection Criteria:

- Fill in gaps in the observation well network
- Fill in gaps in stratigraphic knowledge
- Areas of particular interest
- Accessible long term



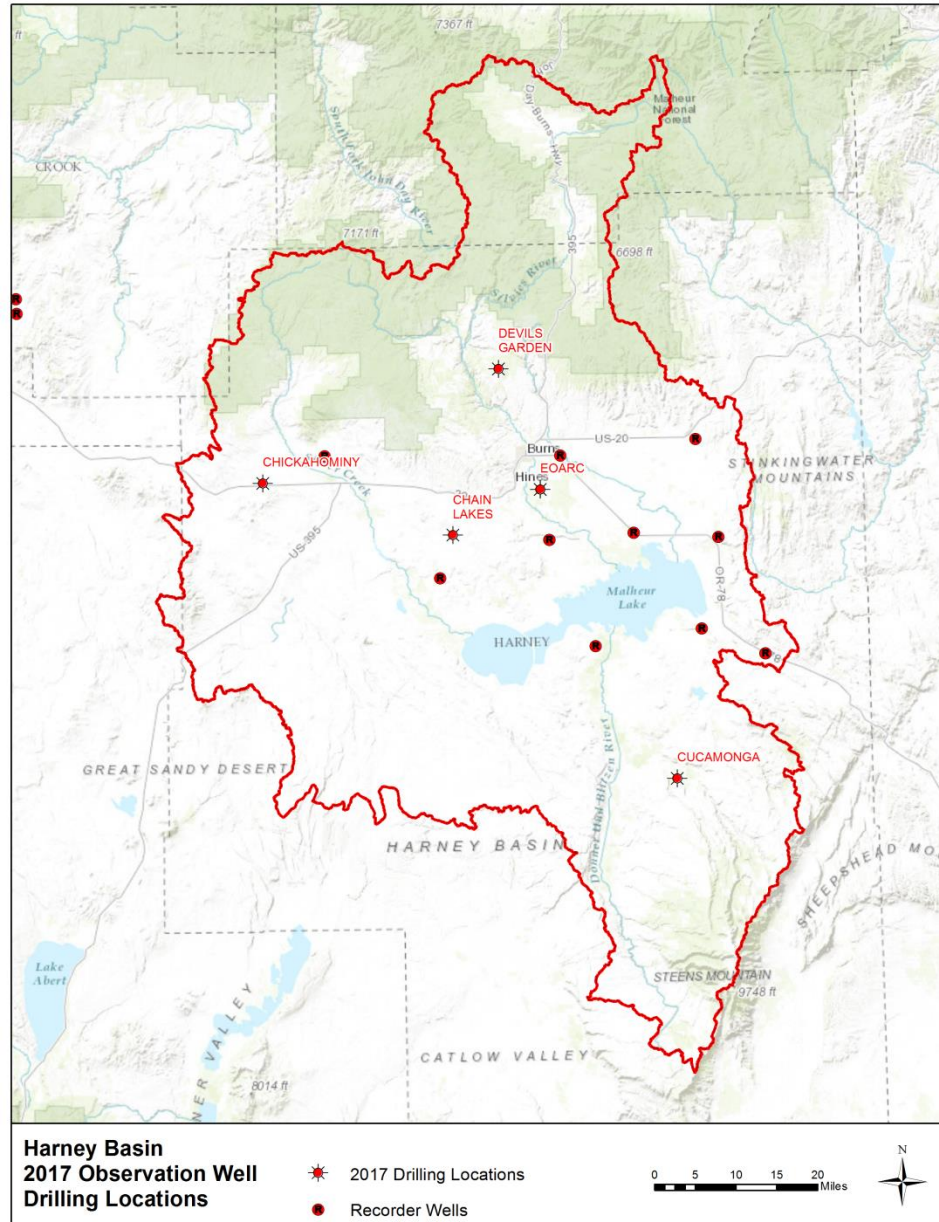
# 2017 Drilling Locations

- Chain Lakes
- Chickahominy
- Cucamonga
- Devils Garden
- EOARC



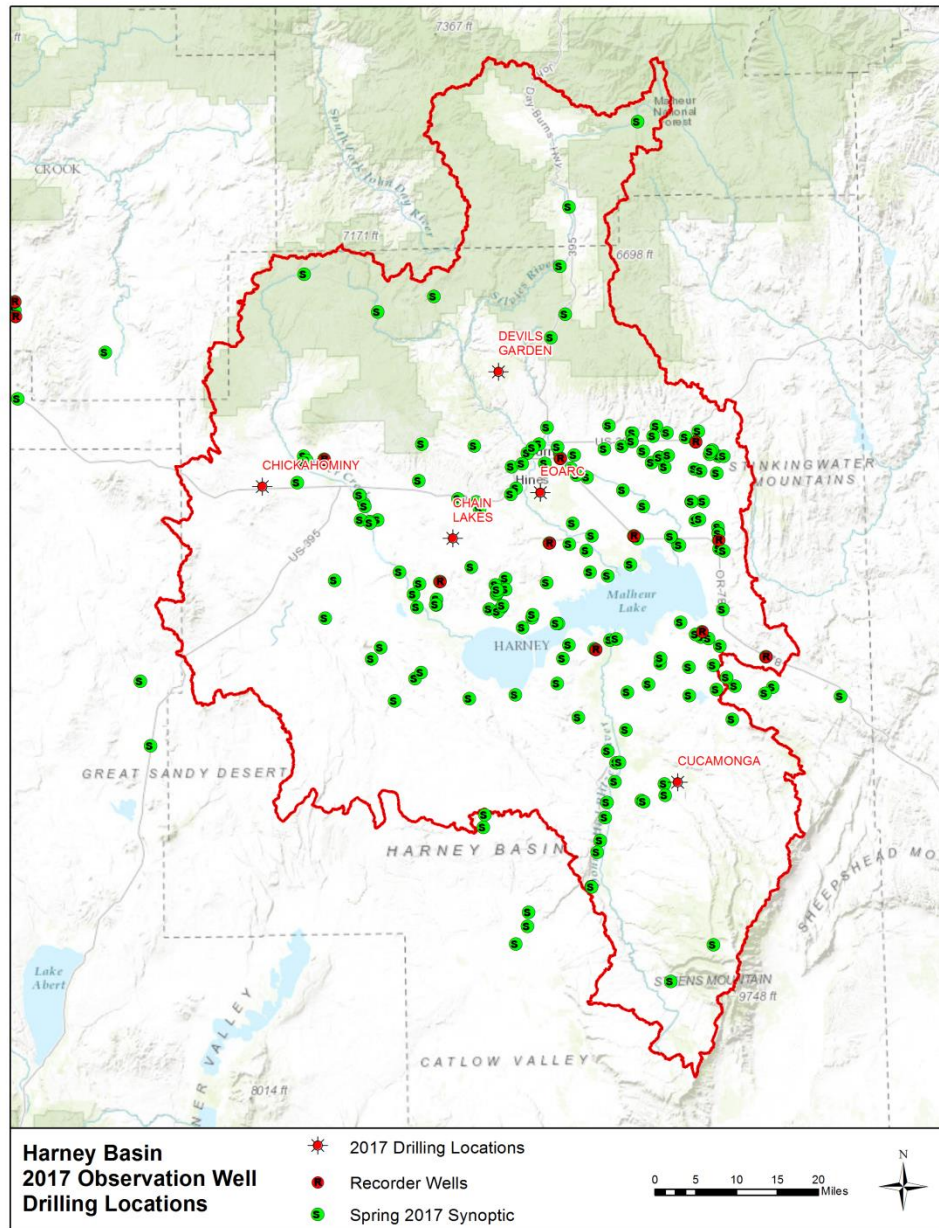
# 2017 Drilling Locations

- Chain Lakes
- Chickahominy
- Cucamonga
- Devils Garden
- EOARC



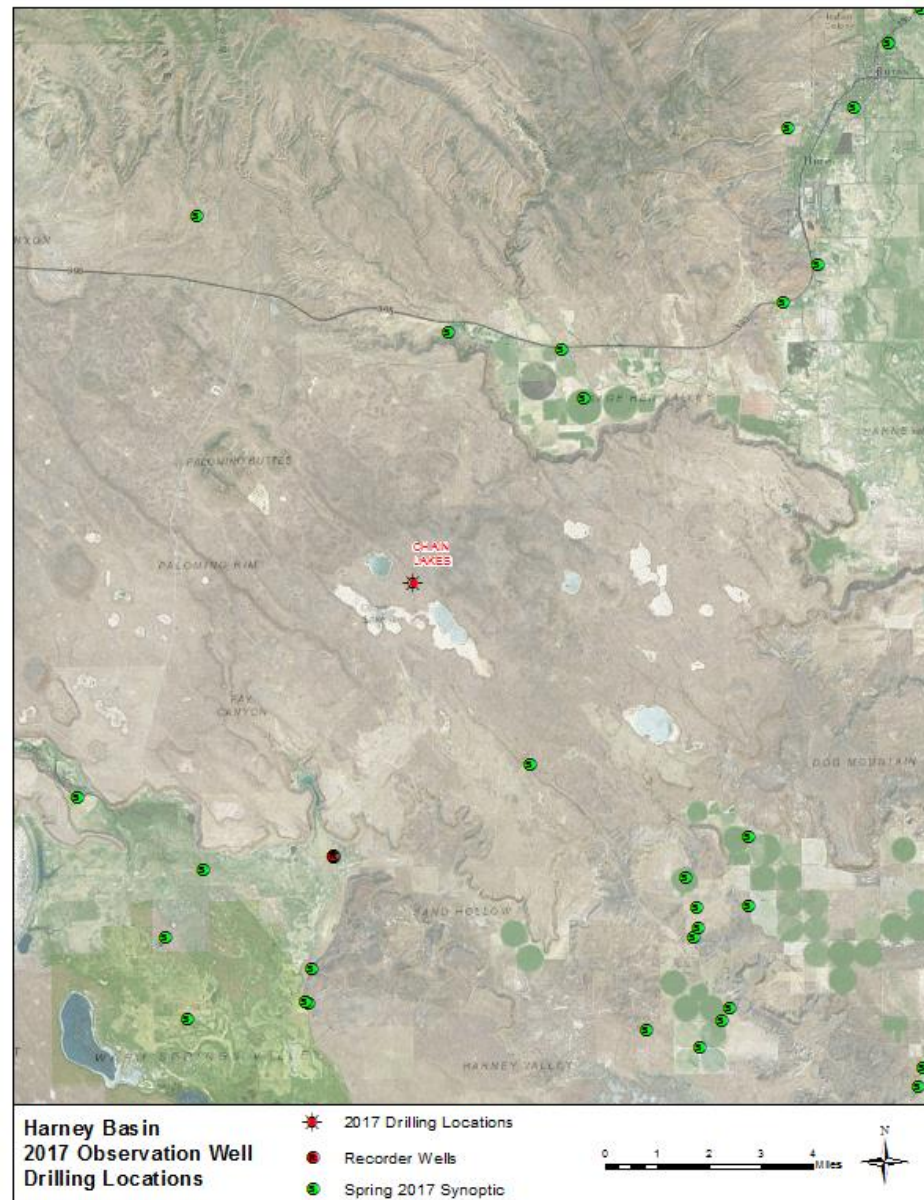
# 2017 Drilling Locations

- Chain Lakes
- Chickahominy
- Cucamonga
- Devils Garden
- EOARC



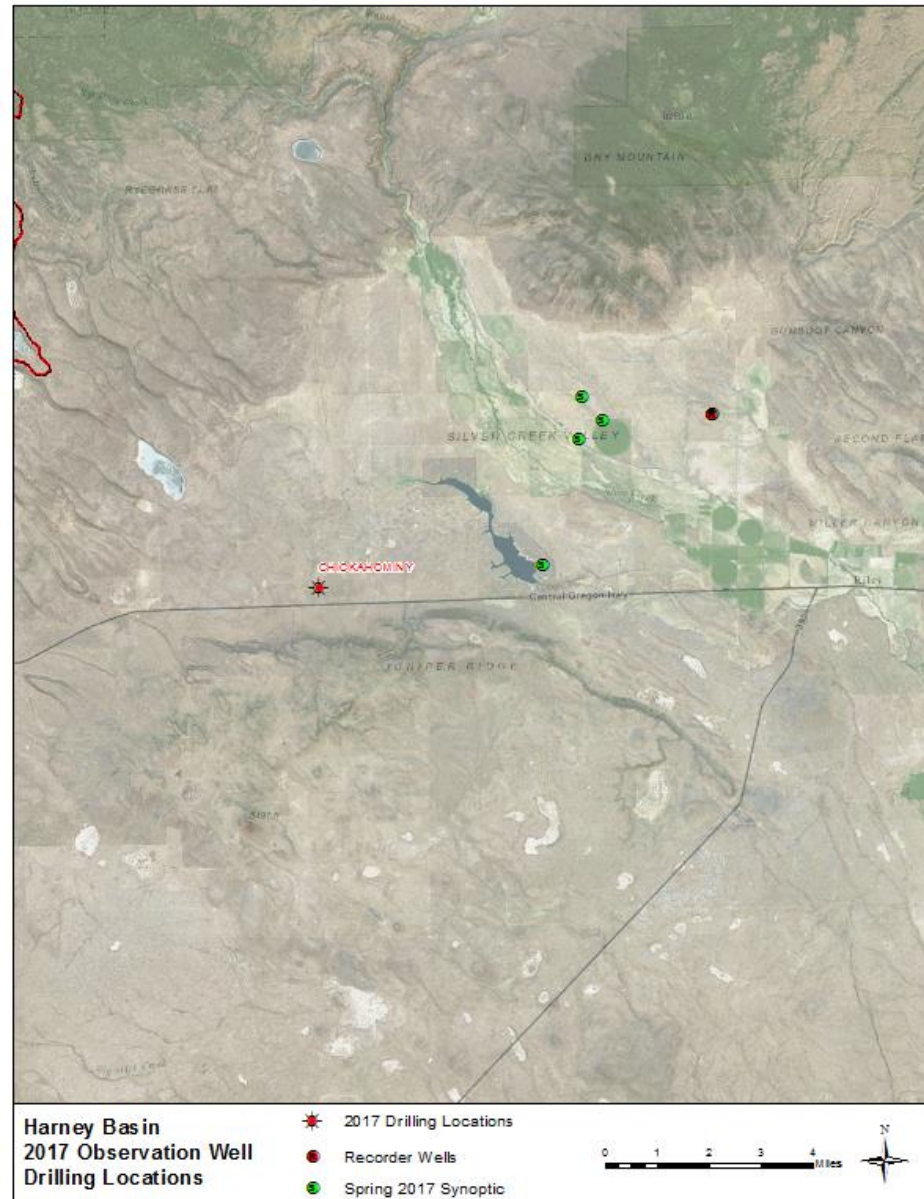
# Chain Lakes

- Fills large gap in network between Sage Hen and Warm Springs Valleys
- Currently no existing wells across this entire upland area
- Investigate presence of groundwater in the basalts
- Investigate the nature of deposits below basalt
- Vertical gradients between shallow and deeper parts of the system
- Two wells:
  - Shallow well: ~100 feet
  - Deep well: ~500 feet



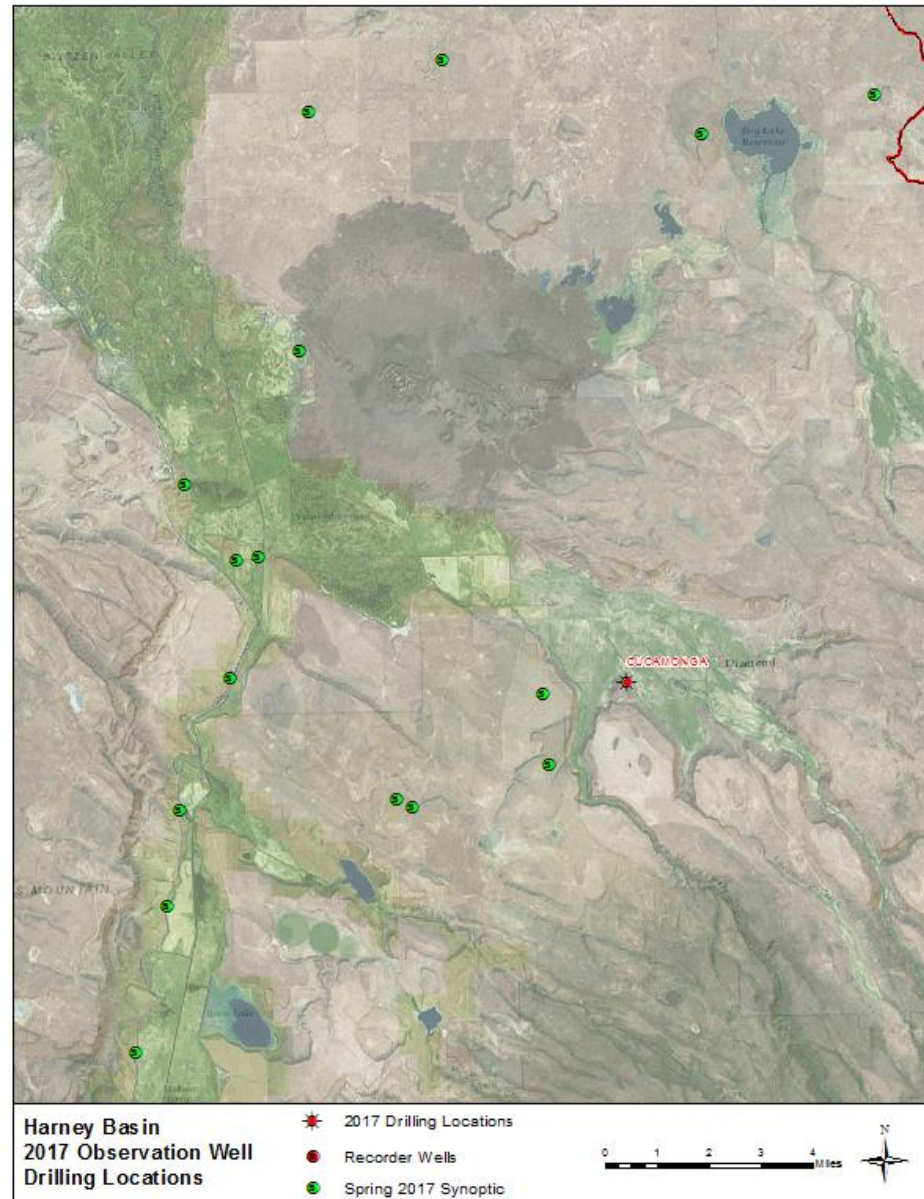
# Chickahominy

- Expands well net coverage to the west of Riley in the Silver Creek Valley
- Shallow well targets basin fill
- Deep well targets underlying basalt/volcanics
- Vertical gradients in Silver Creek Valley
- Two wells:
  - Shallow well: ~50 feet
  - Deep well: ~250 feet



# Cucamonga

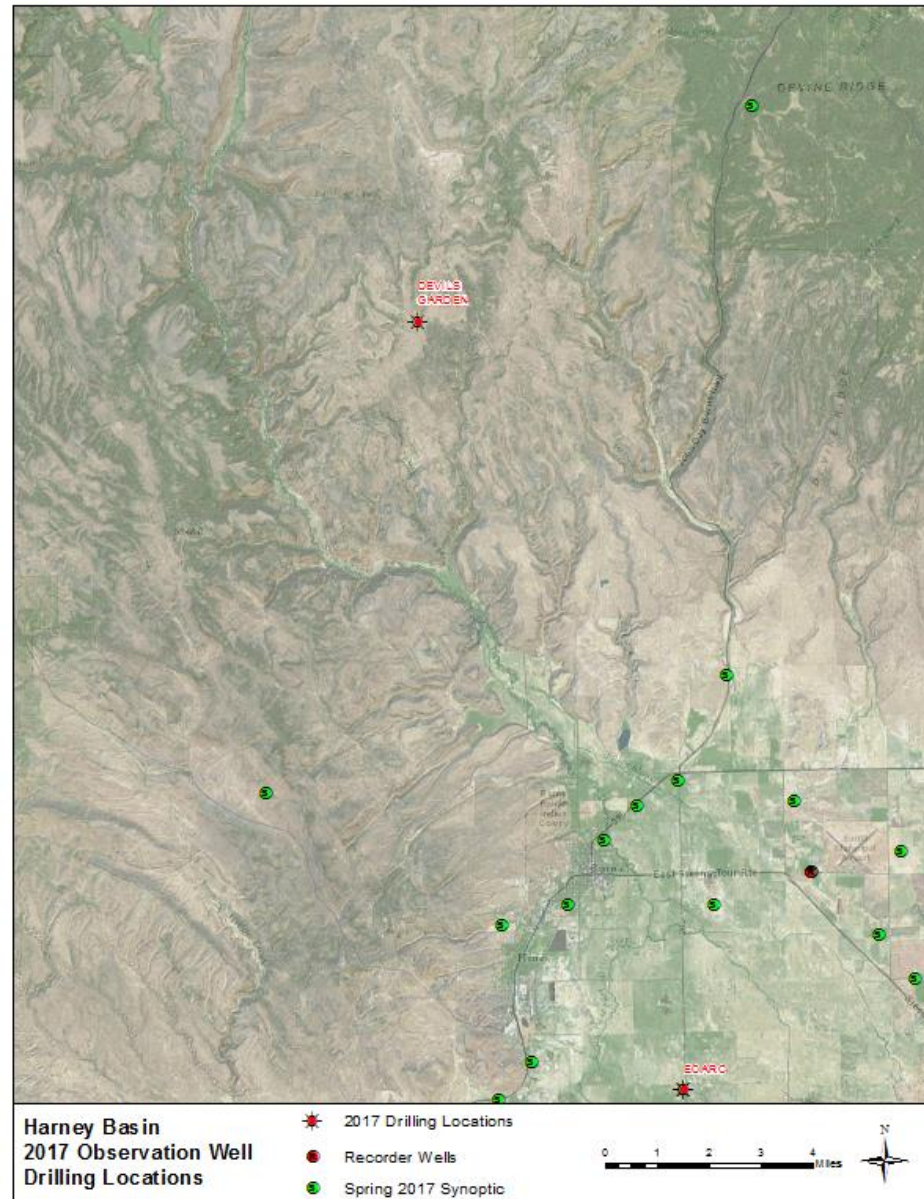
- Expands recorder coverage to the south flank of Steens
- Shallow well targets basin fill
- Deep well targets Steens Basalt
- Vertical gradients at base of Steens
- GW-SW interaction
- Two wells:
  - Shallow well: ~50 feet
  - Deep well: ~250 feet





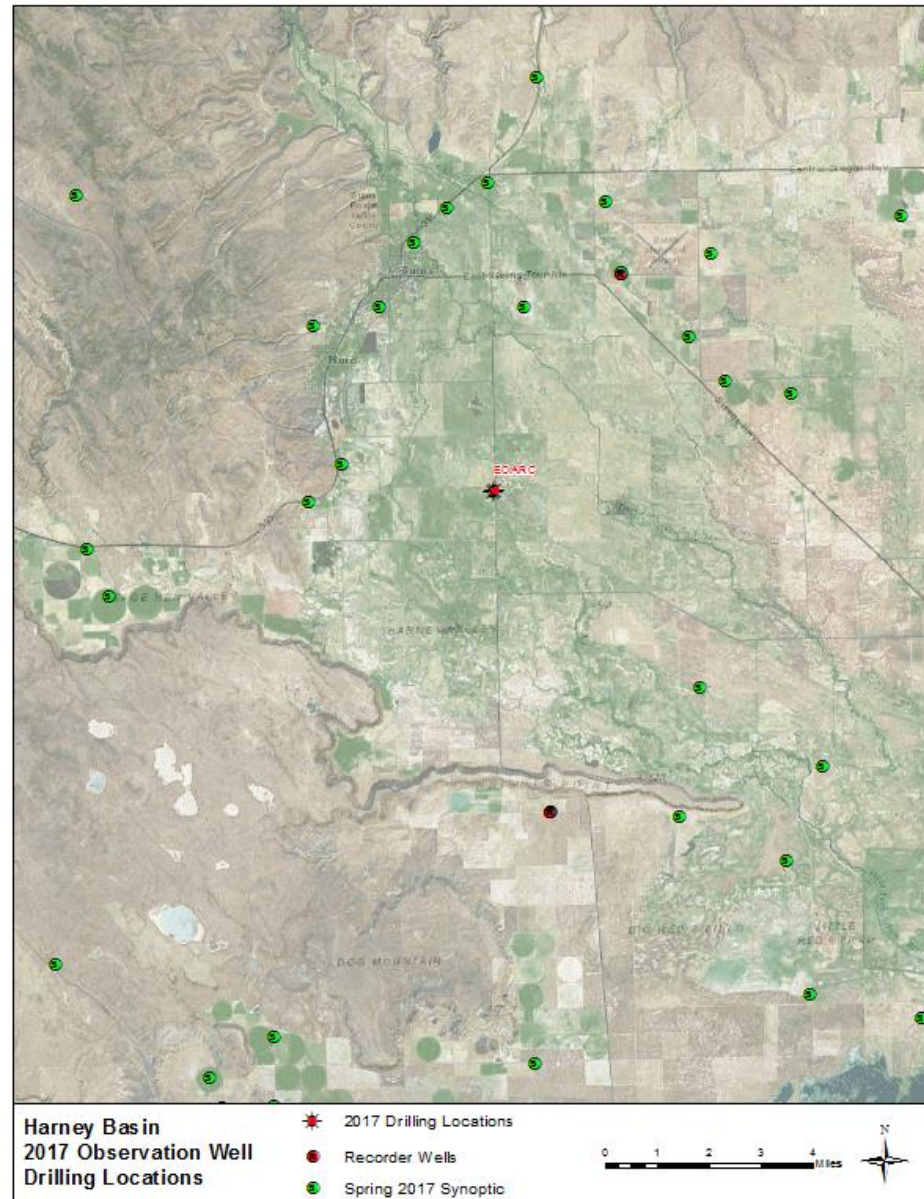
# Devils Garden

- Expands well coverage into the northern uplands
- Vertical gradients in upland recharge area
- Targets tuffs and interbedded sediments
- Two wells:
  - Shallow well: ~100 feet
  - Deep well: ~400 feet



# Eastern Oregon Ag Research Center

- Fills large gap in well network across the Silvies fan
- Evaluate GW-SW relationship at Silvies fan
- Investigate potential volcanic units at depth
- Vertical gradients at Silvies fan
- Three wells:
  - Water table well (~30 feet)
  - Shallow well (~150 feet)
  - Deep well (~500 feet)



# Thank You

## Questions?

*Darrick E. Boschmann, RG* | Hydrogeologist – Groundwater Section

Oregon Water Resources Department  
725 Summer ST. NE., Suite A Salem OR 97301

| Phone: 503-986-0853  
| Fax: 503-986-0902



# Thank You



# Supplemental Slides

