

Harney Groundwater Investigation

Groundwater Study Update

Oregon Water Resources Department



Harney Groundwater Investigation

Presentation Outline

- Project Management:
Work Plan Implementation Status
OWRD Project Activities
- Current General Observations
- Project Approach for Analyzing
“Anomalous Data”

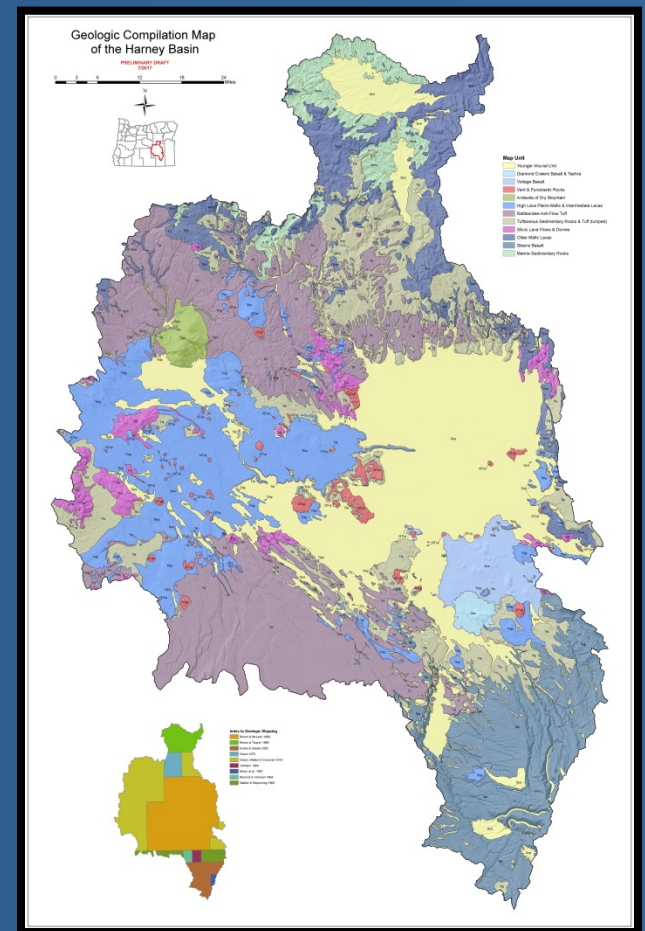
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Work Plan Implementation Status

■ Gant Chart Tasks are on Schedule:

Geology:

- ✓ Compiled Geologic Maps
- ✓ Preliminary Hydrostratigraphic Units
- ✓ 2,364 Wells Lithcoded
- ✓ Need to Convert Lithcodes at Wells to Hydrostratigraphic Units
- ✓ 9 Dedicated Observation Wells Drilled (seek 5+ more)
- ✓ DOGAMI Geologic Mapping



Source: OWRD

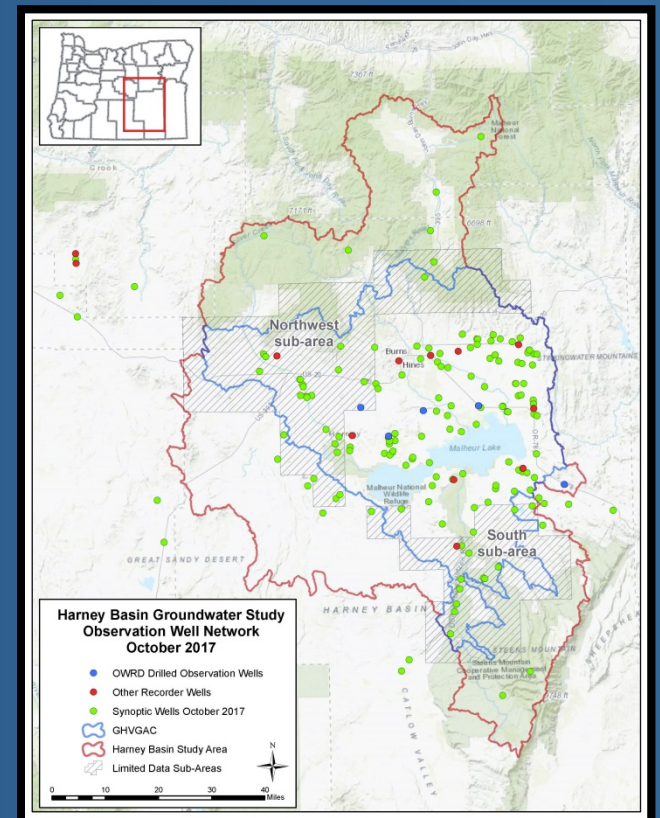
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Work Plan Implementation Status

- Gant Chart Tasks are on Schedule:

Groundwater Hydrology:

- ✓ August Quarterly Measure (118 wells)
- ✓ Fall Synoptic Measure (225+ wells)
- ✓ 21 Continuous Recorder Wells
- ✓ Groundwater Data Entry (historic & current)
- ✓ Groundwater Database Migration
- ✓ Preliminary Look at Groundwater Trends & Flow Directions



Source: OWRD

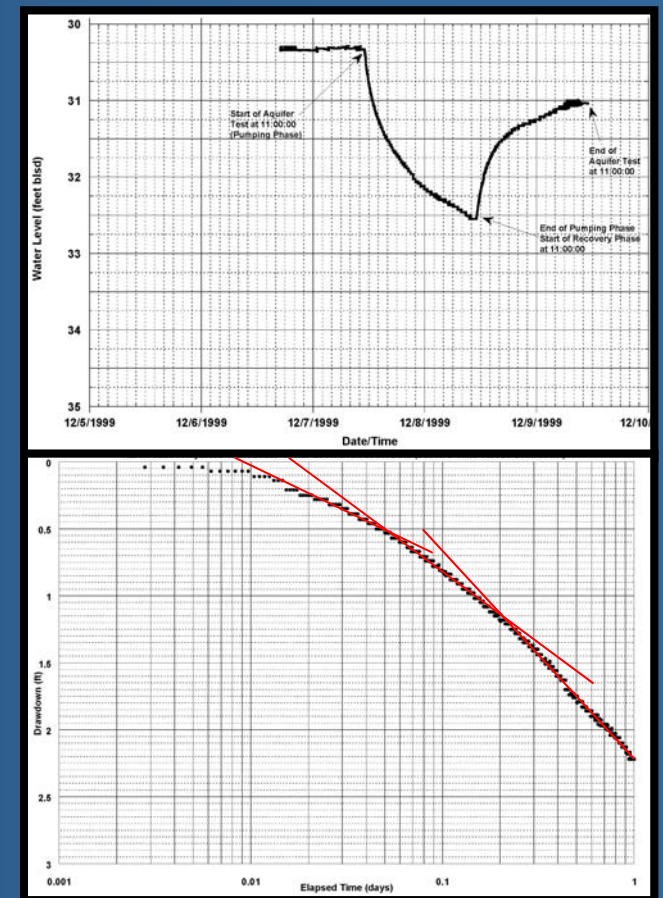
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Work Plan Implementation Status

- Gant Chart Tasks are on Schedule:

Aquifer Properties:

- ✓ Specific Capacity Data (1,592 wells)
(need to tie to hydrostratigraphic units)
- ✓ Anticipate Conducting Aquifer Tests
(January-February period)
- ✓ Anticipate Aquifer Property Analyses



Source: OWRD

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Work Plan Implementation Status

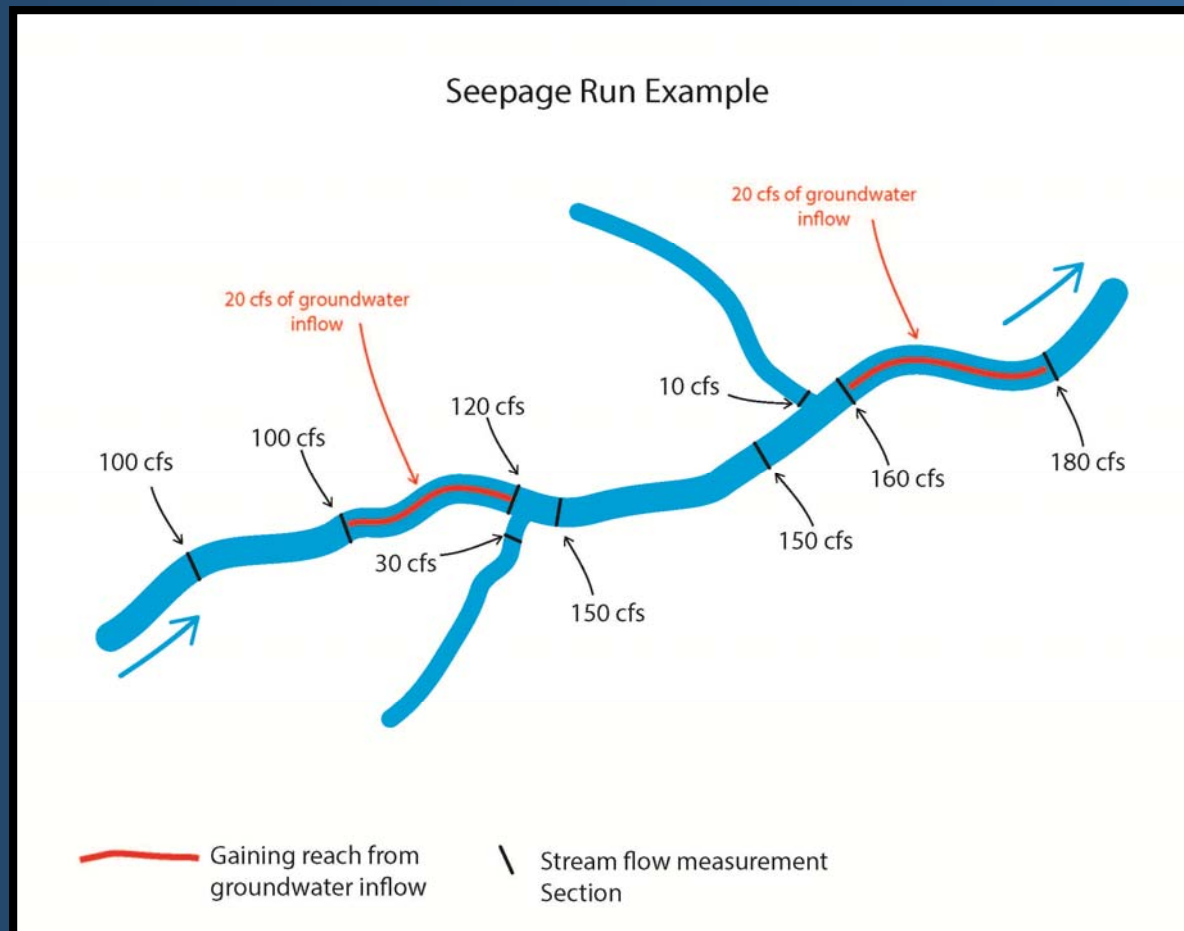
- Gant Chart Tasks are on Schedule:
Groundwater Budget:
 - ✓ 2 Evapo-Transpiration Stations Set
 - ✓ Warm Springs Valley
(springs discharge measured)
 - ✓ Surface Water Seepage Run Planned
(sections of Silvies River, Silver Creek,
Donner Und Blitzen tributaries, other)



Source: OWRD

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Work Plan Implementation Status



Source: OWRD

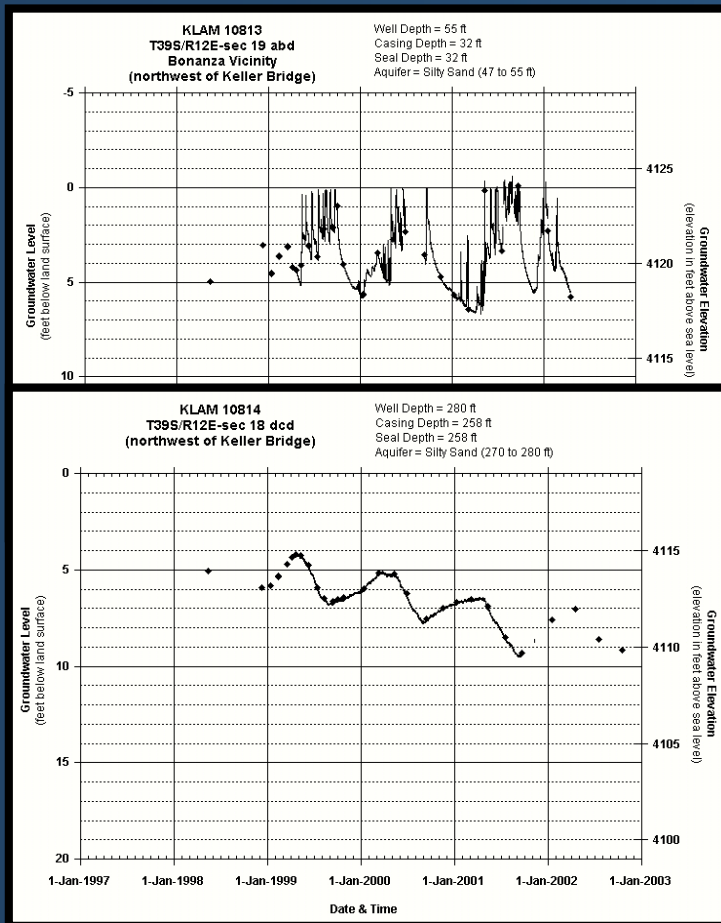
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Current General Observations

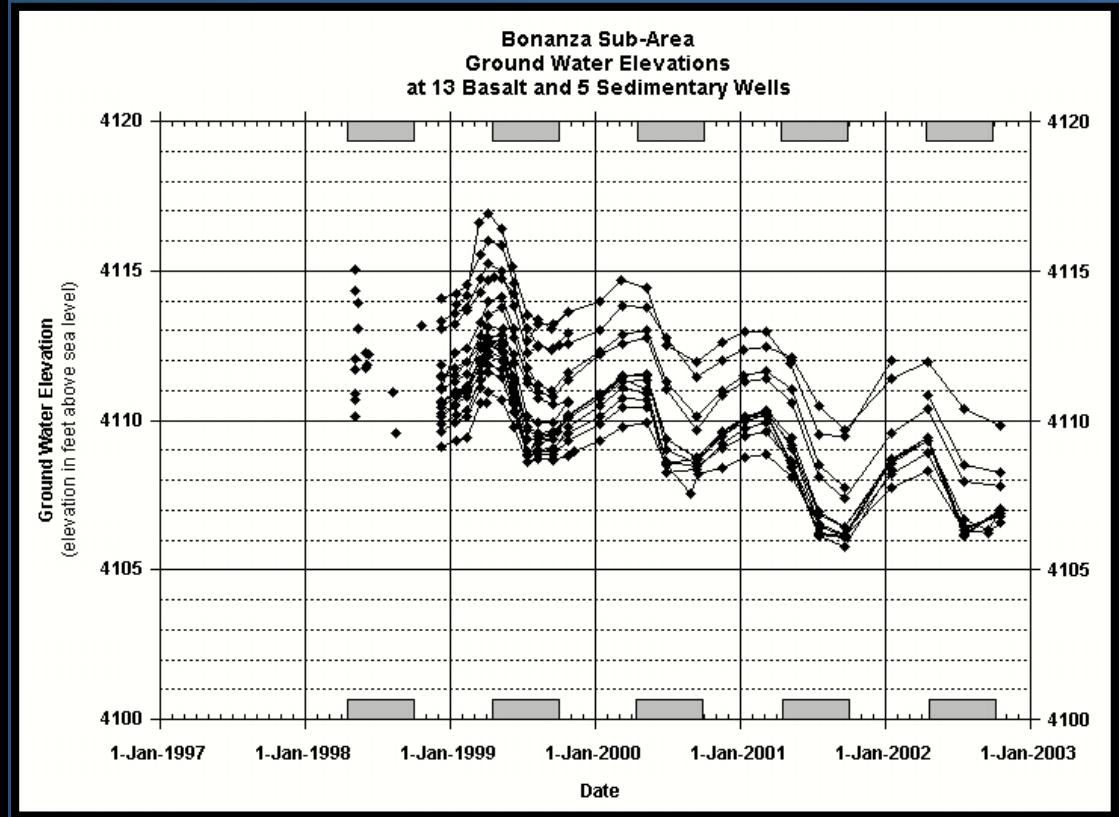
- Groundwater Flow in the Silvies River, Silver Creek, and Donner und Blitzen Watersheds in General Flows Toward Malheur-Harney Lakes with Local Perturbations & Possible Outflow in Virginia Valley (seek additional data to better define groundwater flow)
- Winter 2017 Moisture Influence on Groundwater at Some Wells
- Ongoing Groundwater Level Declines Continue in Weaver Springs & Crane-Buchanan Areas
- Rate of Groundwater Level Decline Adjacent to Weaver Springs Area Appears to be Less than within Weaver Springs Area
- 4,100 – foot Groundwater Level Contour Appears to Have Migrated from the Wrights Point Vicinity to North of Highway 20

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Analyzing Anomalous Data



Source: OWRD



Source: OWRD

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Analyzing Anomalous Data

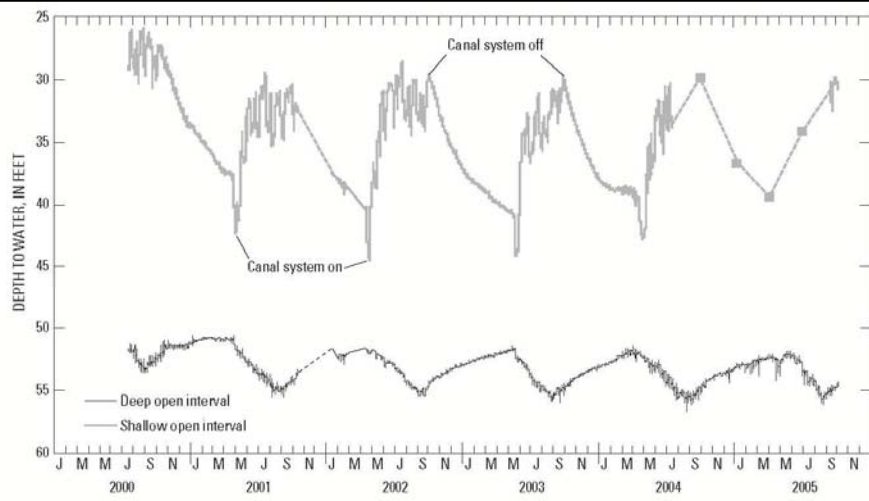


Figure 28. Water-level fluctuations in shallow and deep water-bearing zones in double-completion well 39S/12E-35ABB near Lorella, Oregon.

Source: USGS

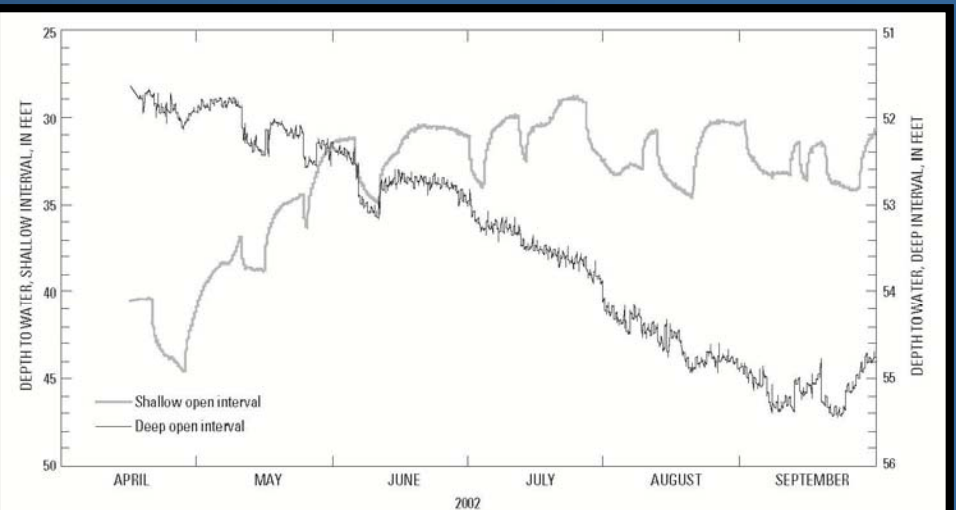


Figure 29. Water-level fluctuations in shallow and deep water-bearing zones in double-completion well 39S/12E-35ABB near Lorella, Oregon, with time scale expanded to show effects of nearby ground-water pumping.

Source: USGS

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Questions & Thank You



Photo by Chad Sobotka