Greater Harney Valley – Groundwater Study Advisory Committee Meeting
Thursday, October 20, 2016
11:00am – 5:00pm
Harney County Community Center – 484 Broadway St., Burns, OR

Meeting Summary

Participants

Advisory Committee Members
Allison Aldous, The Nature Conservancy
Angie Ketscher, Citizen/Landowner
~~Brandon Haslick, Burns Paiute Tribe (not present)~~
~~Brenda Smith, High Desert Partnership (not present)~~
~~Dan Nichols, County Commissioner and Landowner (not present)~~
Erin Maupin, Citizen/Landowner
Fred Otley, Citizen/Landowner
~~Herb Vloedman, Citizen/Landowner (not present)~~
Gary Ball, US Fish and Wildlife Services
JR Johnson, Oregon Water Resources Department
Karen Moon, Harney County Watershed Council
Mark Owens, Citizen/Landowner
Steve Rickman, Business Owner/Landowner
Tony Hackett, Downright Drilling
~~Wayne Evans, Citizen/Landowner (not present)~~

Groundwater Study Team
Darrick Boschman, OWRD
Jerry Grondin, OWRD
Justin Iverson, OWRD
Steve Gingerich, US Geological Survey (USGS)
Terrence Conlon, USGS
Hank Johnson, USGS
Amanda Garcia, USGS
Nick Dosch, USGS
Bob Houston, DOGAMI

Others
Harmony Burright, OWRD (Facilitator)
Ivan Gall, OWRD
Jason Spriet, OWRD

Meeting Overview, Action Items, Decisions, and Updates

The meeting purpose was to provide updates on the Groundwater Study, share preliminary observations resulting from collected data, and solicit feedback and input from the Advisory Committee. During the work session, OWRD and USGS present the recently signed OWRD-USGS cooperative groundwater study work plan that updates the November 2015 OWRD draft work plan, provided an overview of what other completed groundwater studies in Oregon look like, and identified the expected activities and timeframe for the Harney Groundwater Study. The advisory committee members discussed: the purpose and objectives of the advisory committee, suggested modifications to the updated Work Plan, provided feedback data collection efforts, recommended locations for observation wells, and discussed continued efforts to build and sustain a local monitoring network.

Figure 1. Looking at maps.

Action Items

Who	What	When
All Committee Members	Send additional comments or feedback on the Plan of Study to OWRD.	November 30
All Committee Members	Send additional comments or feedback on the Charter to OWRD.	November 30
All Committee Members	Provide additional feedback on placement of observation wells to OWRD/USGS.	November 30
Justin I and Stephen G	OWRD and USGS will think about ways to make data more accessible to interested members of the public.	December 22
Justin I	Update the Plan of Study to include input/feedback from the Advisory Committee and distribute prior to the next meeting.	December 22
Harmony B	Update the Charter to include input/feedback from the Advisory Committee and distribute prior to the next meeting.	December 22
Darrick B, Jerry G and Stephen G	Consider the information provided by the Advisory Committee about recommended locations of observation wells and follow-up with any questions.	December 22
Darrick B and Jerry G	Schedule and coordinate a groundwater level measurement training in January with CWREs, well drillers, pump installers, etc.	January 15
Mark O	Convene additional meetings of the sub-committee to continue working on local monitoring efforts.	January 15
Stephen G and Jerry G	Develop a presentation for the next meeting summarizing historical information about Harney groundwater.	January 15

Decisions/Recommendations

- No formal decisions.
- Two additional individuals became members of the GWSAC and the committee agreed that the Advisory Committee composition was complete and that no more committee members will be added.
- The committee agreed upon proposed modifications to the purpose statement and objectives in the charter.
- The committee recommended four locations for potential placement of paired observation wells.
- Members of the committee recommended modifications to the Plan of Study.

Updates

The next meeting is scheduled for Thursday, January 19th, from 11-5pm at the Harney County Community Center. The chair and facilitator will develop and distribute an agenda for review prior to the next meeting. If you would like to propose discussion topics, email them to: harmony.s.burright@wrd.state.or.us.

Detailed Meeting Notes

PRESENTATION

The meeting began with a community presentation, followed by an opportunity for members of the public to make comments for the Advisory Committee to consider during their meeting.

Stephen Gingerich, a groundwater scientist with the US Geological Survey (USGS), delivered a presentation that provided an overview of the following information:

1. Study objectives
2. Study approach and key questions
3. Example analyses from other groundwater studies (e.g. Klamath Groundwater Study)
4. Study outputs
5. Project timeframe

Key Discussion Topics/Questions:

- One committee member would like to better understand how models have been used in other basins to inform management or regulatory actions and how the model in the Harney Basin may be used as a management tool.
- Another committee member wondered if there were lessons learned from the Klamath modeling effort that could be used to improve the Harney model.
- USGS and OWRD confirmed that all data collected through the groundwater study would be used to improve the model and that there was a commitment to following best practices, which includes lessons learned from other studies.
- One committee member emphasized that completion of the study should be determined by the quality and extent of the data rather than an arbitrary deadline. The quality of the model is correlated with the amount and quality of data collected. The model should be considered complete when there is data of sufficient quantity and quality. There should also be a commitment to continuously improve the model so that it can be an effective management tool in the future.
- OWRD affirmed that Phase I of the study, including data collection and assessment to describe the hydrologic system of the Harney Basin, would be concluded by 2020 as required by the Malheur Lake Basin Program Rules (OAR 6909-512). Phase II of the study is currently scheduled to conclude in 2022 and will be of the highest quality possible within the limits of the scope and available budget for the study.

Public Comments/Questions:

- Does OWRD track dry well complaints and is this information publicly available? This is important information that could be useful to the groundwater study.
    - Well issues, including dry well complaints are generally reported to the watermaster, though not everyone reports well issues. Some well issues are related to pumps and

well construction – it is not always related to declines. At this time OWRD does not track this information in a central database, though the watermaster does collect this information.

- If a well is monitored as a part of the groundwater study is that information kept private or is it made public?
    - All information collected as a part of the study may be made available to the public. Data is maintained in a database and is tied to a drillers water well report (well log) and/or location information such as Township-Range-Section. It is possible to find property information associated with a well log through public information systems (e.g., county taxlot ownership information), but property ownership information is not included in published study reports or data tables. The study will be focusing on many data points and trends and will not focus on specific wells.

Advisory Committee members and members of the public would like to know where data is being housed so that they can spend some time looking at it and thinking about it outside of the meetings. The USGS scope of work includes a funded task to "develop [a] water-level visualization tool". A tool similar to that developed for the Klamath Basin is currently envisioned. The Klamath tool can be accessed online here:
http://or.water.usgs.gov/projs_dir/klamath_cooperative_monitoring/index.html

Decisions Points/Recommendations: None

Action Items:

- OWRD and USGS will think about ways to make data more accessible to interested members of the public.

Proposed Future Discussion Topics:

- Summary of existing studies/data/information used as the starting point for the study.

COMMITTEE COMPOSITION

Tony Hackett of Downright Drilling and Angie Ketscher with the Harney County Watershed Council both submitted letters of interest requesting to serve on the Advisory Committee. Both individuals have an interest in groundwater. These recommendations were jointly acted upon by OWRD and the Harney County Court who approved their requests. The Advisory Committee discussed and agreed that no additional members would be appointed given that there are now 15 members and the current composition of the Advisory Committee is very diverse and representative. Future replacement of committee members will be handled through the process described in the charter.

PURPOSE AND OBJECTIVES

The Advisory Committee reviewed the draft charter and discussed the purpose and objectives of the Advisory Committee.

Key Discussion Topics:

- The Advisory Committee discussed and agreed to the following purpose statement:
  - The purpose of the Groundwater Study Advisory Committee is to foster an open exchange of information, data, and ideas between Harney County residents, other interested parties, and the OWRD and USGS groundwater study scientists with the intent of strengthening the groundwater study. The Advisory Committee will accomplish this by:
    - Creating a forum where groundwater scientists can share data, information, analyses, and observations on a regular basis with the committee; and,
    - Developing a process to collect, compile, and share local knowledge, expertise and data that is relevant to the study.
- The Advisory Committee discussed and agreed to the following objectives:
  - Members of the Groundwater Study Advisory Committee, in coordination with USGS and OWRD, will work to achieve following objectives:
    - Contribute to the integrity and validity of the groundwater study;
    - Build trust and credibility in the study process and outcomes;
    - Determine what information gaps exist for groundwater in the basin and assist in gathering this information;
    - Encourage the collection and use of relevant hydrogeologic data within the basin;
    - Identify opportunities to include local knowledge, expertise, and data in the groundwater study;
    - Ensure that there are continued opportunities for meaningful public engagement throughout the duration of the groundwater study;
    - Increase community awareness and actively promote the understanding of groundwater resources, the overall water budget, and the validity of the study;
    - Ensure that the study is accomplished as intended in the timeframe set out in Rule and that information is useful for long-term planning and management;
    - Coordinate groundwater study efforts and information with other complementary water planning and management activities in the basin;
    - Help to identify and advocate for resources to support successful execution of the groundwater study.

Decisions Points/Recommendations: None

Action Items:

- Advisory Committee members will review the latest draft of the charter and send feedback to OWRD prior to the next meeting.

Future Discussion:

- Discuss and finalize the GWSAC charter.

WORK PLAN DISCUSSION

OWRD walked the Advisory Committee through the USGS Plan of Study and confirmed that this document replaces the previous DRAFT Work Plan (Dated November 2015). The Advisory Committee provided feedback on the Plan of Study.

Key Discussion Topics:

- OWRD and USGS confirmed that they will progressively be sharing data as it is collected.
- Members of the Advisory Committee recommended that public presentations be held in the evening to facilitate greater public involvement.
- There is interest from Advisory Committee members in receiving more information from OWRD/USGS about the methods/process that will be used to:
    - Estimate evapotranspiration (ET).
        - What will the study look at? Cropland, natural vegetation, juniper, etc?
        - There is interest in juniper ET and better understanding the impacts of juniper on the water budget.
    - Develop a water budget.
        - What are the component parts that make up a water budget?
    - Characterize different aquifer depths and how different aquifers are connected.
        - What information is used to distinguish between different units?
    - Track and analyze anomalies that appear in the data.
        - How are anomalies flagged and handled? How can we address anomalies in locally collected data?
    - Quantify the lag time in groundwater water inputs/outputs.
    - Estimate climatic variability and climatic impacts on the system.
    - Measure and monitor springs.
- An Advisory Committee member noted that the groundwater study should also seek to provide information about optimal areas for recharge in the basin, which may be useful for future management efforts.
- An Advisory Committee member expressed an interest in looking into two particular wells that were used in a past USGS study. OWRD & USGS are similarly interested in identifying previous USGS study wells and incorporating them as much as possible into the current study.
- **Problem Statement.** Committee members pointed out that the language in the Plan of Study was different from the language in the Division 512 rules. Specifically, the 512 rules state that the Basin is fully appropriated and the Plan of Study states that the Basin is over-allocated.

There have been different messages about the allocation/appropriation of water and OWRD should seek to provide clarity whenever possible.

- OWRD will use the language from the Division 512 rules and will think about how best to convey what the outcomes of the study might be. The group emphasized, however, that there are no pre-conceived outcomes – this is a data driven process and the data will be used to identify trends and patterns and build an understanding of the system.
- The Advisory Committee discussed that the there are three possible outcomes that the community should begin discussing and preparing for through planning discussions:
  - The groundwater resource is not fully allocated in all or parts of the basin and can support more development.
  - The groundwater resource is fully allocated in all or parts of the basin and cannot support more development.
  - The groundwater resource is over-allocated, in all or parts of the basin and the permitted groundwater usage is not sustainable.

- **Objectives.** There was some discussion about clarifying the study objectives. The first and third objectives seem related to Phase 1 (conceptual model), while the second objective seems related to Phase 2 (numerical model). It should be clarified that the third objective relates to both phases. Also, in the second objective the language regarding proposed groundwater development makes it seem like there is a bias towards more development. Committee members recommended changing this language to "groundwater use" so that it was applicable to more potential future scenarios.
- **Flow System(s).** Advisory committee members wanted to confirm that OWRD does not yet have a predetermined idea of the flow boundaries within the system or a bias towards any particular conceptual understanding of how the flow systems are or are not defined. In order to capture the potential that the groundwater system may be made up of multiple separate flow systems, the committee recommended changing the language throughout the document to flow system(s) rather than flow system. The committee emphasized their desire to keep track of different area specific considerations throughout the study. OWRD clarified that the current study analyses and interpretations will be data driven and peer reviewed and will consider all existing studies and information on this subject.

Decision Points/Recommendations:

- Members of the committee recommended modifications to the updated Work Plan.

Action Items:

- OWRD will update the Work Plan to include input/feedback from the Advisory Committee and distribute prior to the next meeting.

Future Discussion:

- Discuss specific methods for areas of interest identified above.

OWRD/USGS DATA COLLECTION

OWRD provided an overview of initial observations based on preliminary data. OWRD updated the Advisory Committee on the status of the newly located paired wells. OWRD identified general areas where more information is needed and the basic criteria that are used to determine appropriate placement of paired observation wells. OWRD solicited feedback from the Advisory Committee on potential locations of additional paired observation wells. Members of the Advisory Committee updated OWRD on efforts to create a local monitoring network to contribute data to the groundwater study.

Key Discussion Topics:

- Three paired observation wells have been drilled and another pair are currently being drilled. These wells, which will continuously record water levels, will help to fill information gaps.
    - Lawen – Deep (screened from 450 t0 470 feet), shallow (screened from 55 to 75 feet)
    - Sunset Valley South of Wright's Point – Deep (screened from 485 to 505 feet), shallow (screened from 85 to 105feet)
    - Virginia Valley – Deep (screened from 350 to 370 feet), shallow (screened from 120 to 140 feet)
    - Weaver Springs (Dog Mountain) – not yet drilled
- OWRD and USGS are identifying areas where there is limited water level data or stratigraphic data for potential new observation well locations. New observation well locations will be finalized based on scientific need, property access, budget availability, and other considerations.
- Local members of the Advisory Committee discussed several areas around the basin they consider to be good candidates for an observation well or more focused investigation during the study. Four of these locations were talked about and located on the maps. The first area was near a line running east from Black Butte Ridge in the Princeton area. The second location was near Windy point 5 miles south of the Crane junction on HWY 78. The third area was near a line that runs west of the town of Crane. The fourth area was near Riley; this location was mainly selected to further explore if a connection exists with the out of stream flow from the Riley area to rest of basin.
- Current data needs to fill important gaps include:
    - Synoptic wells in the upper Silver Creek watershed, in the northern uplands, in the plateau west of Wrights Point, in the plateau-uplands south of Harney Lake, in eastern Virginia Valley, and in areas east and west of Hwy 395 south of Riley.
    - Water use data
    - Water chemistry data to facilitate groundwater flow interpretations
    - Spring elevation and flow data
- Bob Houston with the Department of Geology and Mineral Industries (DOGAMI) is conducting geologic mapping in the basin to contribute to the geologic understanding.

Decision Points/Recommendations:

- Members of the Advisory Committee recommended four potential locations for placement of new observation wells.

Action Items:

- OWRD and USGS will consider the information provided by the Advisory Committee and follow-up with any questions. This information will be taken into consideration as OWRD determines placement of additional observation wells.

Future Discussion:

- OWRD plan and rationale for placement of additional observation wells.

OTHER DATA COLLECTION EFFORTS

Several members of the committee have expressed interest in collecting and submitting local data for use in the groundwater study. OWRD led the group in a discussion to better understand committee member goals/interests and to discuss next steps.

- The USFWS currently has a gauge at the Narrows to measure the level of Malheur Lake and is going to install a gauge at another place on the lake. This could provide useful information to the study.
- USGS is working on a study to characterize springs on BLM land. The information from this separate study may be useful to the study.
- OWRD is still in need of water use data – this is one of the biggest data gaps that local landowners can help fill.
- A sub-committee has met twice to discuss how to collect additional data for the study. This committee will continue to meet to encourage additional data collection efforts, and to develop a process for collecting, compiling, and sharing data that is relevant to the study. The sub-committee has accessed the water level data online but found that it isn't very user friendly and would like to work with OWRD/USGS to get this information into a more usable format. In the mean-time the committee may request analyses or queries of the data to aid in their discussions.
- Angie Ketscher has recently been hired by the Watershed Council to monitor 30 wells in known concern areas. This is funded by an OWEB grant. Angie will be riding along with Jerry or Darrick during the next round of measurements to get some focused training. There is interest in having Angie monitor additional wells outside of the initial 30 if a new OWEB grant application submitted on November 1st to fund this work is approved.
- There is interest in having OWRD conduct a groundwater level measurement training in early 2017 for the individuals that do permit condition measurements to ensure these data can meet quality assurance and control standards useful to the study.

- OWRD and USGS emphasized the importance of coordinating the timing of local measurements with OWRD-USGS project measurements to obtain concurrent data essential for groundwater flow and groundwater trend analyses.

Decision Points/Recommendations: None

Action Items:

- The Chair will convene additional meetings of the sub-committee to continue working on monitoring efforts.

Future Discussion:

- Quality assurance standards and protocols for data collection efforts.
- Roles and responsibilities for developing and implementing a local monitoring network.