

Review of WeSPAM Background, Timeline, and Objectives

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Modeling Technical Advisory
Committee Meeting
March 10, 2026

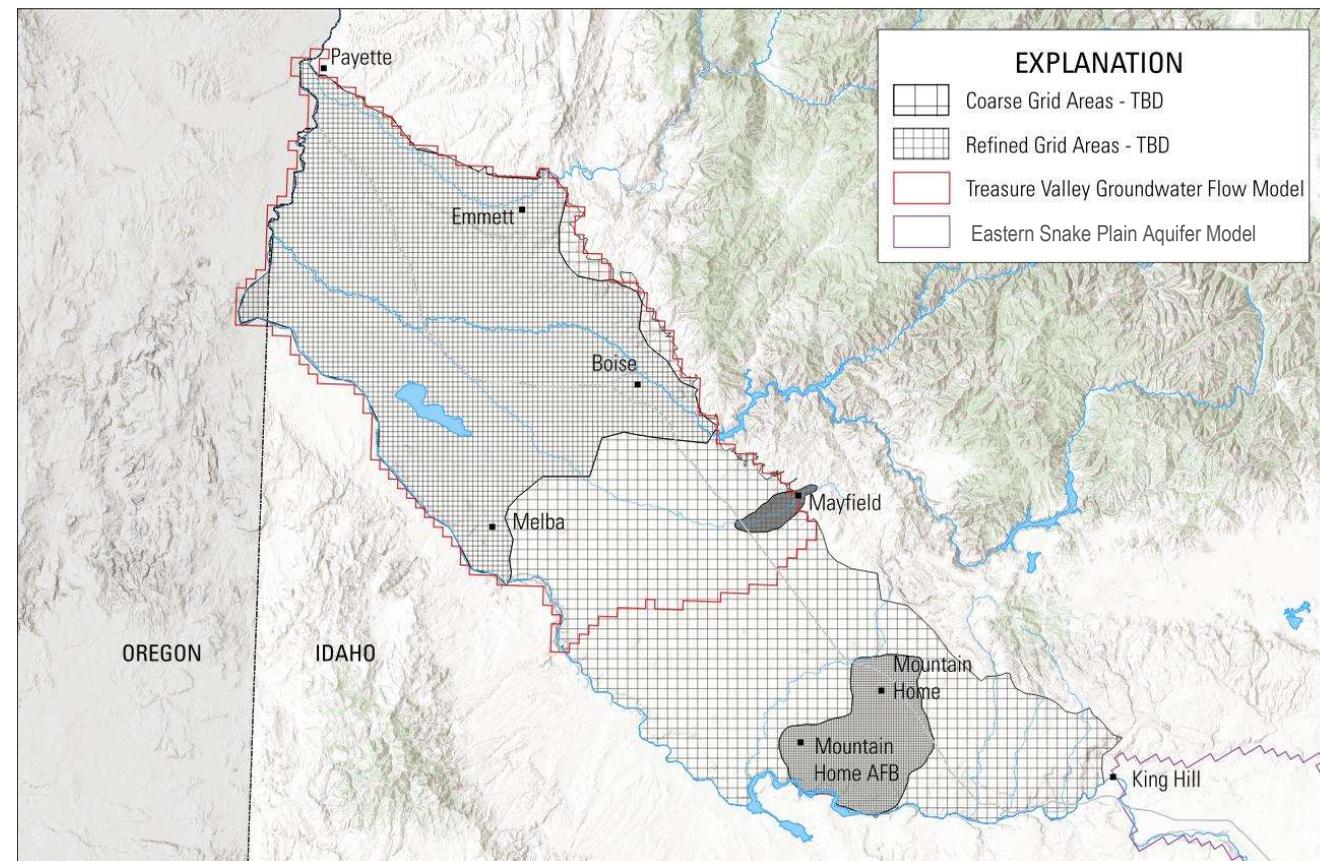


IDAHO DEPARTMENT OF
WATER RESOURCES



Scope of Work

- Develop a numerical groundwater-flow model of the western Snake Plain
 - Mathematical representation of a groundwater system
 - Simulates aquifer response to stress
- Will consist of four refinement areas with varying cell sizes to be solved as one model
- TVGWFM will be refined and superseded
- Two scenarios will be evaluated
- Model and processing scripts will be made publicly available, along with a report documenting the model

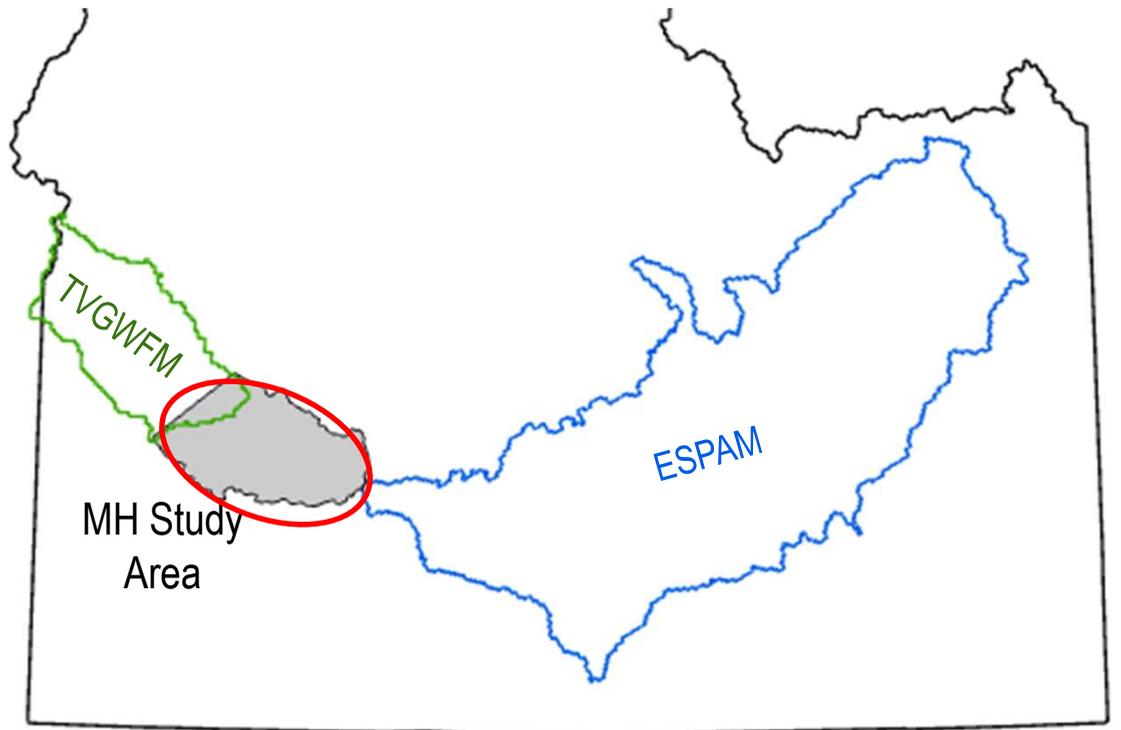
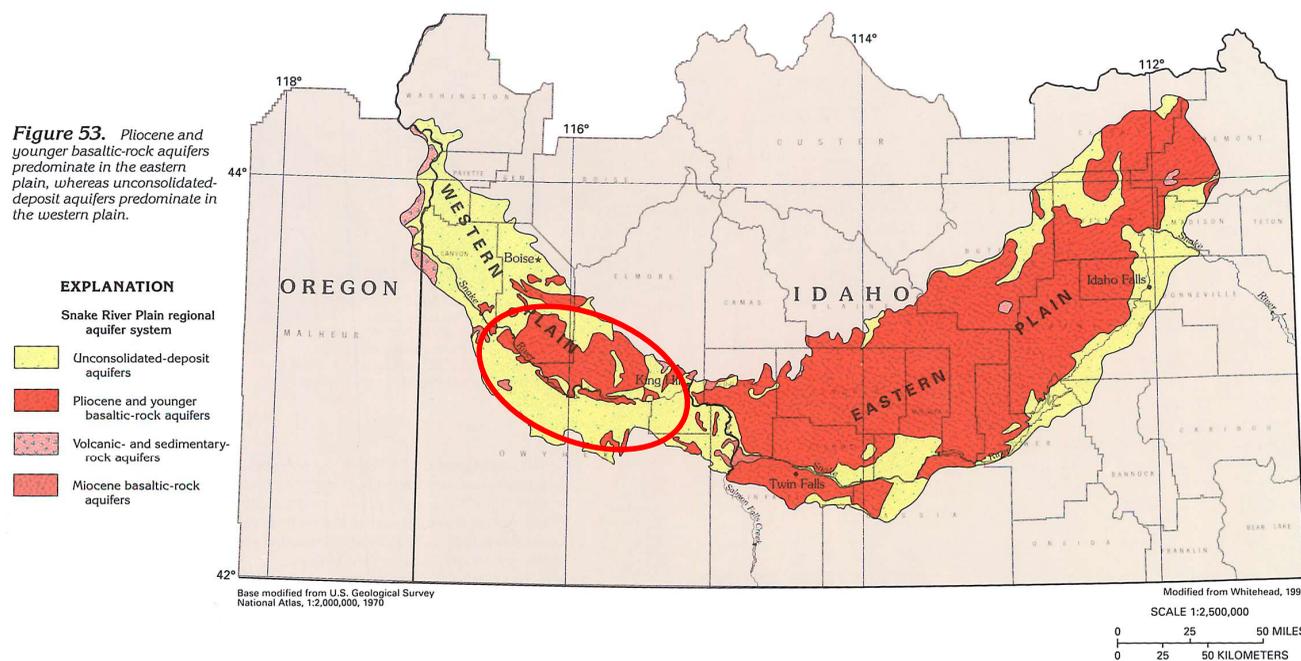


For demonstration only, final refinement areas and cell sizes are yet to be determined. Figure provided by the USGS.

Why Develop WeSPAM?

- No hydrogeologic basis for considering the Mountain Home area separate from the Treasure Valley

Figure 53. Pliocene and younger basaltic-rock aquifers predominate in the eastern plain, whereas unconsolidated-deposit aquifers predominate in the western plain.



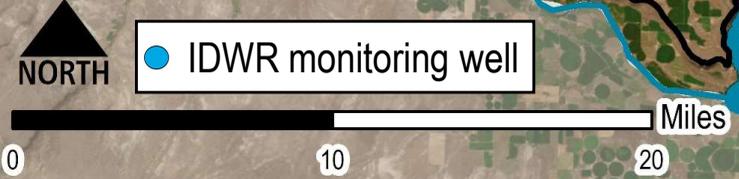
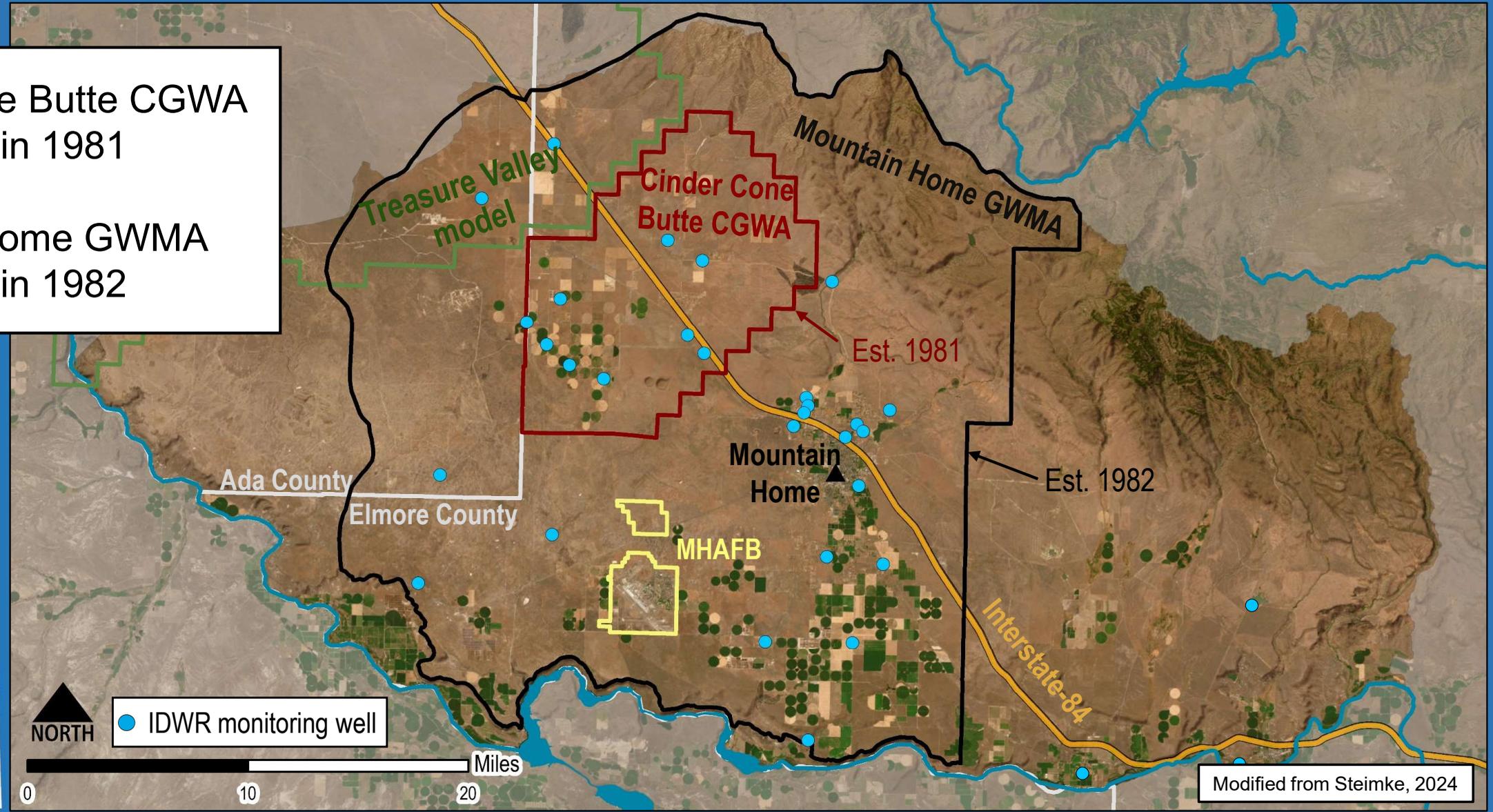
Regional geology of the Snake River Plain (Whitehead, 1994)

What → **Why** → When → Objectives

Long-term groundwater level declines in the Mountain Home Area

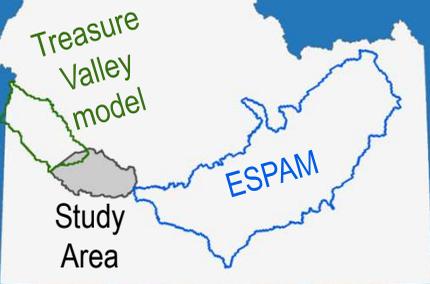
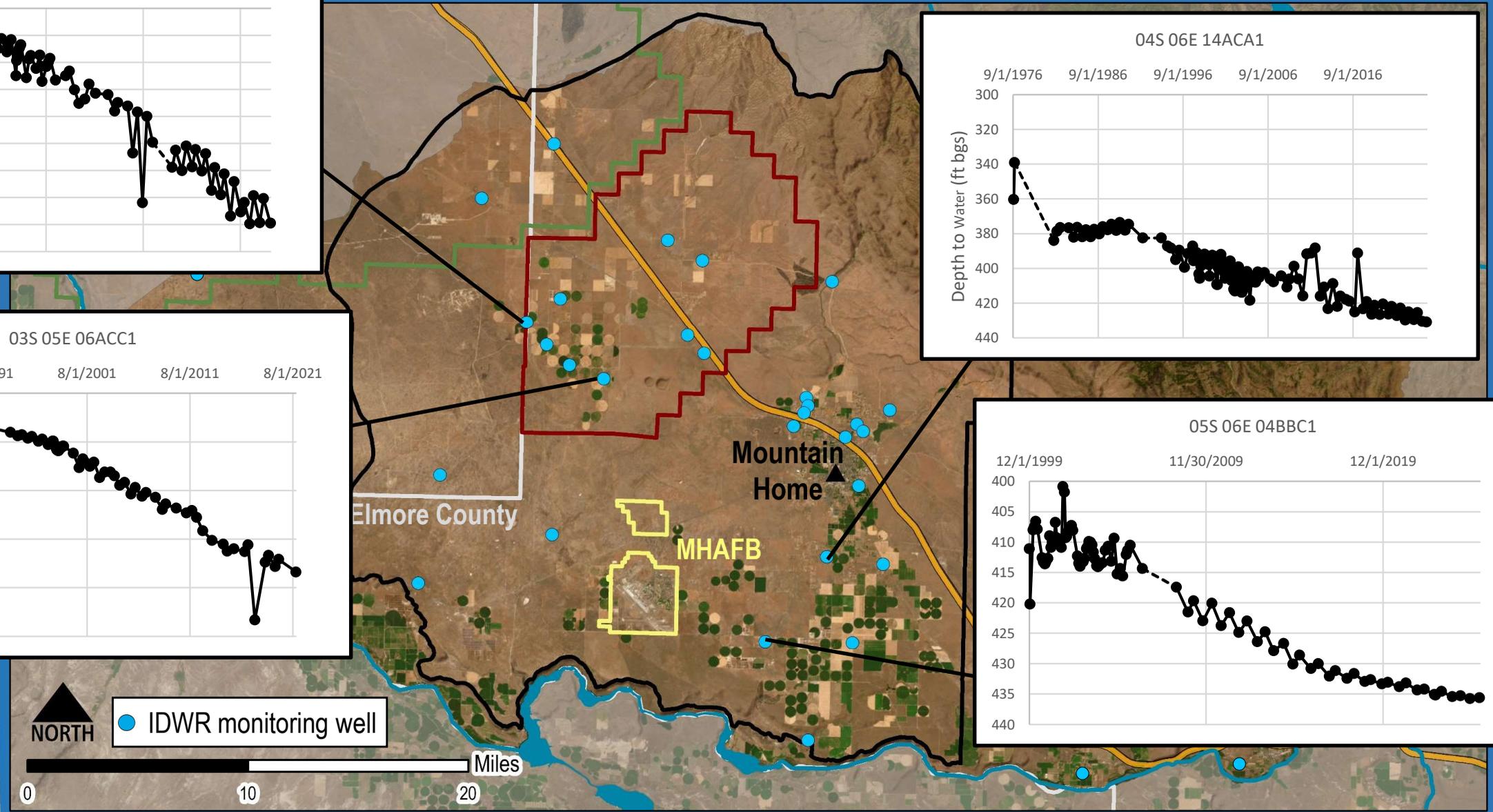
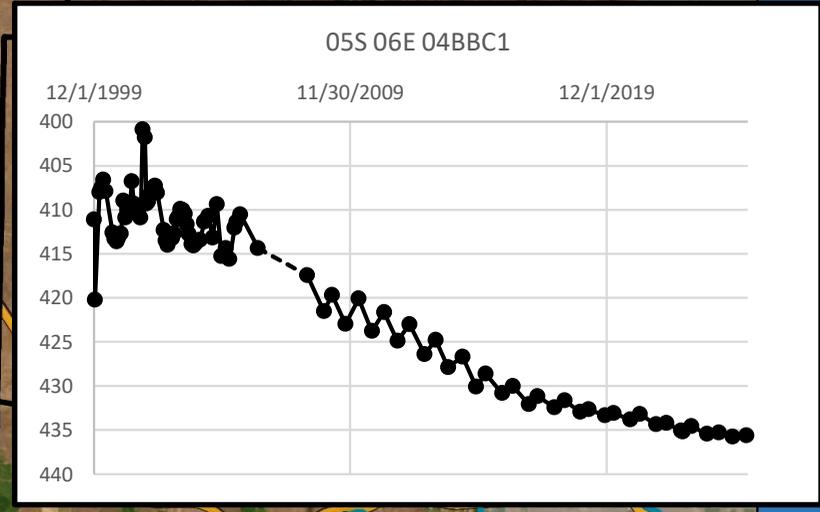
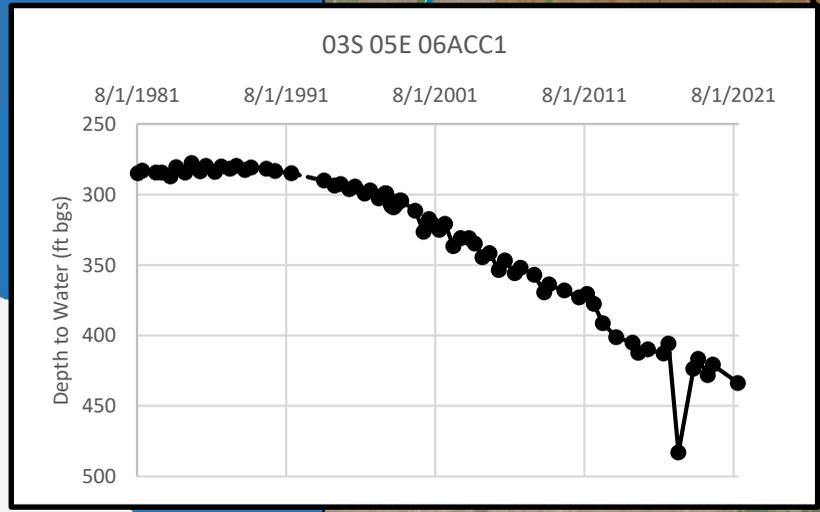
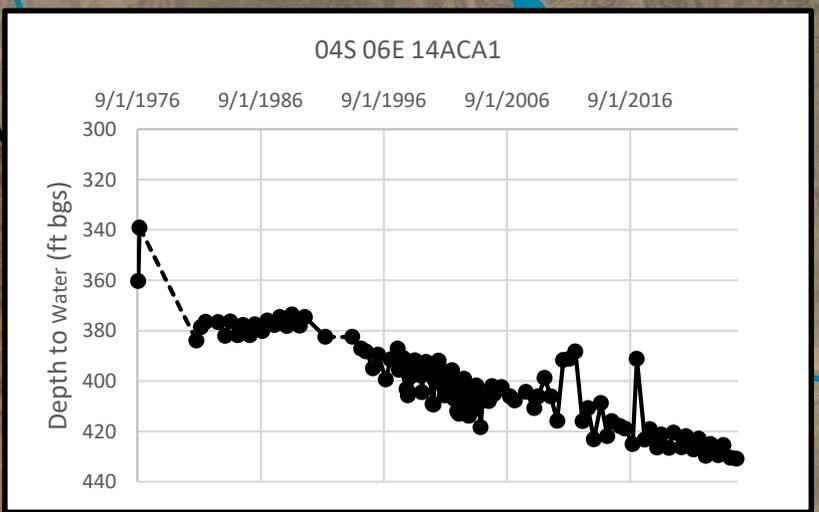
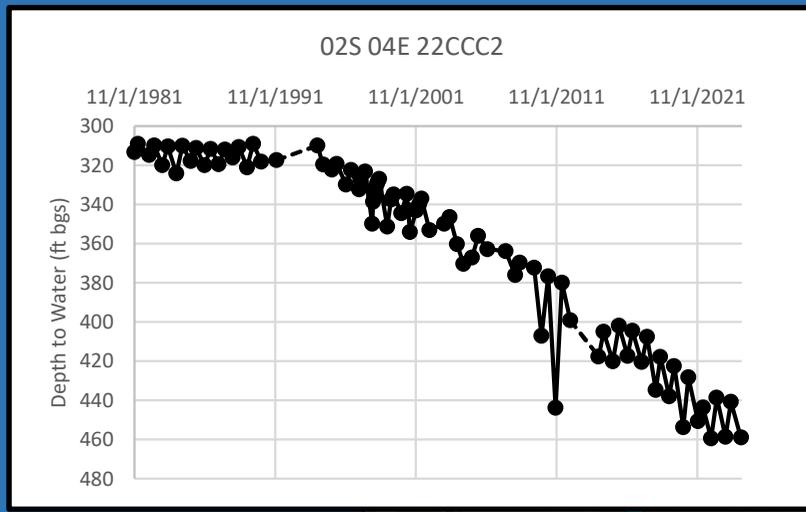


Cinder Cone Butte CGWA designated in 1981
Mountain Home GWMA designated in 1982



Modified from Steimke, 2024

What → Why → When → Objectives

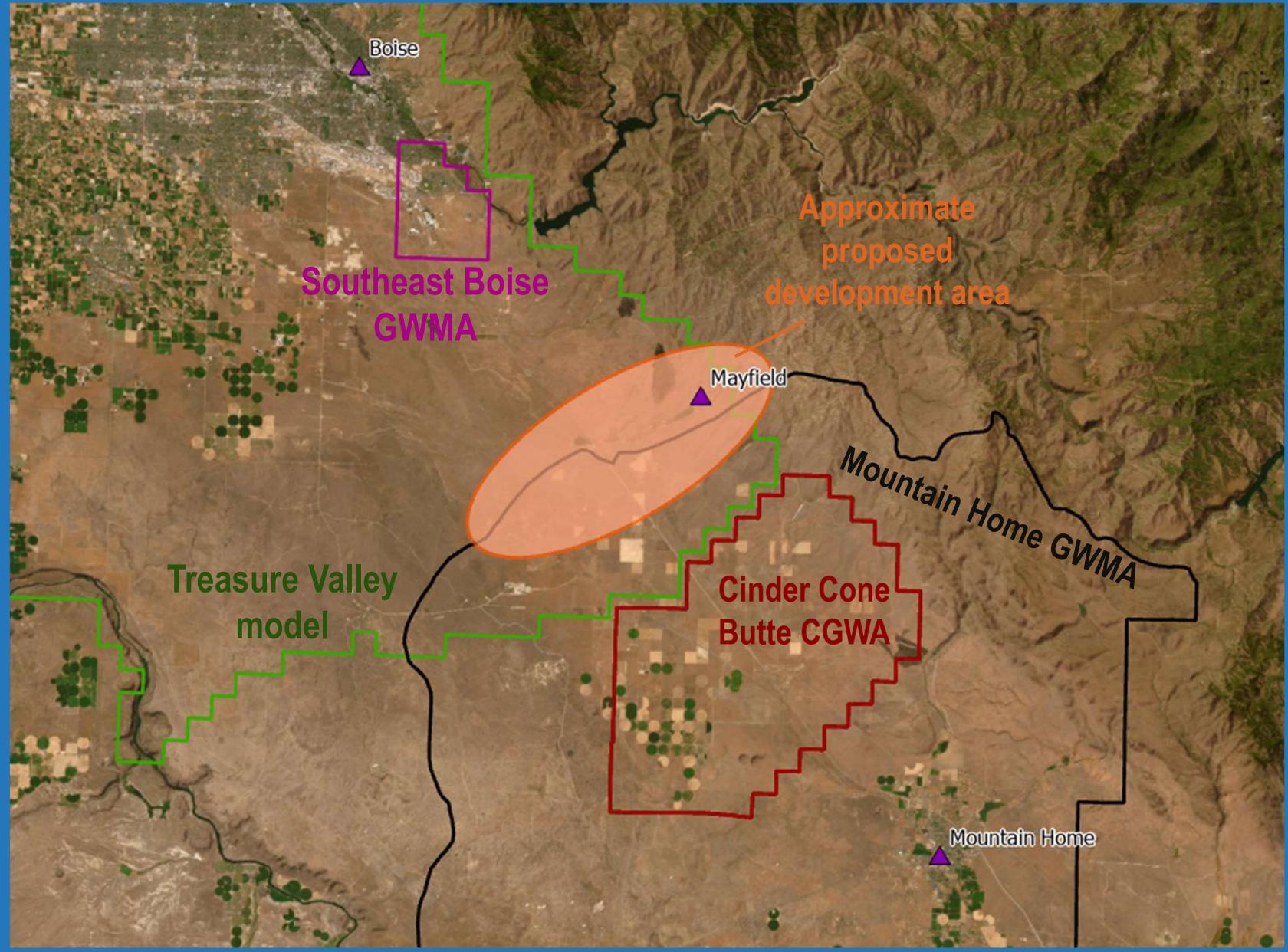
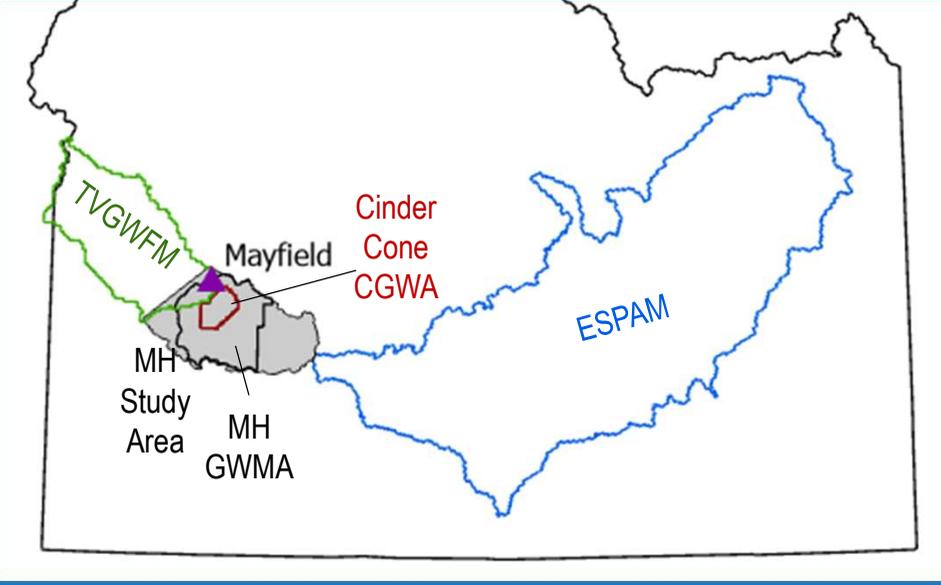


What → **Why** → When → Objectives

Proposed groundwater development

Groundwater development has been proposed in the Mayfield area

Located near the TVGWFM boundary and adjacent to the Mountain Home GWMA



Project Timeline

	2025	2026	2027	2028
Phase A: Initial Tasks	█			
Phase B: Core Development		█	█	
Phase C: Final Tasks				█
Ongoing Tasks	█	█	█	

Phase A: Initial Tasks

- Make limited adjustments to the Treasure Valley Groundwater Flow Model
- Literature and data review of the Mayfield area
- Choose a historic model period
- Attempt to fill known data gaps for the Mountain Home Plateau

Project Timeline

	2025	2026	2027	2028
Phase A: Initial Tasks	█			
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Ongoing Tasks	█	█	█	

Phase B: Core Development

- Reuse and edit scripts written for previous groundwater flow models
- Retrieve and prepare data
- Refine and connect model areas
- Define boundaries and parameterization
- Conduct parameter estimation and uncertainty analysis
- Assess results

Project Timeline

	2025	2026	2027	2028
Phase A: Initial Tasks	█			
Phase B: Core Development		█	█	
Phase C: Final Tasks				█
Ongoing Tasks	█	█	█	

Phase C: Final Tasks

- Run two scenarios
- Publish model documentation, report, and data release
- Teach class

Project Timeline

	2025	2026	2027	2028
Phase A: Initial Tasks	█			
Phase B: Core Development		█	█	
Phase C: Final Tasks				█
Ongoing Tasks	█	█	█	

Ongoing Tasks

- MTAC meetings
- Meetings with USGS and IDWR staff

Development of Model Objectives

- USGS will run two model scenarios during model development
- Model capabilities will not be limited to these scenarios – MTAC feedback is valuable to identify what matters to you

As a reminder, objectives should be:

1. Identified early
2. Specific
3. Guide model complexity
4. Relevant

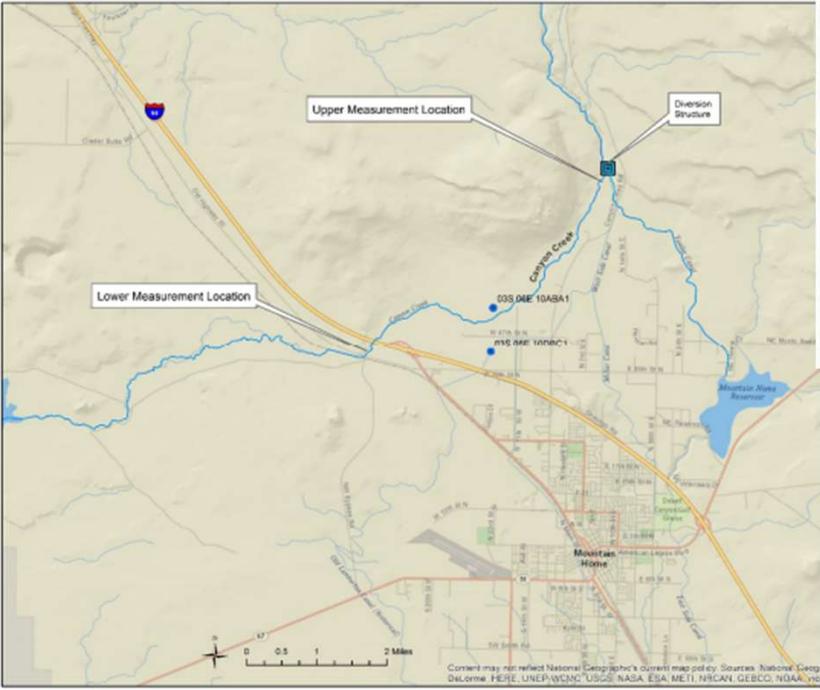


Potential Model Scenario: Recharge near Mountain Home

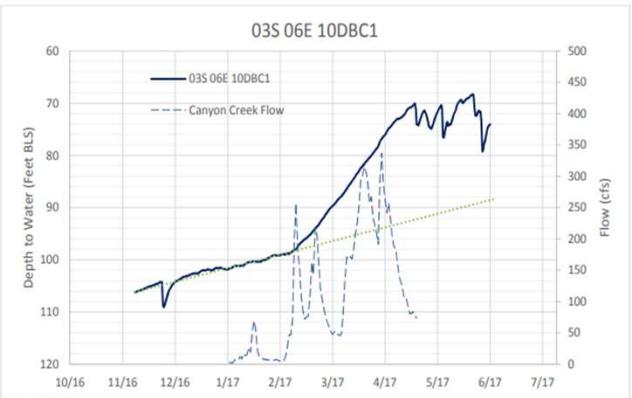
- Would allow for quantification of aquifer storage impacts for different recharge locations, volumes, and timings, to maximize recharge benefits



SFBR proposed pipeline from Anderson Ranch Reservoir to Little Camas Reservoir, from which it will be diverted to the Mountain Home area for aquifer recharge and supplemental irrigation (<https://www.sfbdiversion.com/copy-of-background>, 2025)



Canyon Creek recharge area (Owsley, 2017)



Hydrographs for wells near Canyon Creek recharge area (Owsley, 2017)

Potential Model Scenario: Pumping Impacts near Mayfield

- Would allow for assessment of groundwater levels and aquifer storage changes resulting from additional pumping

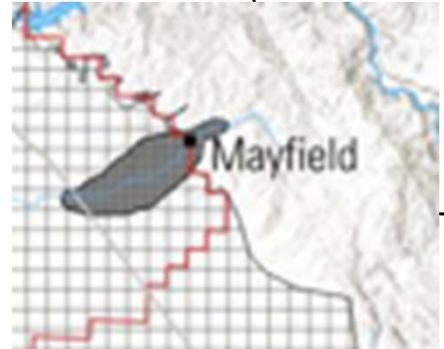


Idaho Department of Water Resources
Technical Report

East Ada County Comprehensive
Hydrologic Investigation

by
Craig Tesch, P.G.

October 2013



What Matters to You?

- While no model is one size fits all, it can be designed in a way that it can be used for multiple scenarios or adapted to meet additional needs
- The model and scripts will be made available for use by the public
- Data availability goes a long way in terms of model capabilities
- **What questions would you like the model to be capable of answering?**



Questions?