IDAHO Department of Water Resources

Wood River Valley Modeling Technical Advisory Committee Modeling Objectives

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Modeling Objectives

- Aquifer models built for a variety of reasons
  - Water quality/contaminant transport
  - Water temperature
  - Groundwater flow (delineation of wellhead protection areas, eval. of management alternatives, hydrologic impact assessments, etc.)
- Need to consider scale when designing model, evaluating model predictions, and assigning model input
- Definition of objectives necessary to build the right tool for the job

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Wrong tool for the job

Why a groundwater flow model?

- Big Wood River upstream from Magic Reservoir fully appropriated (1980)
- Groundwater and surface water are hydraulically connected (1991)
- Need to be able to evaluate gw/sw interaction
- GW flow model is tool of choice for planning, water resource management, and conjunctive administration

Additional Requirements

- Accessible to public
- Transparency in development
- Defensible and well documented
- Other

Draft Design Objectives

1. Represent current understanding of aquifer system and gw/sw interaction

2. Up-to-date, accurate water budget (recharge and discharge)

3. Investigate gw/sw dynamics on valley-wide scale

4. Evaluate WRV aquifer management options

Draft Design Objectives

5. Serve as tool for aquifer planning

6. Serve as tool for conjunctive administration
   - Aquifer curtailment analyses
   - Mitigation requirements
   - Groundwater right transfers

7. Improve understanding of aquifer system and guide future investigations

Draft Design Objectives

8. Defensible in litigation
   - Scientifically accepted modeling platform
   - USGS highly regarded for modeling expertise
   - MTAC allows technical concerns to be aired and addressed during model development

9. Accessible and well documented
   - Model and code are public domain
   - Data available via the Internet
   - Peer-reviewed USGS scientific report

Discussion