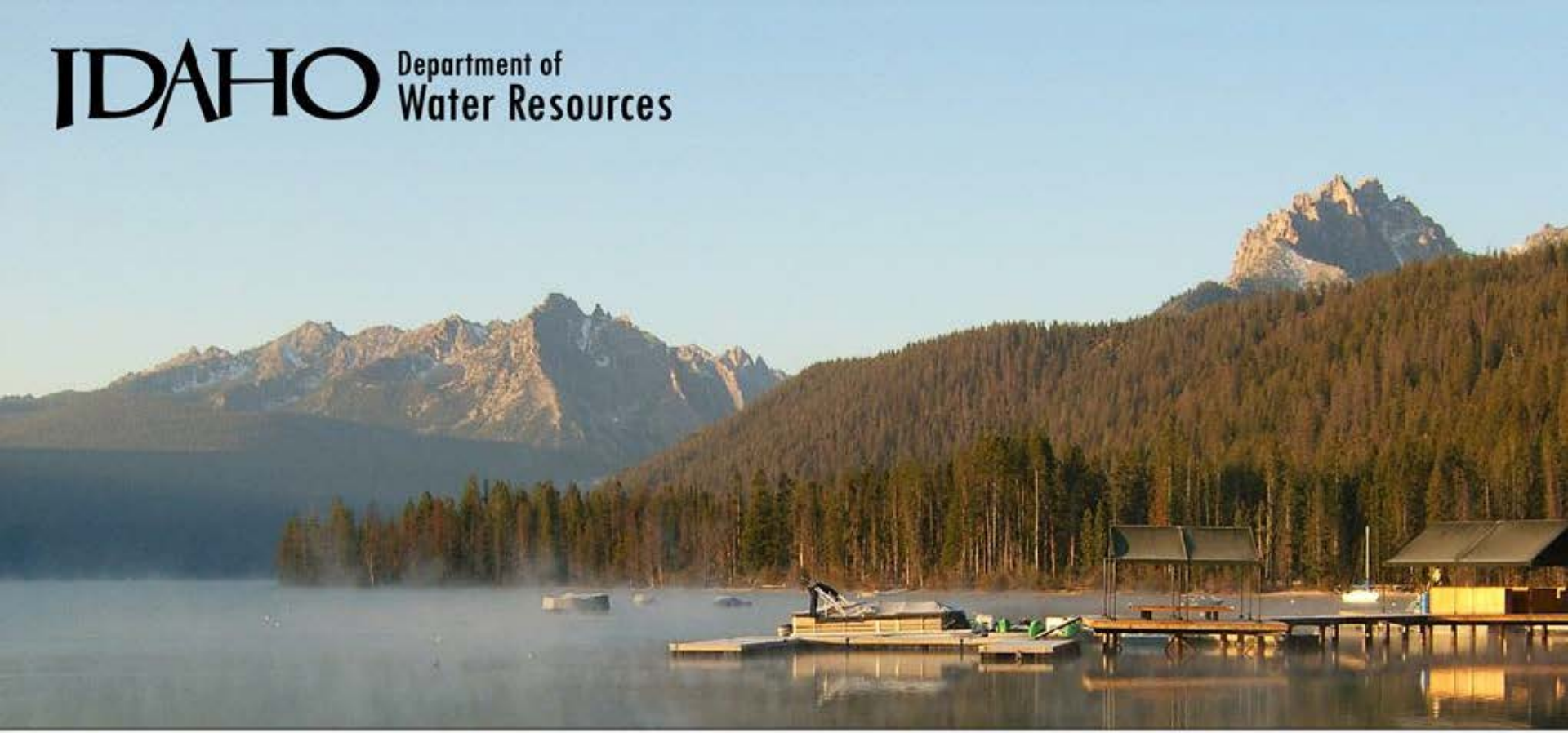
IDAHO Department of Water Resources



Wood River Valley Modeling Technical Advisory Committee Roles and Responsibilities

Presented by Sean Vincent
April 11, 2013

Talking Points

- Background
  - Why a groundwater flow model?
  - What is the scope of work?
  - Who will do the work?
  - When will it happen?
- Roles and Responsibilities
  - USGS
  - IWRB
  - IDWR
  - MTAC

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

What is the scope of work?

- Task 1 - Additional data collection
  - Water level synoptic in October 2012 = snapshot of aquifer
  - Seepage surveys in August 2012, October 2012, and April 2013
- Task 2 – Fact sheet preparation and publication
  - Summarizes current understanding of groundwater/surface water interaction
  - Describes IDWR/USGS collaborative modeling project

What is the scope of work? (cont'd)

- Task 3 – Construct a numerical groundwater flow model
  - Task 3.1 – Compile and update existing data
    - New water level, pumping, and reach gain data
  - Task 3.2 – Construct & calibrate a steady state model
    - Update aquifer water budget
    - Discretize model (cut up model area into small pieces)
    - Parameterize (assign hydraulic properties to the pieces)
    - Calibrate (adjust parameters until simulated and observed flows/water levels match)
  - Task 3.3 – Convert SS to transient/time-dependent model
  - Task 3.4 – Apply model for evaluation of scenarios

What is the scope of work? (cont'd)

- Task 4 – Prepare report summarizing model construction and results
  - Publish as USGS Scientific Investigation Report and release model to public

Who will do the work?

- Collaboration between IDWR and USGS
  - USGS has recent work history in Wood River Valley
  - USGS is neutral party w/ expertise/experience
  - IDWR involvement allows customization of tool for IDWR and IWRB uses
  - USGS and IDWR have history of successful collaboration (e.g., SVRP model)

USGS
science for a changing world

Prepared in cooperation with the
IDAHO DEPARTMENT OF WATER RESOURCES
WASHINGTON STATE DEPARTMENT OF ECOLOGY
UNIVERSITY OF IDAHO
WASHINGTON STATE UNIVERSITY

Ground-Water Flow Model for the Spokane Valley-Rathdrum Prairie Aquifer, Spokane County, Washington, and Bonner and Kootenai Counties, Idaho

When will it happen?

- Project is funded and underway
- Timing excellent because USGS has laid the groundwork for model development
  - Water Budget report in 2009
  - Hydrogeologic Framework report in 2012
  - IDWR thanks USGS and USGS cooperators
- Model rollout scheduled for late 2015 (end date constrained by budget)

Roles and Responsibilities

- USGS primarily responsible for model construction and report preparation
  - Jim Bartolino, Ph.D. = lead investigator
  - Jason Fisher, Ph.D. = lead modeler

- IDWR is leading the calibration effort using PEST and providing GIS and modeling support
  - Mike McVay, P.E, P.G., Jennifer Sukow, P.E., P.G. and Allan Wylie, P.G., Ph.D. = modelers
  - Neeley Miller (IWRB staff) = project coordinator
    - Project planning, public outreach, and meeting notes

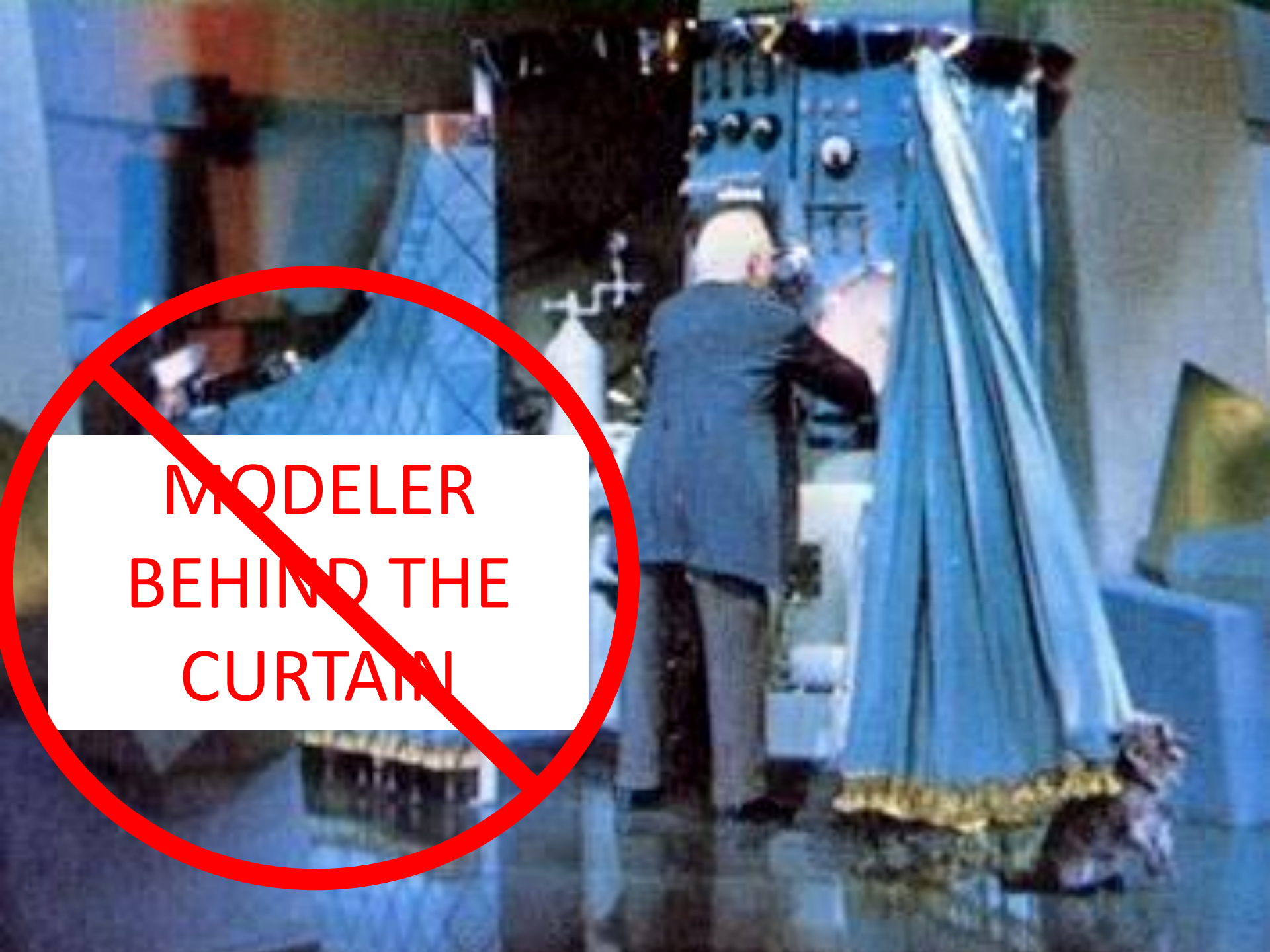
Persuading Neeley to take meeting notes

Roles and Responsibilities (cont'd)

- IWRB is anticipated end user of model and is providing project financing via the Aquifer Planning and Management Fund

Roles and Responsibilities (cont'd)

- MTAC
  - Provides for transparency
  - Vehicle for technical stakeholder input
    - Data sharing (sooner is better)
    - Modeling methodology
    - Peer review of work products
  - Stakeholder input versus decision making
    - USGS ultimately is responsible for model development
      - ✓ Mandate to maintain scientific integrity
      - ✓ USGS peer review process assures quality of work product


MODELER
BEHIND THE
CURTAIN

Internet

- ftp sites for data exchange

- Websites provide for transparency and efficiency
  - IDWR project website
    http://www.idwr.idaho.gov/WaterInformation/Projects/woodriver/
    - Disseminate data, documents, model files, etc.
    - Announce meeting times and locations
    - Agenda and meeting notes

  - USGS WRVAS website
    http://id.water.usgs.gov/projects/wood_river_valley/index.html
    - USGS scientific reports, fact sheet

Questions?