

# Public Information Meeting

## USGS/DRI Ground-Water Study

Ely, Nevada  
April 7, 2005



Water Resources of the **B**asin **a**nd  
**R**ange **C**arbonate **A**quifer **S**ystem  
in White Pine County, Nevada, and  
adjacent areas in Nevada and Utah

**BARCAS** Study

or

**BARCASS**

# BARCASS

- Present study mandated by Lincoln County Conservation, Recreation, and Development Act of 2004 (short title)
- Funding of \$6 million provided by amendments to SNPLMA
- Draft Report – June 1, 2007
- Final Report – December 1, 2007

# Lincoln County Land Act

- “(1) IN GENERAL – The Secretary, acting through the United States Geological Survey, the Desert Research Institute, and a designee from the State of Utah shall conduct a study to investigate ground water quantity, quality, and flow characteristics in the deep carbonate and alluvial aquifers of White Pine County, Nevada, and any groundwater basins that are located in White Pine County, Nevada, or Lincoln County, Nevada, and adjacent areas in Utah.”

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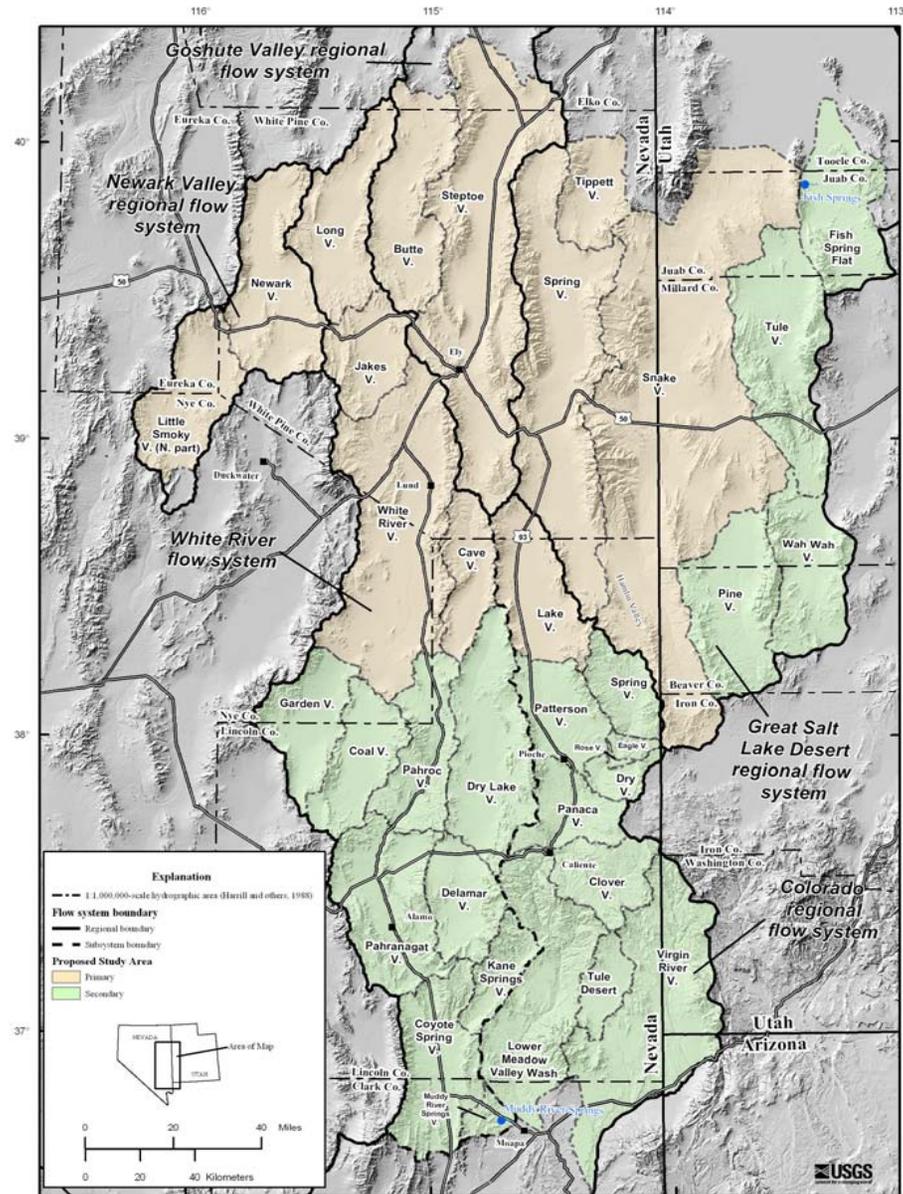
# Study Team Participants

- United States Geological Survey
  - Nevada Water Science Center
  - Utah Water Science Center
    - Geology - Denver
    - Geology - Menlo Park
- Desert Research Institute – Reno and Las Vegas
- Designee from Utah – Utah State Engineers Office

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# BARCASS Area

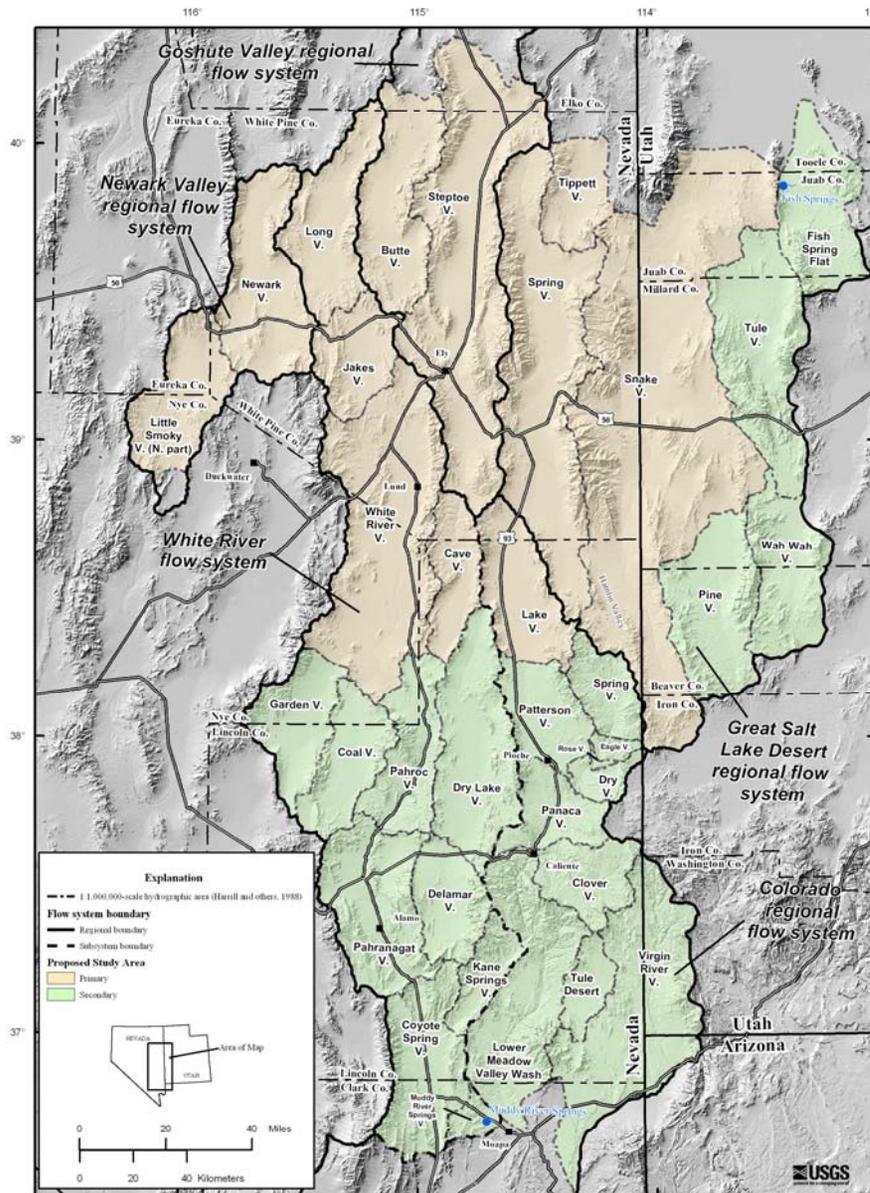


Base from USGS 1:100,000-scale digital data, 1978-1984. 1:100,000-scale watershed boundaries from USGS digital data. Hydrology from USGS 10-meter digital elevation model. Universal Transverse Mercator Projection, Zone 11, NAD83.  
Draft Version 03/17/2005

# BARCASS

Study Area – New data and information collection, map products, and water budget calculations

Flow Systems – Use data and information from other sources (existing or new) for Regional summaries



Base from USGS 1:1,000,000-scale digital data, 1979-1984. 1:1,000,000-scale sub-system boundaries from USGS digital data. Hydrology from USGS 30-meter digital elevation model. Universal Transverse Mercator Projection, Zone 11, 1983 datum.

Draft Version 03/17/2005

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# Lincoln County Land Act

- “The study shall–
  - (A) focus on a review of existing data and may include new data;
  - (B) determine the approximate volume of water stored in the aquifers in those areas;
  - (C) determine the discharge and recharge characteristics of each aquifer system;
  - (D) determine the hydrogeologic and other controls that govern the discharge and recharge of each aquifer system; and
  - (E) develop maps at consistent scale depicting aquifer systems and the recharge and discharge areas of such systems.”

# BARCASS TASKS

- **Task 1 – Geology** – Improve hydrogeologic framework and determine volume of water in storage in various aquifers.
- **Task 2 – Recharge and Discharge** – Estimate mean annual recharge and discharge, with focus on discharge by ET, pumpage, and spring flow.
- **Task 3 – Ground-Water Flow** – Develop new potentiometric map and flow directions.
- **Task 4 – Geochemistry** – Use geochemical methods to evaluate recharge rates and ground-water flow directions and travel times.
- **Task 5 – Data Integration** – Develop centralized database.
- **Task 6 – Data Synthesis and Evaluation** – Compile all data and information and prepare final report.

# Scope of Tasks

	<u>Budget</u>
• (1) Geology	\$ 965,000
• (2) Recharge and Discharge	1,925,000
• (3) Ground-Water Flow (Map)	200,000
• (4) Geochemistry	750,000
• (5) Data Integration	425,000
• (6) Synthesis and Evaluation	1,735,000

# BARCASS Products

- Report to Congress
- Initiate construction of 3-dimensional hydrogeologic framework
- Constrain water-budget estimates for all valleys in study area
- Establish long-term data networks and information delivery systems
- Institutionalize agency relations and public expectations

# BARCASS is/will Not

- An Environmental Impact Study.
- Produce a calibrated transient ground-water flow model.
- Directly address ground-water development or water resource sustainability issues.