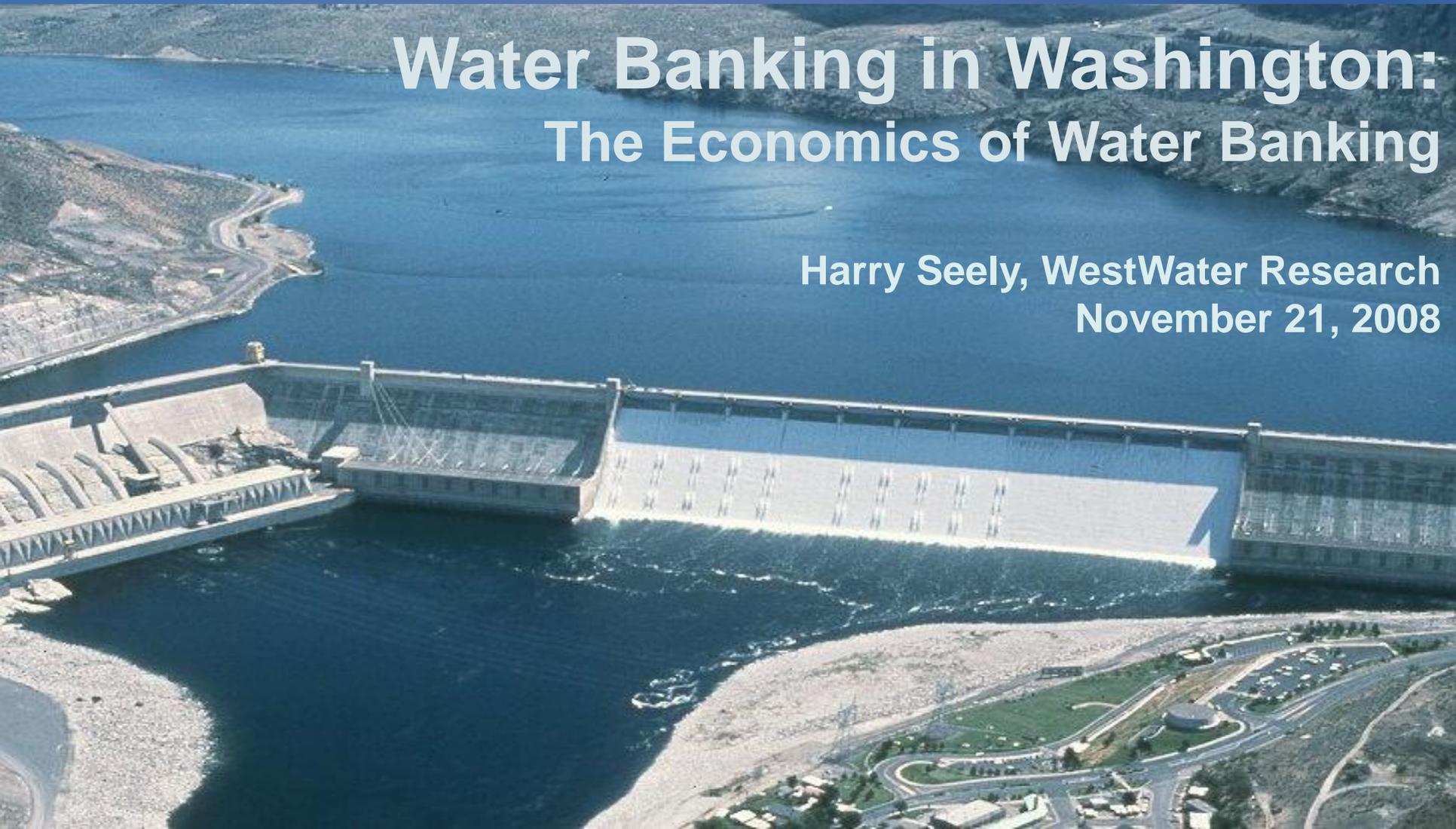




# Water Banking in Washington: The Economics of Water Banking

Harry Seely, WestWater Research  
November 21, 2008

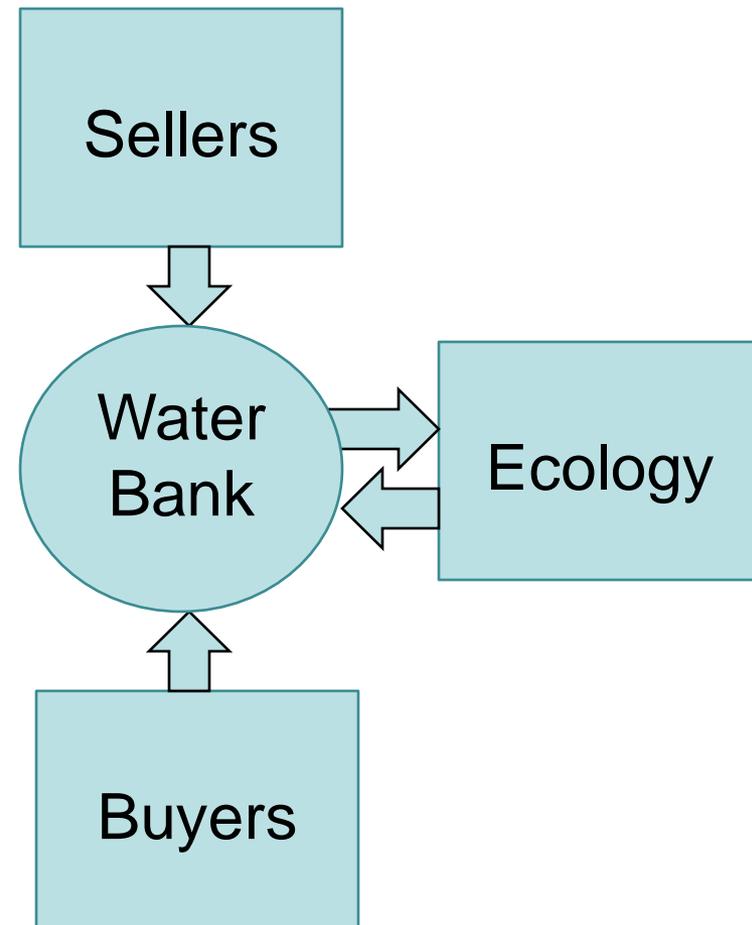


# Presentation Outline

- 
- Define the Problem
  - Define Goals and Objectives
  - Water Bank Design
  - Economic Considerations
  - Water Banking Challenges
  - Water Banking Opportunities

# Water Bank Design

- **Define the Problem(s)**
  - Exempt Groundwater Uses
  - Instream Flow Barriers
  - Out-of-Priority Water Uses
  - Future Development Opportunities
  - High Transaction Costs
  - Existing Barriers to Trades
- **Is a Water Bank Necessary?**
- **Defining Goals and Objectives**
  - Minimize Economic Costs
  - Reduce Transaction Costs
  - Protect Water Rights (including GW rights)
  - Promote Water Conservation
  - Improve Water Supply Reliability



# Water Bank Design

**Water Banks can take a variety of forms and structures**

**Passive: Information Clearinghouse**

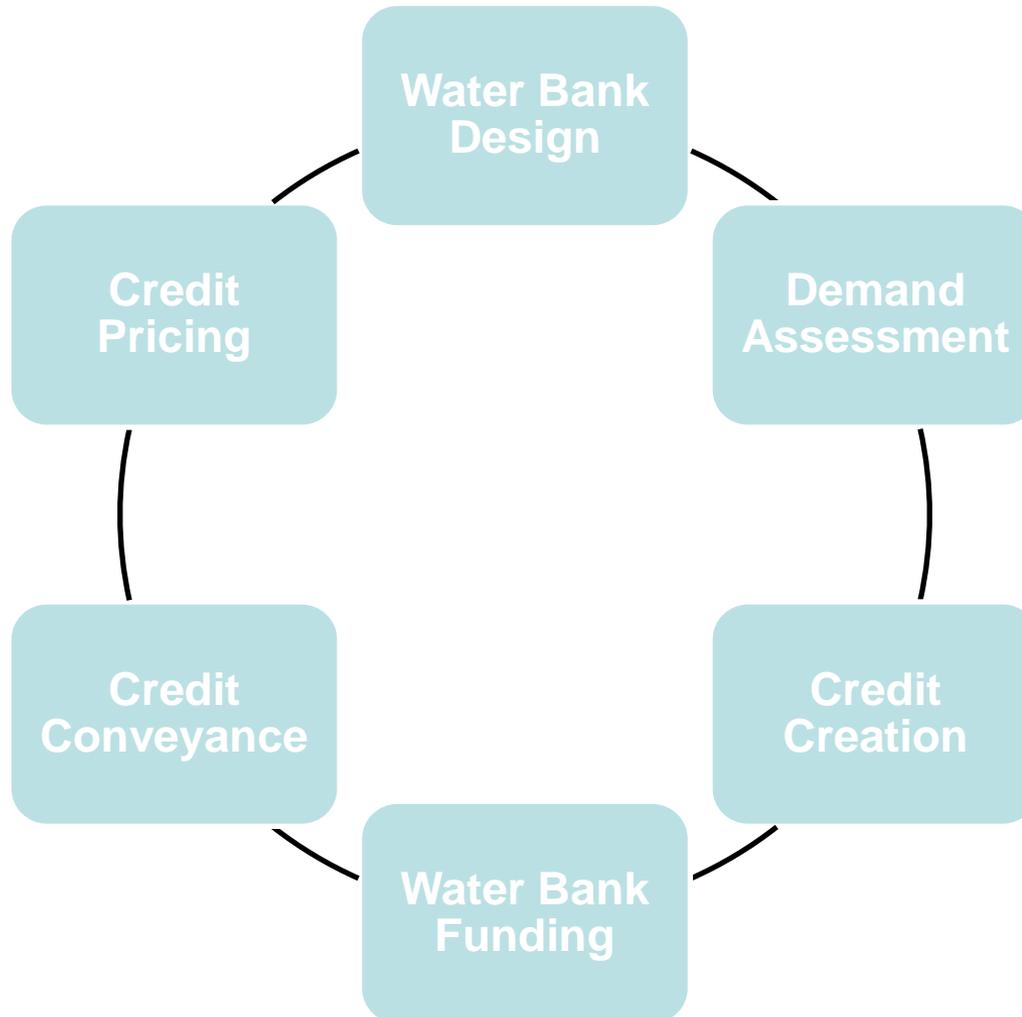
**Active: “Market-Maker”**

**Defining the goals and objectives will help determine the Water Bank structure that is most consistent with locally-based priorities**

**Institutional Considerations – who should operate the bank?**

**Consideration of water values and economics is a critical component of determining how, or if, to develop a water bank**

# Water Bank Design



# Economic Considerations



## Demand Assessment

- A functioning and sustainable water bank requires motivated buyers
- Who are the buyers and what are their needs?

Volume, Timing (Season), Location

- What is their ability/willingness to pay?
- What are their alternatives?



## Research and Analysis

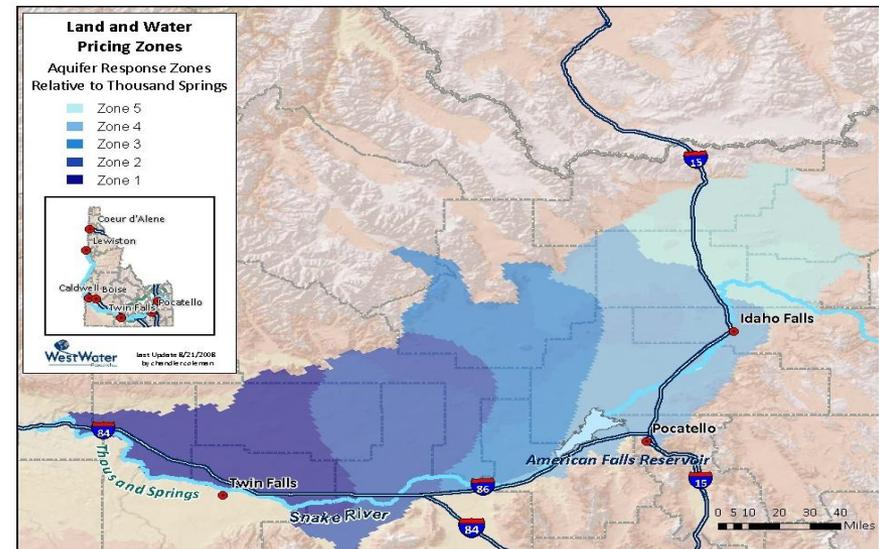
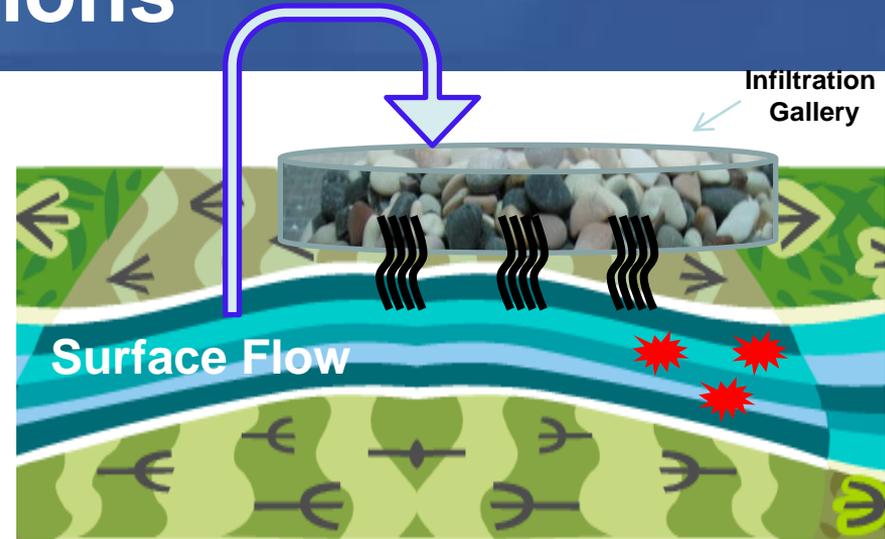
- Water trading activity
- Water right prices
- Population growth
- Development/Zoning
- Land use trends (irrigated agriculture)
- Projected Shortages



# Economic Considerations

## Credit Creation

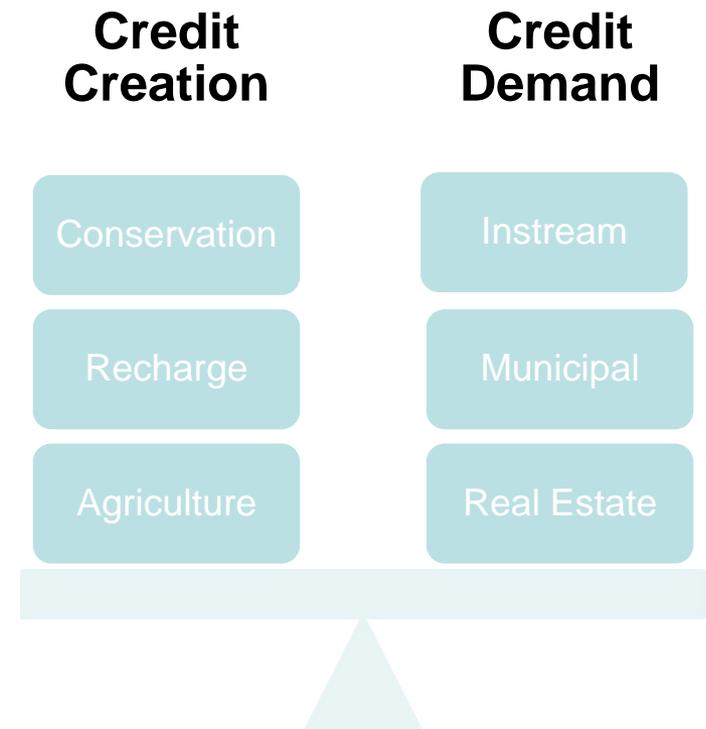
- Benefits of a “common currency.”
- How can credits be created?
  - Water right purchases
  - Leases?
  - Recharge
  - Conservation
  - Reservoir Reoperation
- Market Areas/Trading Zones
  - Operate within existing water right regulations
  - Establish “free trade zones”
  - Mitigation ratios
    - Inter-zone trades
    - Seasonality
    - Water reliability



# Economic Considerations

**Balancing Supply and Demand: Water Bank viability requires careful consideration of the relationship between water supply and demand in the region**

- Supply vs demand increments
- Types of buyers
- Absorption rate
- Protecting “excess” supply - TWRP
- Use of temporary credits
- Use of nonconsumptive credits
- Value differences are key



# Economic Considerations

- **Credit Conveyance**
  - Water Bank Accounting – registry of credit holders
  - Integration with other agencies/permitting
- **Contracting Issues**
  - Contract assurances will promote participation
  - Development period
  - Credit re-assignment
  - Buyback provisions
- **Credit Pricing**
  - Price information/discovery
  - Price setting vs market exchanges
  - Water Bank pricing policy will depend upon goals, funding, and demand/supply assessment



# Economic Considerations – Bank Funding

- **Types of Fees**
  - Transaction Fee
    - Percentage of value
    - Fixed fee – small transactions
  - Fee for Services
    - Processing water right changes
- **Credit Demand/Supply Assessment**
- **Few water banks are transaction funded**
  - Inadequate market activity and prices
  - Requires a dedicated annual funding source for overhead functions
  - Taxing authority – improvement districts



# Water Banking Challenges

- **There are few examples in the U.S. of operating water banks with a high level of participation**
  - **Price uncertainty**
  - **Pricing policies that fail to respond to changes in market conditions**
  - **Lack of adequate water value differential**
  - **Failure to provide trading flexibility beyond existing conditions**
  - **Failure to address perceived buyer risks**
  - **Water Bank credibility/trust**

# Water Banking Opportunities

- Match buyers and sellers more efficiently – “aggregator”
- Establish more certainty to buyers and sellers
- Align water use with changing societal values and needs
- Provide clarity on mitigation
- Manage exempt water uses
- Provide a home for “distressed” water rights
- Promote water use efficiency through market realization of water values



# Questions?

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