



Designing a Water Market for the Lower Rio Grande Basin of New Mexico

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Overview

- Introduction
- Research Objectives
- Performance of established markets
- Elephant Butte Irrigation District
- Issues
- Market design



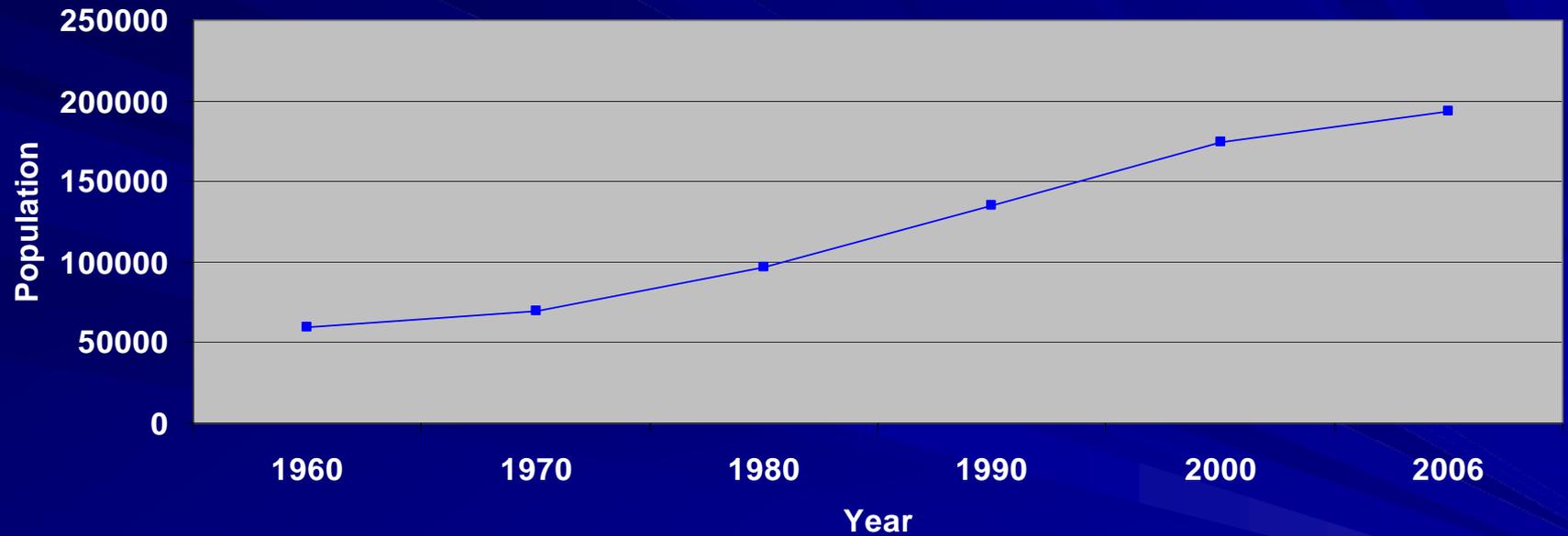
Introduction

The Year Of Water

- Governor Richardson declared 2007 “The Year of Water”
- Centennial Anniversary of 1907 Water Law
- State is on the cusp of explosive economic development

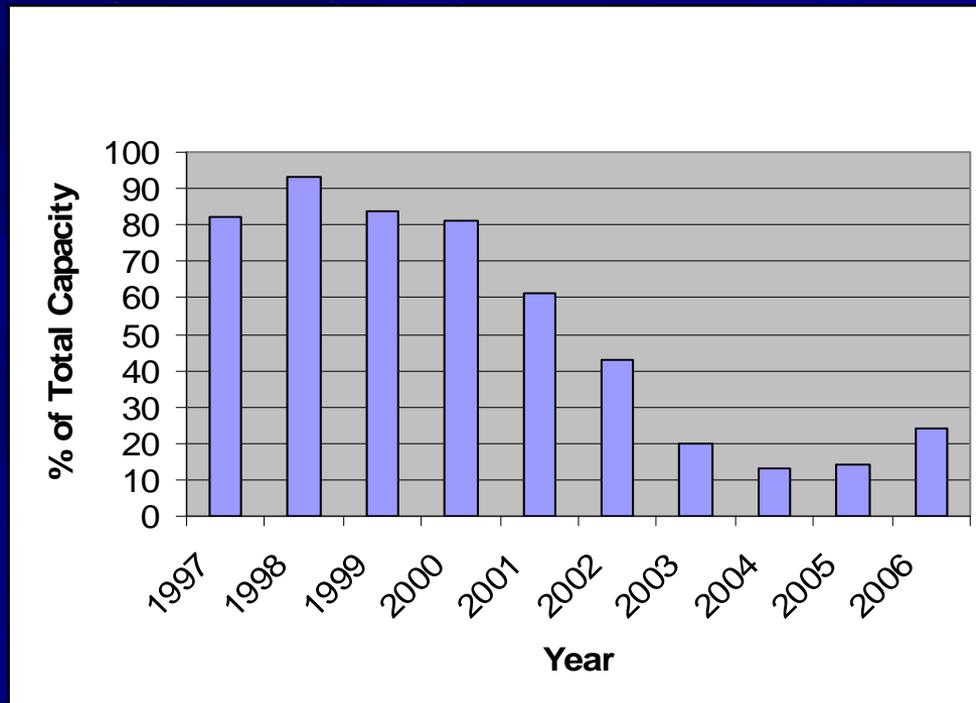
Introduction

Population Growth in Doña Ana County, New Mexico



Introduction

Declining Water Supplies



Elephant Butte Reservoir Levels as a Percent of Total Capacity

Source: Natural Resources Conservation Service, 2006

Introduction

Response to Water Scarcity

- Office of the State Engineer (OSE) has taken the lead
- OSE has formulated Active Water Resource Management (AWRM)
- Adjudication is also occurring
- Markets

Research Objectives

Provide a workable framework for an active water market that can efficiently reallocate water to its highest valued use, continue to provide water to agriculture, and meet new demands for water.



The Rio Grande in Hatch, New Mexico

Research Objectives

Subsidiary Objectives

- Analyze the performance of established water market mechanisms.
- Evaluate demands and constraints on EBID's surface water deliveries.
- Identify other issues that need to be considered when establishing a market for EBID.

Performance of Established Markets

- Positive Aspects of Markets
 - Gains in net benefits and profits
 - Reallocation of existing water
 - Provides for risk and drought management
 - Environmental benefits
 - Availability of water for resource-poor farmers

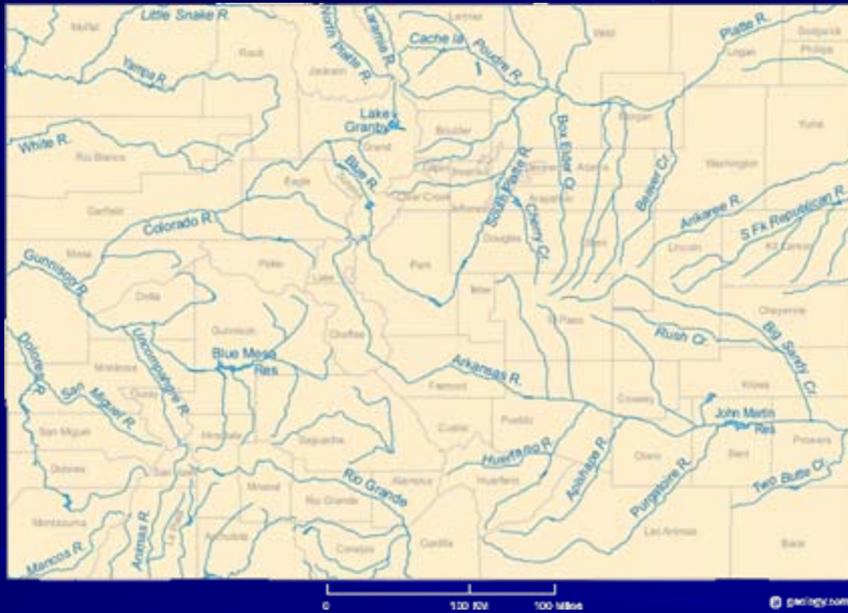
Performance of Established Markets

- Challenges of Established Markets
 - Externalities
 - Distribution of benefits
 - Some thin markets
 - Failure to protect environment
 - Transaction costs
 - Barriers to inter-basin trading

Performance of Established Markets Spot Markets

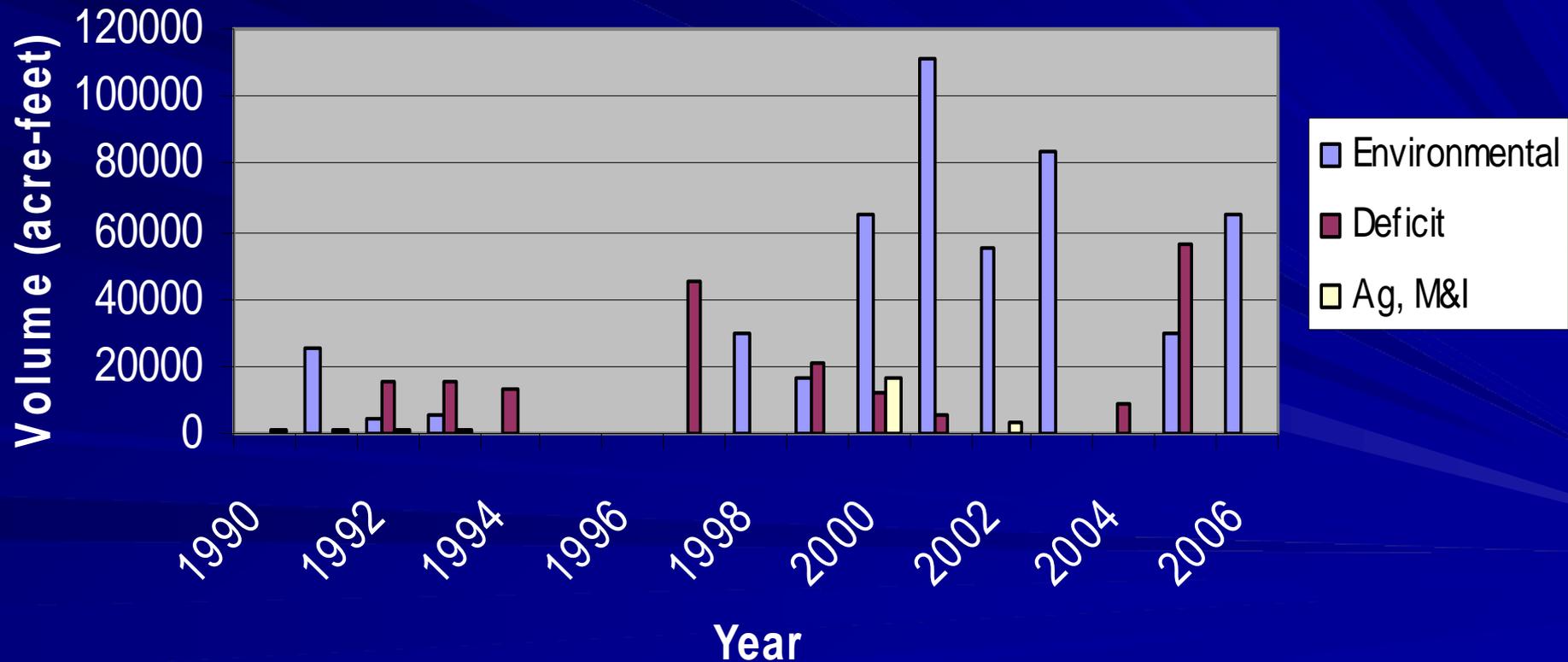
C-BT in Colorado

- Very active market
- Online bulletin board listing contacts for buyers and sellers, quantity, and price
- Very low transaction costs



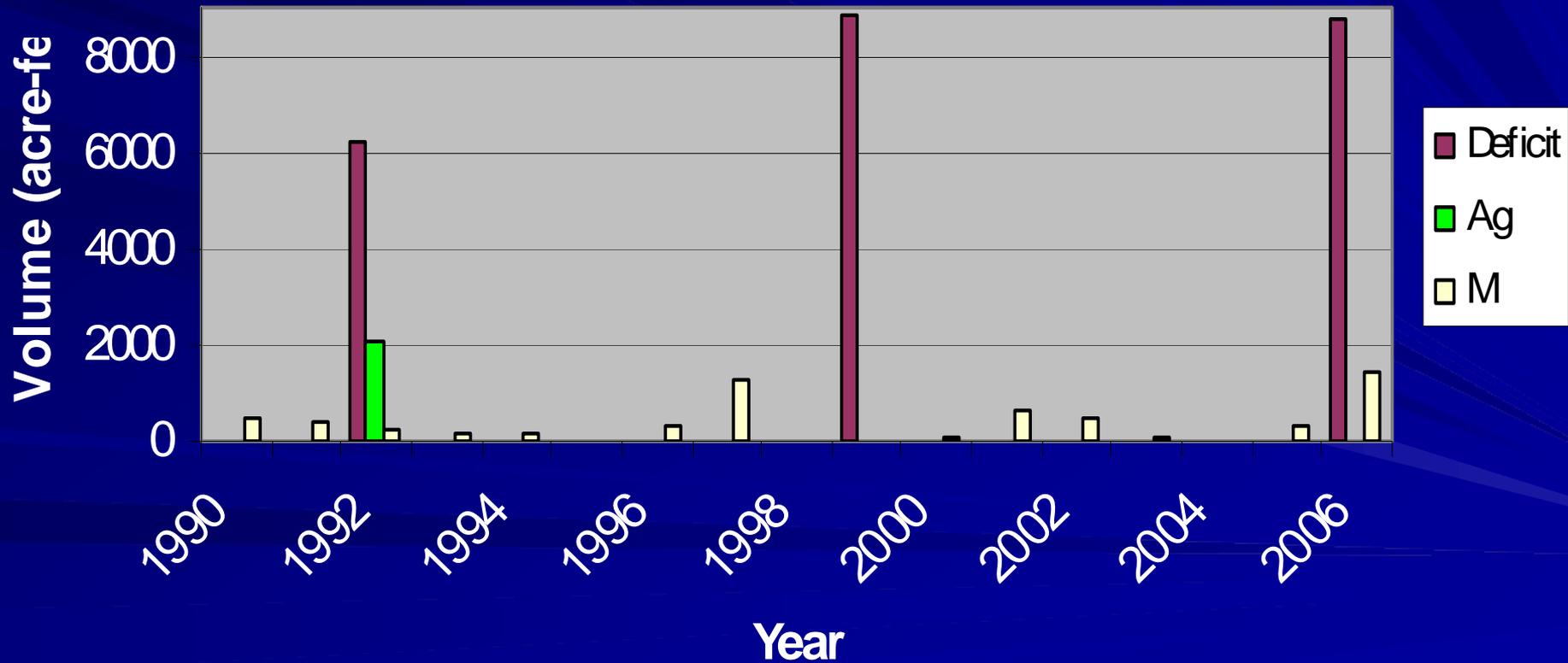
Water Market Activity in New Mexico

Annual Amount Leased by Use



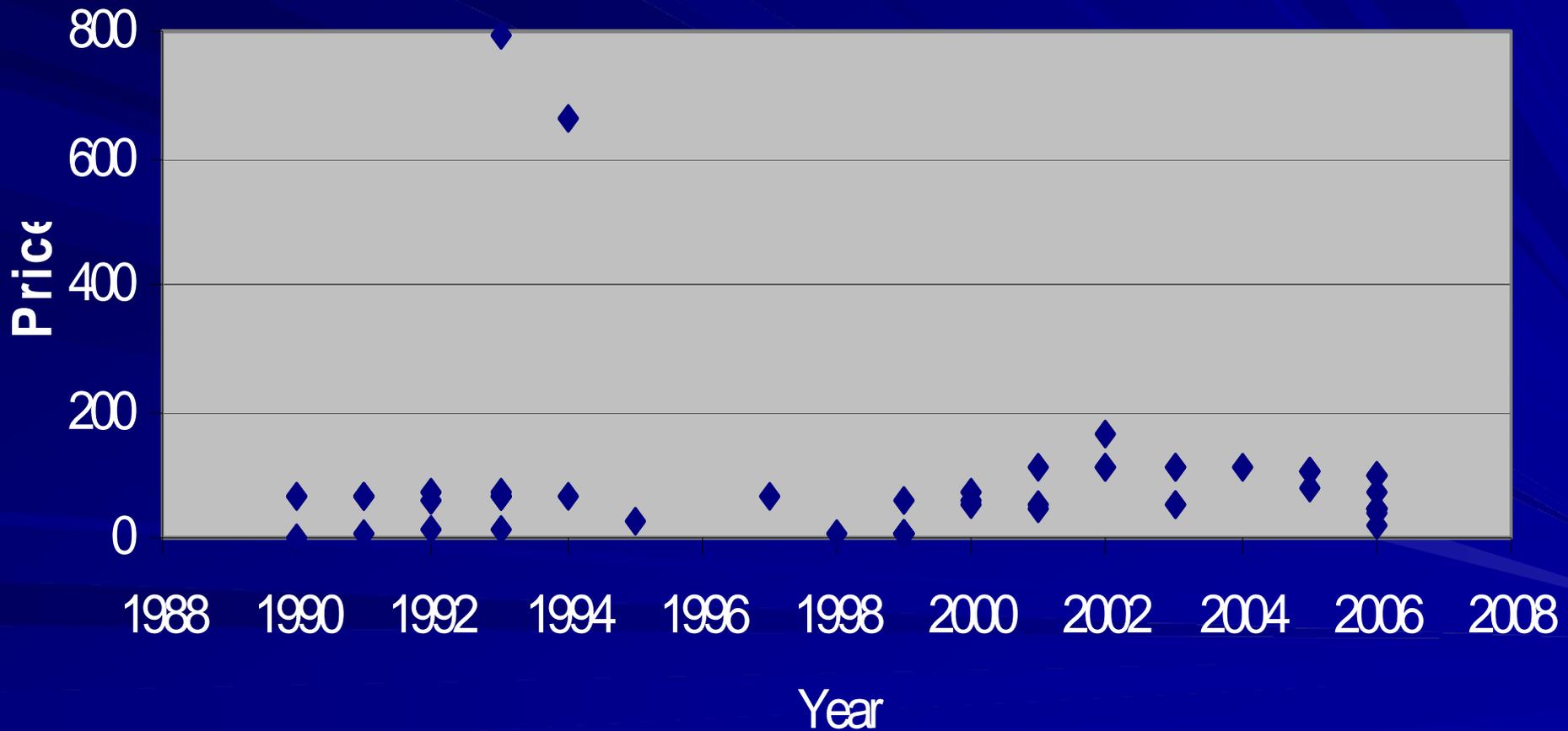
Water Market Activity in New Mexico

Annual Water Rights Purchased



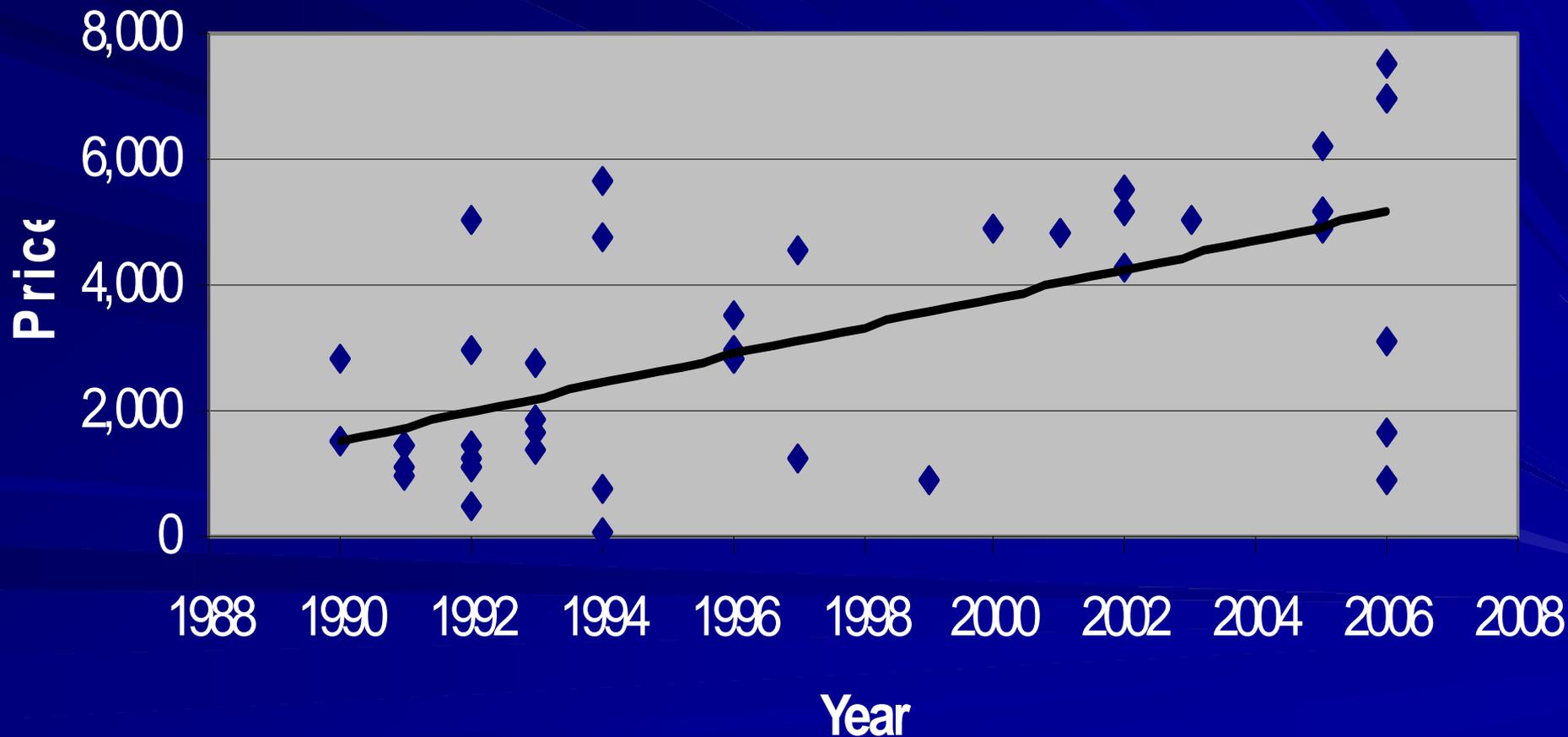
Activity in New Mexico

Lease Prices Over Time (2006 dollars)

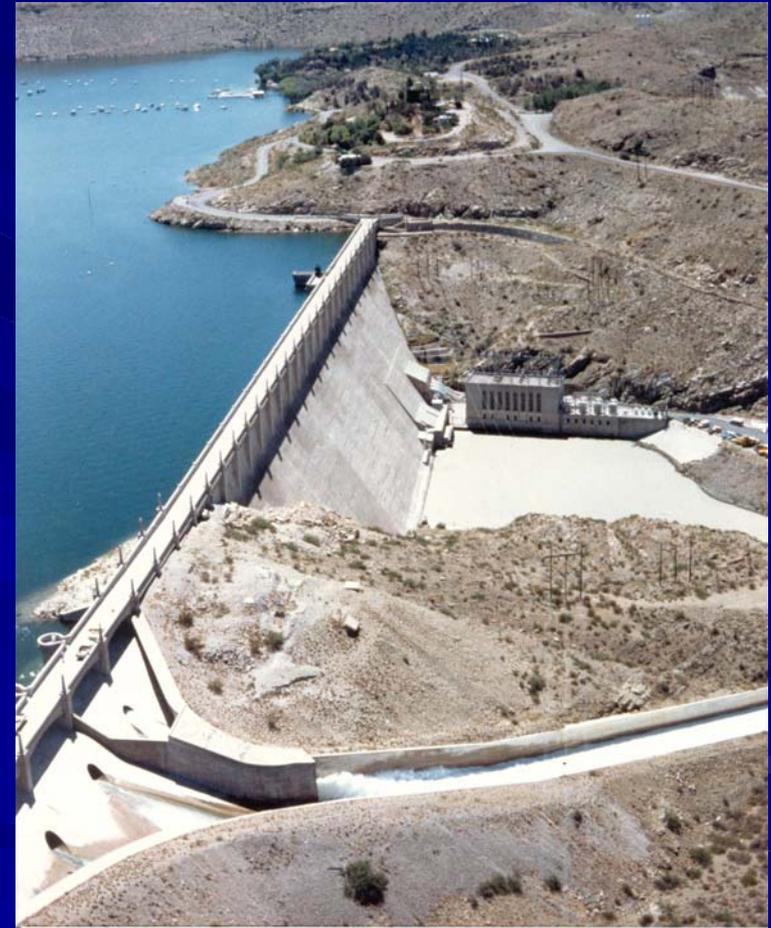
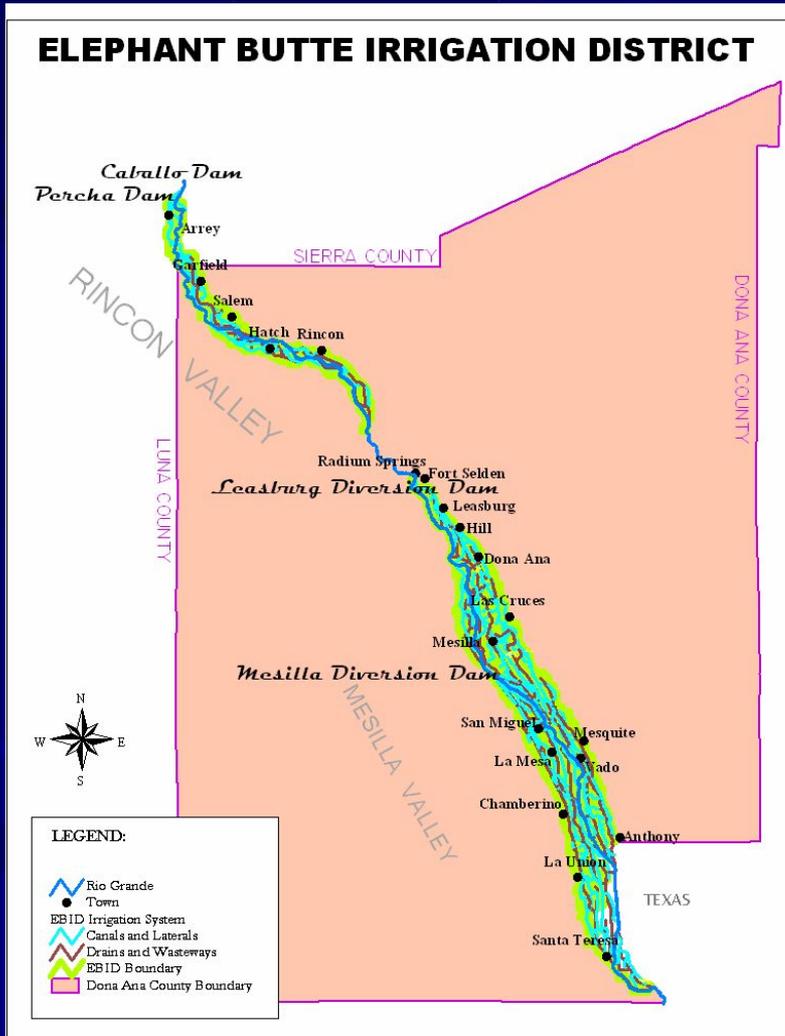


Activity in New Mexico

Water Rights Prices Over Time (2006 dollars)



Elephant Butte Irrigation District



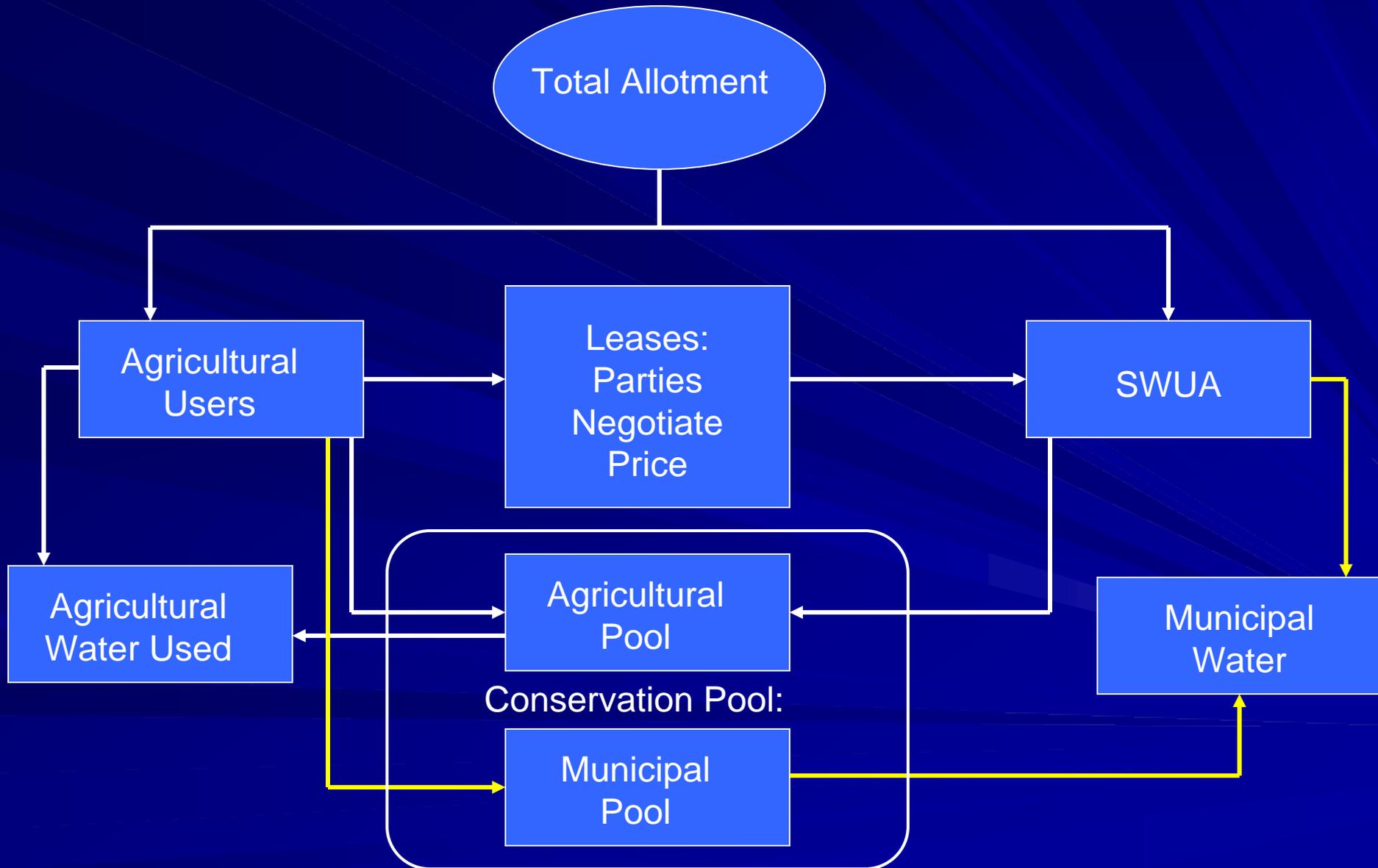
Issues

- Shift in demand for water
- Conjunctive use
- Need to uphold NM Water Law and OSE regulations
- Groundwater Metering
- Conservation Pool and SWUAs



Cotton Field in Doña Ana County

SWUA Process



Other Issues

- Development and speculation
- Treatment Plant
- Ongoing adjudication of water rights

Market Design

Institutional Necessities

- Well-defined property rights
- Regulation of groundwater
- Information on prices and supply and demand conditions

Market Design

Final Attributes

- Structure of the market
- Administration of the market
- Regulation of groundwater/conjunctive use
- Environmental purposes and impacts

Thank you

Questions?

Comments?