Middle Rio Grande Endangered Species Act Collaborative Program

Facts on Rio Grande Endangered Species

Rio Grande silvery minnow *(Hybognathus amarus)*

Federally listed on July 20, 1994

Description: stout minnow with a maximum length of 3.5 inches. Historically 1 out of 7 most abundant minnows on the Rio Grande and is now the only spawning minnow left. Life span in the wild is ~2-years but few survive past 13 months.

Endangered due to:

- River regulation (dams, diversions), alteration of natural hydrograph
- Channelization
- Introduction of nonnative fishes
- Discharge of contaminants into the river

Southwestern willow flycatcher *(Empidonax traillii extimus)*

Federally listed on February 27, 1995

Description: Small gray-green bird measuring at most 5.75 inches. It is a neotropical migrant breeding in the southwest and migrates to Mexico down to South America.

Endangered due to:

- Loss, fragmentation or modification to habitat
- Urban, recreational and agricultural development, cattle grazing
- Water diversions, pumping and channelization
- Parasitization of the brown-headed cowbird

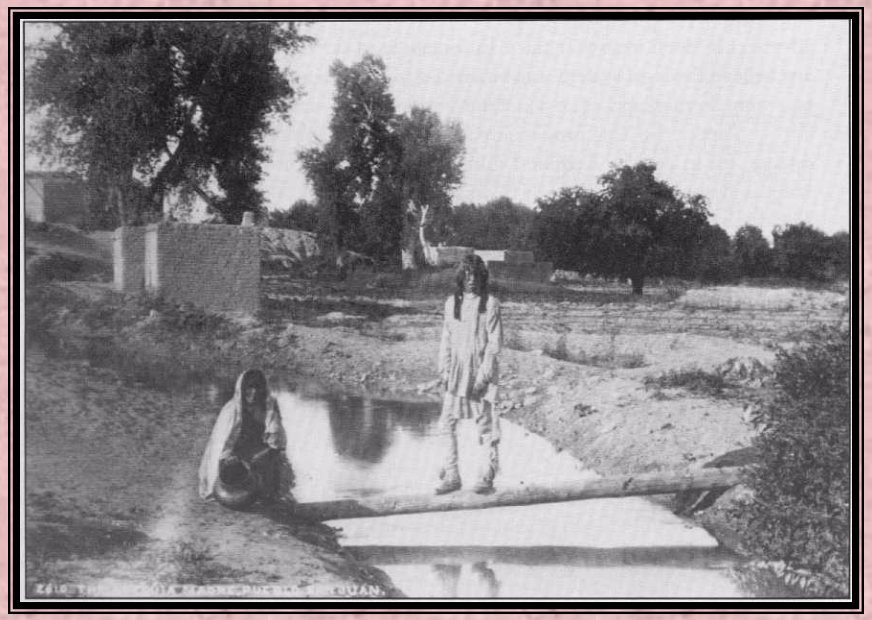
Why Save Endangered Species?

Since life began on Earth, countless creatures have come and gone, rendered extinct by naturally changing physical and biological conditions.

Since extinction is part of the natural order, and if many other species remain, some people ask: "Why save endangered species? Why should we spend money and effort to conserve them? How do we benefit?"

The Endangered Species Act of 1973 expressed the intent of Congress that recognized the esthetic, ecological, educational, historical and scientific value to the Nation. Although extinctions occur naturally, scientific evidence strongly indicates that the rate of extinction is much higher than what naturally occurred due to exploitation of resources, introduction of exotics, environmental pollution and diseases.

Water in the Middle Rio Grande



Prolonged Drought

- Years of below average snowpack runoff and weak monsoonal seasons
- Article VII of Rio Grande Compact in effect, limiting upstream reservoir storage

Impacts to the Species

- Dams/Diversions
- Channelization
- Hydrograph

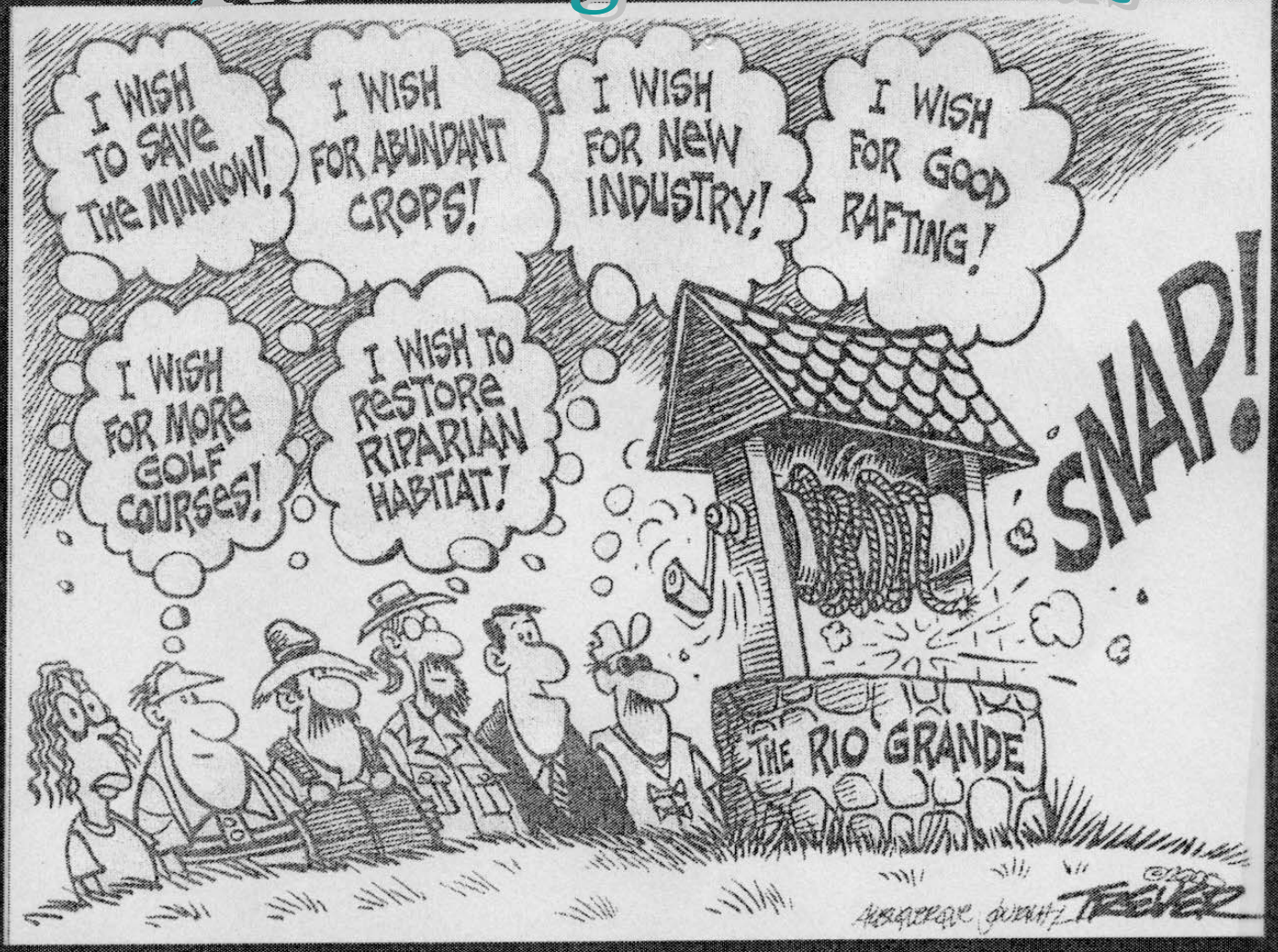
- Sediment
- Nonnative Plants and Animals

Conflicts…

1996: Drought exacerbates conflict

- **1999: Rio Grande silvery minnow Recovery Plan**
- **1999: Minnows v. Keys litigation**
- **2002: Judge Parker ruling/appeal to 10th Circuit Court of Appeals**
- **2002: Southwestern willow flycatcher Recovery Plan**
- **March 2003: New Biological Opinion issued**
- **May 2003: 10th Circuit Court of Appeals decision upholds ruling**
- **January 2004: 10th Circuit Court of Appeals dismissed appeal as moot and vacated decision**

Reaching Consensus



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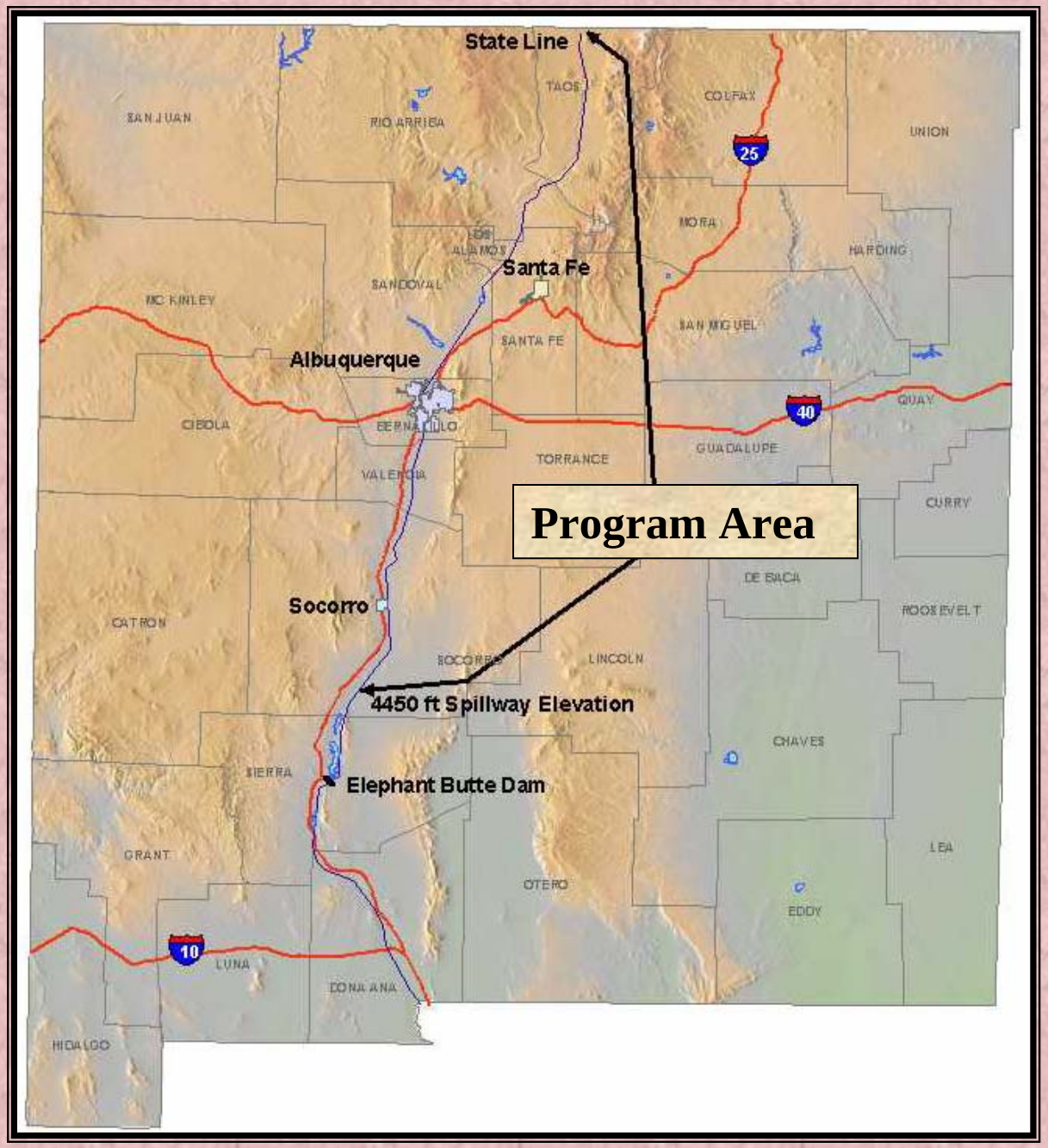
Collaborative Program History

- 1999 ESA Workgroup convened
- 2000 ESA Workgroup members sign first MOU
- 2002 Second MOU establishes Interim Steering Committee
- 2003 Executive Committee established; MOU extended and NEPA process commenced based on the 2003 Biological Opinion
- 2006 Administrative duties reside with the Bureau of Reclamation

Program Signatories
to the 2006 Memorandum of Understanding

- Assessment Payers Association of the MRGCD
- Attorney General, State of NM
- City of Albuquerque
- MRG Conservancy District
- National Association of Industrial and Office Properties
- New Mexico State University
- NM Department of Game and Fish
- NM Department of Agriculture
- NM Environment Department
- NM Interstate Stream Commission

- Pueblo of Santa Ana
- Pueblo of Santo Domingo
- Rio Grande Water Rights Association
- US Bureau of Indian Affairs
- US Bureau of Reclamation
- USDA, Forest Service, Rocky Mountain Research Station
- US Corps of Engineers
- US Fish and Wildlife Service
- University of New Mexico


State Line
Program Area
Santa Fe
Albuquerque
Socorro
4450 ft Spillway Elevation
Elephant Butte Dam
SAN JUAN
RIO ARRIBA
TAOS
COLFAX
UNION
MORA
HARDING
LOS ALAMOS
SANDOVAL
MC KINLEY
SANTA FE
SAN MIGUEL
CIBOLA
BERNALILLO
QUAY
TORRANCE
GUADALUPE
VALENCIA
CURRY
DE BACA
CATRON
ROOSEVELT
SOCORRO
LINCOLN
CHAVES
SIERRA
GRANT
OTERO
LEA
EDDY
LUNA
DONA ANA
HIDALGO
25
40
10

Program Goals

- Protect and improve the status of listed species in the Middle Rio Grande with emphasis on:
  - **Rio Grande silvery minnow**
  - **Southwestern willow flycatcher**
- Contribute to recovery of listed species
- Simultaneously protect existing and future water uses
- Achieve these objectives while complying with state and federal law, including compact delivery obligations

Habitat Restoration Subcommittee

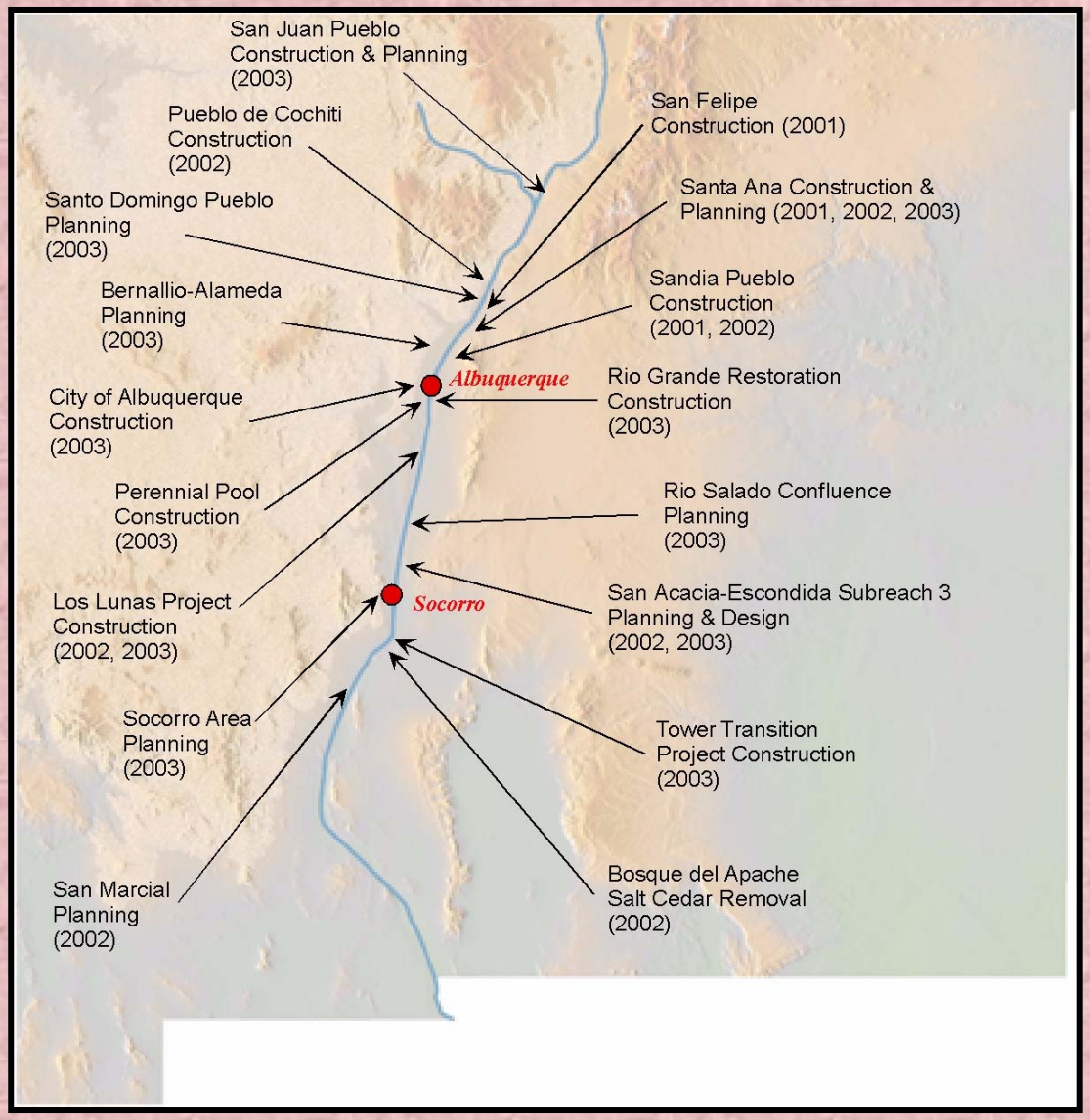
Habitat Restoration Goals

- Provide more suitable habitat for all life stages of the silvery minnow
  - Low velocity areas, especially at high flows
  - Conditions that reduce transport of eggs and larvae downstream
- Provide additional nesting habitat for flycatcher
  - Dense stands of young willows near water
  - Near other occupied territories and nests
- Reduce riparian water use
- Reduce fire danger

Habitat Restoration Priorities

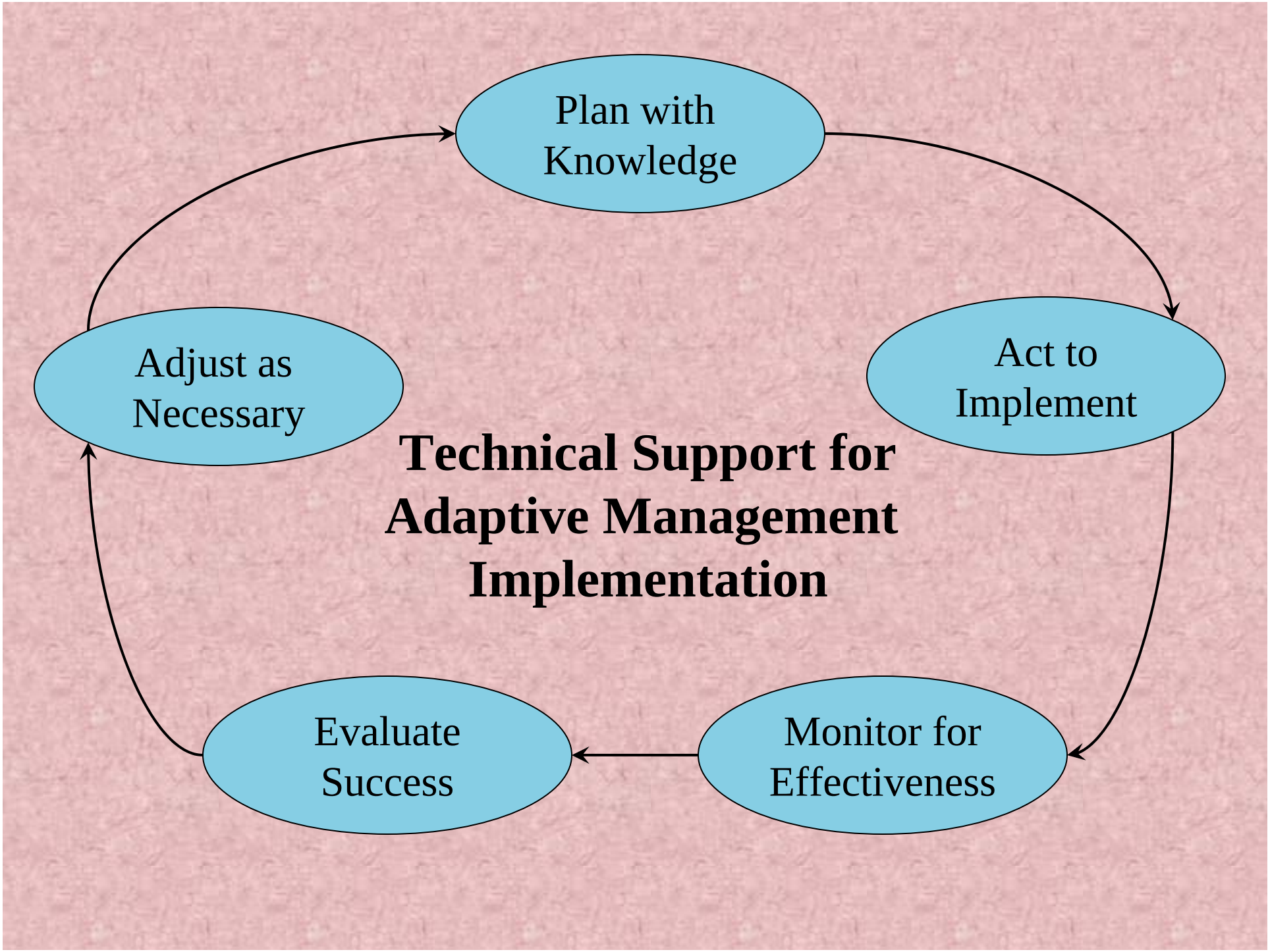
- Rio Grande silvery minnow habitat restoration between Cochiti Dam and Isleta Diversion Dam
- Fish passage planning and design
- Restoration projects that can be completed in the next 12 – 24 months

Habitat Restoration and Improvement Projects



Examples of Habitat Restoration

Science Subcommittee


Plan with Knowledge
Act to Implement
Monitor for Effectiveness
Evaluate Success
Adjust as Necessary
Technical Support for Adaptive Management Implementation

Science Goals

- Research to support knowledge-based decisions for improving and creating habitat for the species
- Research to understand the needs for species survival and recovery
- Monitoring to establish baseline and gauge success of Program activities

Science Priorities

- Research the population dynamics
- Augment and propagate the Rio Grande silvery minnow
- Research the hydrologic and geomorphic impacts on the species (e.g. changes to river, evapotranspiration, water quality)
- Monitor the southwestern willow flycatcher

Propagation and Augmentation

Naturalized Refugium at BioPark

Minnows Released in Rio Grande

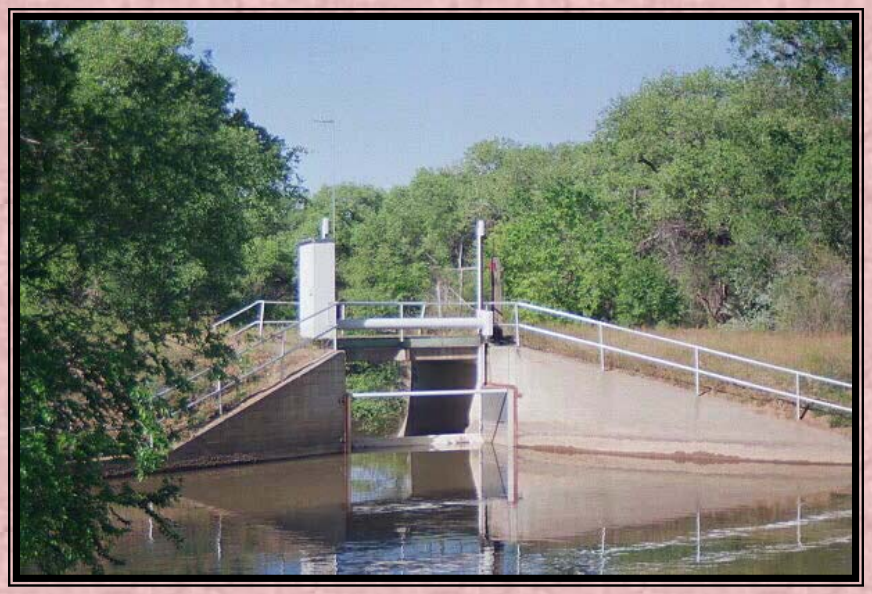
Monitoring

- **Collect data from projects**
- **Assess individual habitat projects**
- **Determine benefits of Program activities**

Water Acquisition and Management Subcommittee

Water Acquisition and Management Goals

- Evaluate and develop mechanisms for making water available for ESA purposes while protecting existing uses
- Assist in the negotiation and development of these mechanisms with Bureau of Reclamation



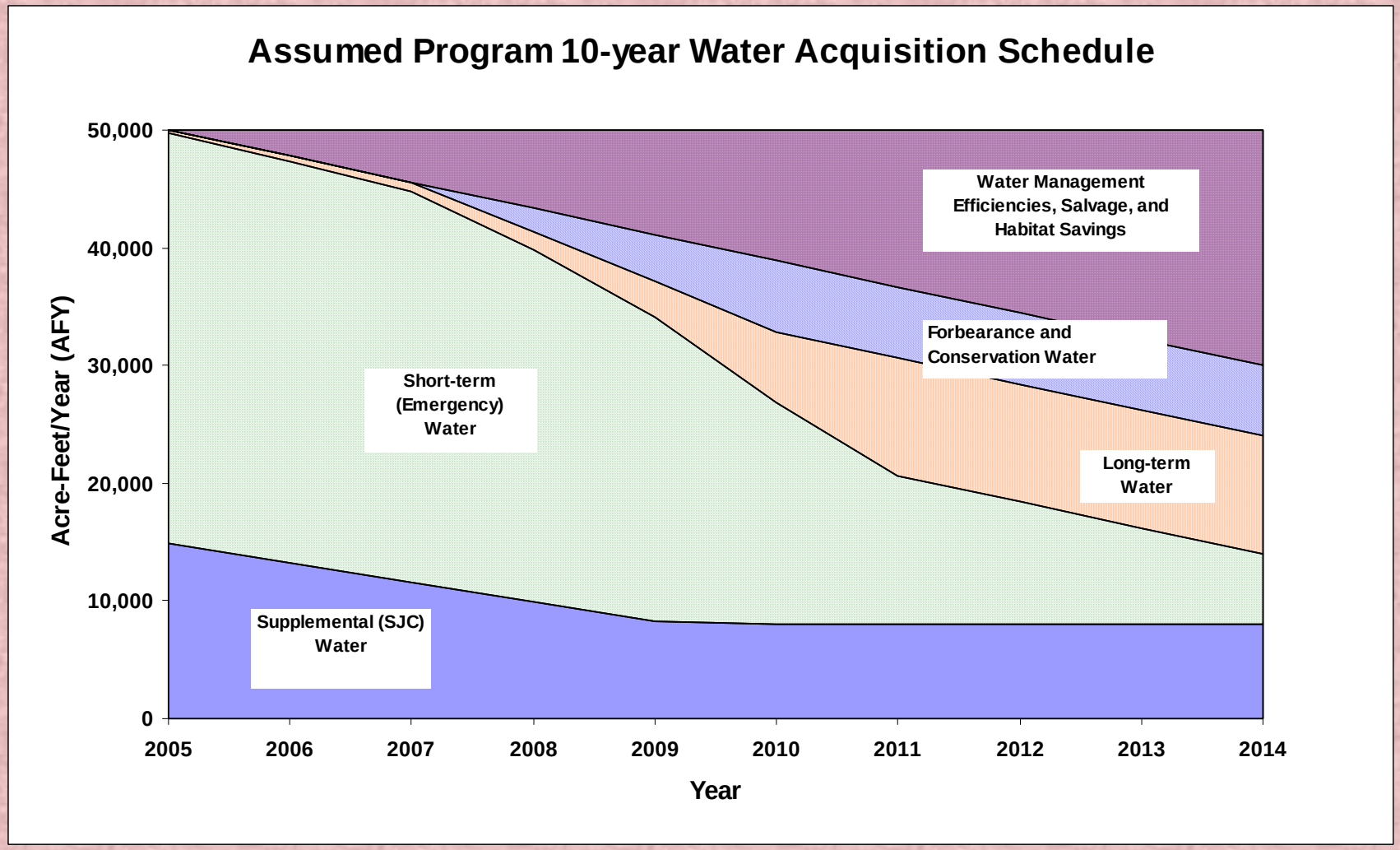
Water Acquisition and Management Priorities

- Meet the flow requirements established in the Biological Opinion
- Support measures for short-term water acquisition and pumping as necessary
- Develop long-term strategies for sustainable river and water management to promote recovery of the species

Meeting Future Water Demand

- Annual average projected water demand to meet needs of species estimated at 50,000 acre-feet
- Available San Juan-Chama lease water, (averaging 13,000 acre feet annually in 2003) decreases as entities start utilizing their contract water.

Potential Scenario for Long-Term Water Supply



Long-Term Strategies to Improve River and Water Management

Permanent acquisition, plus storage and management of Program water

City of Albuquerque curtailment of river diversions during periods of critical low flow

Water salvage through riparian vegetation management

Upstream storage for decrease in reservoir evaporation

Improvements to irrigation metering, infrastructure and operational efficiency

Balancing of river flows through shallow groundwater pumping and recharge

Voluntary irrigation forbearance and municipal conservation

Public Outreach

Purpose of Public Outreach

Communication to the Public, Media, and Government Officials

- Community presentations
- Information dissemination
- Program website

- News releases
- Interviews
- Site tours
- Educational programs

OVERVIEW

Adaptive Management within the Program

Development of a project review and evaluation process as well as a comprehensive **Monitoring Plan** to determine the Program success on the Middle Rio Grande endangered species

Routine feedback and direction from Executive Committee

Where we are going…

LET IT RAIN!

Achieve on-the-ground habitat restoration projects

Implement Long-term Plan

Finalize Programmatic Environmental Impact Statement

Seek Authorizing Legislation in next Congressional session

Develop strategic water planning for Middle Rio Grande ESA

Construct additional refugium for augmentation of RGSM

Middle Rio Grande Endangered Species Act Collaborative Program

http://www.fws.gov/mrgesacp/