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?

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.

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?”
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

I wish to save the minnow!
I wish for abundant crops!
I wish for new industry!
I wish for good rafting!
I wish for more golf courses!
I wish to restore riparian habitat!

The Rio Grande

Snap!

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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 |
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
Technical Support for Adaptive Management Implementation

Plan with Knowledge

Act to Implement

Monitor for Effectiveness

Evaluate Success

Adjust as Necessary
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

Assumed Program 10-year Water Acquisition Schedule

Year

Acre-Feet/Year (AFY)

Supplemental (SJC) Water

Short-term (Emergency) Water

Forbearance and Conservation Water

Long-term Water

Water Management Efficiencies, Salvage, and Habitat Savings
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

Voluntary irrigation forbearance and municipal conservation

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
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/