

**Financial Report
For \$11,200,000 Appropriation, Fiscal Year (FY) 2002
Bureau of Reclamation
Middle Rio Grande Endangered Species Act (ESA)
Collaborative Program Activities**

At the direction of the Senate Energy and Water Development Appropriations Subcommittee (Senate Report 107-220), the Bureau of Reclamation (Reclamation) has compiled a status report for the \$11.2¹ million in FY 2002 funds appropriated to Reclamation to continue Program efforts to enhance habitat, increase populations, and contribute to the recovery of the Federally listed Rio Grande silvery minnow (RGSM) and the southwestern willow flycatcher (SWWF).

The Middle Rio Grande ESA Collaborative Program Workgroup signed a memorandum of understanding (MOU) to develop the Middle Rio Grande ESA Collaborative Program (Program). The Program, through collaboration, seeks to achieve the goals of contributing to the survival and recovery of the listed species while at the same time meet the water needs of people in the Middle Rio Grande basin in accordance with all applicable laws including, but not limited to, the ESA, NEPA, the Safe Drinking Water Act, the Clean Water Act, Indian trust responsibilities, tribal laws, state water laws, interstate compacts, and international treaties governing the allocation of water.

This report provides information on distribution of funds by activity, a brief description of each activity, and approximate completion schedule for each activity. Of the total of \$11,200,000 FY 2002 appropriation, \$7,414,040 has been expended and \$3,785,960 is obligated but not yet expended. The Program assigned the highest priority to those activities which satisfy the requirements of the June 2001 Biological Opinion. The next priority went to those activities essential for recovery of the listed species. Activities were selected on the basis of the consensus opinion of the signatories to the MOU.

The funded activities contribute to Reclamation's ability to meet critical ESA and water management related goals: continue the efforts of the Program Workgroup and its support activities to water users and species along the Middle Rio Grande, promote long- and short-term activities to benefit species and water users along the Middle Rio Grande, and achieve success in contributing to the recovery of the RGSM and the SWWF.

List of Signatories to the MOU:

Bureau of Reclamation
U. S. Fish and Wildlife Service (Service)
U. S. Army Corp of Engineers (Corps)
Lieutenant Governor, State of New Mexico

¹ The amount of funding in Conference Report (107-220) for the Middle Rio Grande Project is \$11,200,000 even after Congressional underfinancing was applied to the Bureau of Reclamation budget.

Attorney General, State of New Mexico
 New Mexico Interstate Stream Commission (NMISC)
 New Mexico Department of Game and Fish
 New Mexico Environment Department
 New Mexico Department of Agriculture
 Alliance for Rio Grande Heritage
 City of Albuquerque
 USDA, Forest Service, Rocky Mountain Research Station
 New Mexico State University
 University of New Mexico
 Middle Rio Grande Conservancy District (MRGCD)
 National Association of Industrial and Office Properties
 Rio Grande Restoration
 Bureau of Indian Affairs

The activities that received funding are listed below:

\$11,200,000 Appropriated	Main Funding Categories	Expended	Obligated but not expended
\$4,300,000	Modifications to River Habitat	\$2,667,251	\$1,632,749
\$2,180,000	Silvery Minnow Population Management	\$1,049,558	\$1,130,442
\$1,110,000	Monitoring Stream Effects on Silvery Minnow	\$842,005	\$267,995
\$ 120,000	Combat Non-Native Species	\$86,078	\$33,922
\$ 950,000	Water Quality Studies and Improvements	\$398,996	\$551,004
\$1,900,000	Bureau of Reclamation's Purchase of Water	\$1,900,000	\$0
\$ 640,000	Bureau of Reclamation's Repayment Obligation	\$470,152	\$169,848

Modifications to River Habitat

Biological Opinion Requirements

\$780,000 Reclamation & \$380,000 Corps for Los Lunas Activity (Reclamation, Corps):

The Los Lunas, New Mexico, Habitat Restoration Project is among the first major habitat restoration projects funded by the Program. This activity is a collaborative effort by the MRGCD, the Corps, and Reclamation to widen the river channel and lower river banks to produce shallow water habitats, over-bank flooding and regenerate stands of willows and cottonwoods. It is approximately 40 acres in size on an area burned by a fire. The removal of approximately 1,400 jetty jacks along 6,000 feet of the river bank was completed in May 2002. The floodplain excavation work, totaling some 8,000 cubic yards, and removal of burned vegetation was completed in the fall of 2002. Other completed work includes establishment of side channels and other habitat features, and construction of wetlands. Work under this funding allocation has been completed. Native riparian revegetation and monitoring work will begin in 2003 pending future funding availability.

\$360,000 for San Acacia Habitat Restoration Activity (Reclamation): San Acacia habitat restoration activities funded in FY 2002 involved identifying effective river restoration alternatives suitable for the selected site's biological, hydrological, and morphological conditions. These alternatives were prioritized and evaluated for geomorphic and hydraulic characteristics, restoration benefits, access, cost, and constructability. The restoration alternative that was selected involves gradient restoration facilities that simulate riffles in the river and control the bed slope. Final design and environmental compliance are in progress. Construction is anticipated to take place during FY 2003-2005 pending future funding availability.

\$480,000 for Fish Passage/River Reconnectivity (Reclamation): This activity involves continuing studies to identify and evaluate various means of providing for upstream fish movement at San Acacia, site of one of the Middle Rio Grande Project's diversion dams. Studies to investigate aspects of providing for upstream passage of silvery minnows at the San Acacia Diversion Dam are ongoing. Alternatives being considered include construction of a fish passage structure, modification of the existing structure, or removal of the dam, while accommodating irrigation needs. Laboratory studies have been completed on fish swimming capability and their ability to negotiate passages of various designs to determine design criteria for fish passage structures. A study is underway to evaluate potential river channel response to removal of the dam. Another study is looking at the potential for raising the riverbed downstream of the dam to facilitate fish passage. A preliminary design study has also been done on a proposed cross-river siphon that would be a key element in all proposed alternatives for accommodating irrigation needs. Additional related studies are ongoing which will provide information on downstream drift of minnow eggs and larvae, assess the utilization of irrigation ditches and drains as wildlife habitat, and will identify possible natural barriers to upstream movement of fish.

\$500,000 for Pueblo of Sandia Habitat Restoration Activity (Sandia Pueblo): This habitat restoration activity approximating 40 acres will include both floodplain modifications in the river and riparian or bosque restoration. Funding was provided to the Pueblo of Sandia, and the pueblo has been in the process of conducting project site investigations for floodplain modifications for the silvery minnow habitat. The Pueblo of Sandia also has been involved in GIS mapping of the area. These activities will create habitats for RGSM and other aquatic species, as well as provide areas with conditions favorable for native riparian vegetation, which benefit the SWWF.

\$448,500 for Pueblo of Cochiti Habitat Restoration Activity (Cochiti Pueblo): This activity proposes to restore the health of the bosque by removal of vegetation that is a detriment to the ecosystem of the bosque, introducing native plants and grasses to protect existing stands, and managing livestock grazing. Activities performed to date include the removal of approximately 75 acres of exotic vegetation, primarily Russian olive and salt cedar. The Pueblo is also constructing a swale within the proposed site as willows are being gathered for placement. The Pueblo plans to have initial clearing, willow gathering, swale construction, and willow planting in place by late spring 2003. (\$51,500

in additional funding is provided for this activity under the Combat Non-native Species funding category.)

\$235,000 for Program Coordination and Management (Reclamation, Corps, Service): Reclamation performed Program management functions, monitoring Program action items and activities, planning, budget administration and contract administration. The Corps assisted in the development and coordination of an integrated plan to implement elements of the biological opinion. The Service provided a Program Coordinator and necessary staff to coordinate the activities of the Program. This included serving as liaison between the Program and recovery teams, monitoring Program action items and activities, disseminating information to interested parties, maintaining the listserve and mailing lists, and maintaining records on Program activities.

Priority Activities

\$105,000 for Pueblo of Santa Ana Southwestern Willow Flycatcher Habitat Restoration (Santa Ana Pueblo): The Pueblo of Santa Ana is now in the fifth year of a multi-year program to restore and create riparian habitat to assist in the recovery of the RGSM and SWWF. The Pueblo has already completed a 350-acre riparian habitat restoration effort along the southwestern portion of the Rio Grande floodplain on the Pueblo. The restoration of another 100 acres of habitat, including creation of SWWF habitat, is currently underway.

Under this project, the Pueblo has identified a 165-acre area along the west bank of the Rio Grande suitable for SWWF habitat restoration. To date, several 20-acre willow swales have been created. Willows and cottonwood poles have been collected and should be completely installed by late spring 2003. The Pueblo will continue monitoring of the survival success of the willows and cottonwoods through September 2003. This habitat restoration plan is being carefully integrated with a backwater restoration project being implemented by the Pueblo and Reclamation, near the confluence of the Rio Jemez and Rio Grande.

\$226,500 for Pueblo of San Felipe Habitat Restoration (San Felipe Pueblo): The Pueblo of San Felipe did not utilize these funds. Reclamation and the Pueblo of San Felipe were unable to finalize an agreement to fund this activity. The funds were transferred and utilized for the Low Flow Conveyance Channel (LFCC) pumping program.

\$300,000 for San Marcial Reach Flow Capacity Improvement (Reclamation): This activity includes moving the river channel and LFCC to the west side of the valley to allow the river to deposit sediment over the entire floodplain. This will result in increased river flow capacity at the San Marcial Railroad Bridge. Originally it was anticipated that ground survey information for the river channel and the LFCC relocation would be completed during 2002; however, environmental approval to acquire this information has not been obtained. A delivery order under Reclamation's survey contract has been issued to perform this work, and funding for this delivery order has been obligated. It is expected that environmental approvals will be obtained in 2003.

\$300,000 for Pueblo of Santa Ana Restoration Plan (Santa Ana Pueblo): The Pueblo is working with federal partners to implement habitat restoration and improvement activities that support the recovery of RGSM and SWWF. The Pueblo of Santa Ana has utilized this funding to assure that the natural resource/wildlife management and habitat restoration activities on the Pueblo are coordinated, including the repair, maintenance and re-operation of Jemez Dam, and the associated environmental mitigation.

\$185,000 for Program Coordination and Management (Reclamation, Corps, Service): Reclamation performed program management functions, monitoring Program action items and activities, planning, budget administration and contract administration. The Corps assisted in the development and approval of the Final ESA Collaborative Program Document and served as joint lead agency for NEPA and ESA programmatic compliance for the ESA Collaborative Program. The Service provided a Program Coordinator and necessary staff to coordinate the activities of the Program. This included serving as liaisons between the Program and recovery teams, monitoring Program action items and activities, disseminating information to interested parties, maintaining the listserve and mailing lists, and maintaining records on Program activities.

Silvery Minnow Population Management:

Biological Opinion Requirements

\$200,000 for Reintroduction of RGSM within Historic Range (Reclamation, Corps, Service): Only a portion of the funds received for reintroduction activities during FY 2002 have been spent. The Service will not fully allocate these funds until a final rule for the designation of critical habitat for the silvery minnow has been issued. Thus far, the FY02 allocation has been used to fund habitat feasibility studies in the Lower Rio Grande near Big Bend, Texas, and to purchase equipment needed to carry out reintroduction activities. The remaining FY02 funds for reintroduction of the silvery minnow are being utilized to conduct feasibility studies for potential reintroduction sites in New Mexico and Texas, and purchase equipment to carry out reintroduction activities. Other work includes studies to analyze silvery minnow hybridization and/or competition with other fish species found within potential reintroduction areas, and water quality studies.

\$24,700 for Survey River/Rescue at Low Flows, “River Eyes” Program (Reclamation): This program provided daily reports on river flows in the Socorro area during river operations meetings. The information was used to coordinate pumping operations and RGSM salvage efforts. Reclamation participated on weekend rescue efforts throughout the irrigation season.

\$175,000 for Salvage/Rescue/Daily Monitoring (Service): During 2002, the Service performed approximately 40 individual silvery minnow salvages within the Isleta and San Acacia Reaches. Beginning in June 2002 and through the beginning of October 2002, the Service salvaged 3,662 silvery minnows from the Isleta and San Acacia Reaches. Approximately 47 river miles were salvaged with some river miles being

salvaged several times due to rewetting caused by rainstorm events, bringing the total up to approximately 90 river miles salvaged. Salvaged silvery minnows were released in both the Angostura (north of Albuquerque, NM), and Isleta (Isleta, NM) Reaches according to specific protocols.

\$400,000 for Propagation/Genetics (Reclamation, Corps, Service): During 2002, this activity focused on maintaining and expanding refugial populations and captive propagation activities at Dexter National Fish Hatchery and Technology Center, and at the New Mexico Fishery Resource Office and New Mexico State University warmwater culture facilities. Additional propagation efforts were conducted at the City of Albuquerque Zoological Park. Efforts included collection of approximately 900,000 wild-spawned eggs for hatchery rearing, captive production of 250,000 eggs, maintenance of refuge and brood stocks, provision of specimens to genetics research efforts, and rearing of fish for augmentation into the Middle Rio Grande. Studies of dietary needs and effects of rearing environments on growth and survival were initiated. Fish destined for stocking in autumn 2002 and spring 2003 were maintained in separate rearing facilities and numbered approximately 250,000.

\$175,000 for Egg Collecting Activities (Reclamation): Continued past efforts in which eggs obtained from the San Acacia Reach of the river were transported to facilities where they were reared as part of a cooperative effort between the City of Albuquerque Biopark, NMISC, and the Service. RGSM spawning project is monitored using Moore egg collectors. A continuous salvage effort with multiple egg collectors was conducted during peak spawning in order to maximize the number of eggs collected. An estimated 900,000 eggs were salvaged for propagation in May 2002. LFCC experimental operations were not conducted in 2002, so monitoring of this effort was not needed.

\$207,000 for LFCC Pumping Program (Reclamation): The pumping program was an essential activity that was required during releases of available supplemental water to benefit the RGSM. Funds were used for operation and maintenance of the pumping operation in which water was pumped from the LFCC into the Rio Grande in order to enhance river flows.

\$150,000 for Program Coordination and Management (Reclamation, Corps, Service): Reclamation performed Program management functions, monitoring Program action items and activities, planning, budget administration and contract administration. The Corps assisted in the development and coordination of an integrated plan to implement elements of the biological opinion. The Service provided a Program Coordinator and necessary staff to coordinate the activities of the Program. This included serving as liaison between the Program and recovery teams, monitoring Program action items and activities, disseminating information to interested parties, maintaining the listserve and mailing lists, and maintaining records on Program activities

Priority Activities

\$108,000 for Floodplain Vegetation Mapping (Reclamation): Reclamation has conducted general vegetation mapping from the San Acacia Diversion Dam to Elephant Butte Reservoir boundary, and very detailed mapping within the Federal boundary at the north end of the reservoir. Additional mapping was needed to complete assessments of suitable and potential habitat for the SWWF. Activities that were funded in FY 2002 included color infrared aerial photography for approximately 250 miles along the middle Rio Grande, and processing of digital georeferenced photography. Vegetation classification protocol and mapping methods were defined and documented. Two hundred miles of river have been mapped as of October 2002.

\$640,000 for Phase II of the Naturalized Refugia-indoor and outdoor facilities, (NMISC): The RGSM naturalized rearing and breeding facility (refugium) activity includes design, construction, start-up, and operation and maintenance for an off-channel refugium. The Rio Grande Silvery Minnow Rearing and Breeding Facility consists of both indoor and outdoor facilities. Phase II of the activity is based on a cost of \$340,000 for the indoor facility and \$300,000 for the outdoor facility. Refer to "\$640,000 Bureau of Reclamation's Repayment Obligations", for a description of Phase I efforts.

Phase II of the indoor facility consists of constructing an additional 2000-square-foot building to continue this successful RGSM rearing operation. Phase II of the outdoor facility consists of adding design elements to the outdoor facility to (1) increase protection from predators, (2) improve water temperature control, (3) increase the range of water velocities at which the facility can be operated, (4) add outdoor holding tanks for emergency holding of minnows, and (5) provide a transportation component for fish rescue and repopulation. Phase II predator control components are under construction.

Both Phases of the facility should be complete by late-summer 2003. The total cost for design and construction of Phases I and II of the facility, including contributions by NMISC, is estimated at \$1.6 million.

\$100,300 for Program Coordination and Management (Reclamation, Corps, Service): Reclamation performed Program management functions, monitoring Program action items and activities, planning, budget administration and contract administration. The Corps assisted in the development and approval of the Final ESA Collaborative Program Document and served as joint lead agency for NEPA and ESA programmatic compliance for the ESA Collaborative Program. The Service provided a Program Coordinator and necessary staff to coordinate the activities of the Program. This included serving as liaison between the Program and recovery teams, monitoring Program action items and activities, disseminating information to interested parties, maintaining the listserve and mailing lists, and maintaining records on Program activities.

Monitoring of Stream Effects on the Silvery Minnow:

Biological Opinion Requirements

\$125,000 for Over-Bank Flooding RGSM and SWWF (Corps): Due to the severe drought conditions in 2002, no over-bank flooding occurred. Funds were utilized for research and inventory of existing data, data sets, and relevant mapping products in the Middle Rio Grande project area; identification of additional cross-sectional data that is required; mosaic digital quad maps; and development of a coordinated data collection plan that includes a data base for archival of the 1992 over-bank flooding data as well as future data collections.

\$215,000 for Monitoring of RGSM (Reclamation): This funding continued surveys of RGSM populations that have been conducted in the Middle Rio Grande since 1993. Monitoring fish communities at selected study sites provides information on the RGSM and associated fish fauna. Monitoring increased to a monthly basis to evaluate population trends in response to water management practices and whether increased sampling frequency provides better population data.

\$250,000 for Monitoring SWWFs (Reclamation): To assess the current numbers of breeding SWWFs and distribution on public lands within the Middle Rio Grande, a complete inventory of the contiguous riparian habitat within state and federal jurisdiction was conducted from the Isleta Diversion Dam south to the headwaters of Elephant Butte Reservoir and at selected sites near Velarde, New Mexico. Selected sites were surveyed in 2001, and with the more complete survey efforts in 2002, key flycatcher breeding sites have been identified and a current baseline on the population status of this species is documented. This baseline information can be used to evaluate the progress of the Program in the recovery of this species within the Middle Rio Grande. A correlation between the habitat that is currently occupied by flycatchers and similar habitats delineated from the riparian vegetation mapping efforts will be used to refine the availability of suitable breeding habitat within the Middle Rio Grande pending availability of funding. Future efforts may include monitoring the populations at the key potential breeding sites and a detailed assessment of occupied flycatcher habitat in areas where the populations are expanding.

\$24,700 for Program Coordination and Management (Reclamation, Corps, Service): Reclamation performed Program management functions, monitoring Program action items and activities, planning, budget administration and contract administration. The Corps assisted in the development and approval of the Final ESA Collaborative Program Document and served as joint lead agency for NEPA and ESA programmatic compliance for the ESA Collaborative Program. The Service provided a Program Coordinator and necessary staff to coordinate the activities of the Program. This included serving as liaison between the Program and recovery teams, monitoring Program action items and activities, disseminating information to interested parties, maintaining the listserve and mailing lists, and maintaining records on Program activities.

Priority Activities

\$200,000 for Wild and Augmented Population Assessment (Service): Funding was provided to the Service to conduct work designed to characterize physical, chemical, and biological components of habitat occupied by RGSM, including both wild and captive produced fish. In June 2002, Rio Grande silvery minnow, 2-4 years in age and from a variety of sources, were stocked into the Rio Grande at the Alameda Bridge crossing. Monitoring efforts yielded few recaptures after stocking and recaptures occurred within the Albuquerque reach in close proximity to the stocking site. Preliminary data indicated predominantly downstream movement of stocked fish and need for selection of upstream stocking sites with diverse shoreline morphology and adequate low-velocity habitats to better retain fish. Planning was completed to address autumn 2002 marking, stocking, and monitoring of 100,000 hatchery-propagated fish for 2002 funded propagation activities.

\$295,300 for Evapotranspiration (ET) Toolbox/Study (Reclamation, UNM): Reclamation (\$233,600). ET Toolbox research efforts focused on improving the reliability and accuracy of the ET Toolbox estimates by concentrating on open-water evaporation to take advantage of other funding supporting open-water research in this time frame. Two of Reclamation's ET workgroup partners performed the tasks. Los Alamos National Laboratory (LANL) utilized their funds to deploy the world's only field transportable Light Detection and Ranging (LiDaR) system to Elephant Butte Reservoir for a week to support the longer term measurement and recording of open-water evaporation by a state-of-the-art tower, erected in the reservoir with other funding. The University of Iowa is utilizing their portion of this funding to analyze the data collected by the LiDaR and the tower, with some assistance from LANL. The purpose of this research is to more accurately estimate actual evaporative losses from the reservoir from readily measurable ambient conditions. This will allow the ET Toolbox to more accurately predict actual open-water evaporation for water managers, and to provide more accurate evaporative losses directly to the Upper Rio Grande Water Operations Model.

The University of New Mexico (\$61,700). UNM work includes developing a dynamic riparian vegetation classification system, scaling ET measurements to the entire Middle Rio Grande corridor, and disseminating ET and riparian vegetation information. A preliminary ET map based on 2001 data has been created. Currently, ET tower data for 2002 is being compiled. Landsat imagery covering the corridor and several dates for growing season 2002 has been purchased. Work on geo-rectifying the imagery is ongoing. When this effort is completed, work on further developing the procedure for a dynamic vegetation classification for the Middle Rio Grande riparian corridor will take place. Completion of the vegetation classification is anticipated by summer of 2003. The anticipated completion of tower ET data and satellite imagery is August 2003. The majority of the budget supports graduate student research of evapotranspiration along the Middle Rio Grande. Pending availability of funding, future efforts may include refinement of the models and development of a website so that the information is properly disseminated.

Combat Non-native Species:

Biological Opinion Requirements

\$51,500 for Pueblo of Cochiti Habitat Restoration Activity (Cochiti Pueblo): This activity proposes to restore the health of the bosque by removal of vegetation that is a detriment to the ecosystem of the bosque, introducing native plants and grasses to protect existing stands, and managing livestock grazing. Activities performed to date include the removal of approximately 75 acres of exotic vegetation, primarily Russian olive and salt cedar. The Pueblo is also constructing a swale within the proposed site as willows are being gathered for placement. The Pueblo plans to have initial clearing, willow gathering, swale construction, and willow planting in place by late spring 2003. (\$448,500 in additional funding is provided for this activity under the Modifications to River Habitat funding category.)

Priority Activities

\$30,000 for Wetland and Riparian Restoration Phase 1 Salt Cedar Control (Service): Salt cedar control efforts were initiated in September 2002, when approximately 230 acres of dense salt cedar monoculture at the Bosque del Apache National Wildlife Refuge (Refuge) was sprayed with herbicide. The area will be burned in late summer, 2004. Following burning, the area will be root plowed and root raked to control remaining resprouts using other funding resources. Restoration to riparian woodland and saltgrass meadow habitat is scheduled for 2005 and 2006.

\$38,500 Riparian Restoration Salt Cedar Control-Native Gallery (Service): Fuels reduction and salt cedar control work within cottonwood forests on the Bosque del Apache National Wildlife Refuge is ongoing during winter, 2002-2003. The Refuge contracted with SWEAT, Inc. to perform the work. Costs are higher than anticipated due to high fuel loading and extensive salt cedar infestations. Work will continue into spring of 2003.

Water Quality Studies and Improvements:

Biological Opinion Requirements

\$93,000 for LFCC Pumping Program (Reclamation): The pumping program was an essential activity that was required during releases of available supplemental water to benefit the RGSM. Funds were used for operation and maintenance of the pumping operation in which water was pumped from the LFCC into the Rio Grande in order to enhance river flows.

Priority Activities

\$362,000 for Water Quality Assessment of RGSM Habitat (Service): The Service has developed and implemented a water-quality monitoring program to assess habitats of the

RGSM within the Middle Rio Grande. A historic data collection review was conducted, and field sampling activities began July 22, 2002. Additionally, fish health assessments have been made on live fish collected at many of the sampling sites. Laboratory analytical reports for several sites sampled have been received and reviewed; data validation is being conducted for all analytical data received to date. All data collected is being entered into an environmental database.

Chronic and acute toxicity studies were performed on silvery minnow. Results from the ongoing water-quality study will guide continued toxicity studies on the minnow. Study results will also provide essential information necessary to plan for reintroduction of silvery minnow and will provide water management agencies with information for making water management decisions.

A draft sampling and analysis plan with incorporated quality assurance project plan has been completed; the plan will be a working document and will be updated as required. Anticipated completion of this activity is summer of 2003. The project is designed as a continuous project to include 3 years of data collection, production of annual data reports, and a final technical report to be completed in FY2005-06, depending on availability of funding.

\$90,000 for Water Quality Assessment of RGSM Habitat (Isleta Pueblo): The Pueblo of Isleta has undertaken the development of a Conservation Planning effort on Tribal lands. Funds were provided to the pueblo and sampling training was completed on January 28, 2003. As part of this effort, the Pueblo of Isleta wants to determine water quality suitability for minnow habitat so that meaningful river restoration activities can be conceptualized, designed, and built. The activity is also undertaking a sampling and analysis plan; a quality assurance plan; the collection of water, suspended sediment, bed materials; toxicity testing; evaluate and interpret the results from four sites, two above the diversion, two below. This effort is being coordinated with the Service's water-quality monitoring program described above.

\$55,000 for Water Quality Assessment of RGSM Habitat (Sandia Pueblo): The Pueblo of Sandia received funding for this project, and the pueblo has been in the process of gathering information on sampling site locations, analytical methods, analytical detection limits, and sampling protocols. The development of a Sampling Analysis Plan and Quality Assurance Project Plan is in progress. An active program of water quality monitoring at selected sites along the Rio Grande will facilitate a better understanding of water quality issues and their impact on the river, riparian habitat, and endangered species.

\$75,000 for Program Coordination and Management (Reclamation, Corps, Service): Reclamation performed Program management functions, monitoring Program action items and activities, planning, budget administration and contract administration. The Corps assisted in the development and approval of the Final ESA Collaborative Program Document and served as joint lead agency for NEPA and ESA programmatic compliance for the ESA Collaborative Program. The Service provided a Program Coordinator and

necessary staff to coordinate the activities of the Program. This included serving as liaison between the Program and recovery teams, monitoring Program action items and activities, disseminating information to interested parties, maintaining the listserve and mailing lists, and maintaining records on Program activities.

\$275,000 for Development of Sediment Model (Reclamation): The reduced sediment supply on the Middle Rio Grande has contributed significantly to the reduced habitat of the RGSM. Funds allocated for Phase 1 of this project are being used to develop a sediment model for the reach of the river from San Acacia Diversion Dam to Elephant Butte Reservoir (Phase 1 reach), to assess future river width, bed slope, sediment size, and hydraulic conditions. With consideration of known preferential habitat types for the RGSM, an analysis will be completed to determine availability of suitable habitat. Model calibration work will be completed in 2003.

FY 2002 was the first year of a multi-year effort to create a comprehensive model of the Middle Rio Grande from Cochiti Dam to Elephant Butte Reservoir. Predictive modeling for the Phase 1 reach will begin June 2003 and a report documenting results is scheduled to be completed by September 2004. Pending availability of funds, future efforts may include a model for the reach between Cochiti Dam and Isleta Diversion Dam, and the reach from Isleta Diversion Dam to San Acacia Diversion Dam.

Bureau of Reclamation's Purchase of Water:

Biological Opinion Requirements

\$1,600,000 for Water Leasing (Reclamation): Funds were used for participation and fulfillment of the Conservation Water Agreement negotiated among the State of New Mexico acting through the NMISC and the New Mexico Attorney General, and the United States of America, acting through the Army Corps of Engineers and the Department of the Interior, Bureau of Reclamation. This activity reduces the risk that conditions in the Middle Rio Grande will result in a finding that the continued existence of listed species under the ESA are jeopardized. The Conservation Water Agreement began in 2001 and is in effect for three years. The funds made possible timed release of conservation water stored in upstream reservoirs into the Rio Grande. Funding also made possible purchase of San Juan-Chama Project supplemental water leases to make water available for release into the Rio Grande for the benefit of the RGSM. Funds were only expended in accordance with the purchase requirements of section 202 of P.L. 106-60.

\$300,000 for LFCC Pumping Program (Reclamation): The pumping program was an essential activity that was required during releases of available supplemental water to benefit the RGSM. Funds were used for operation and maintenance of the pumping operation in which water was pumped from the LFCC into the Rio Grande in order to enhance river flows.

Bureau of Reclamation's Repayment Obligations:

\$640,000 Repayment Obligation (Reclamation): Reclamation is reimbursing the NMISC for costs associated with Phase I construction of the naturalized refugia. The Rio Grande Silvery Minnow Rearing and Breeding Facility consists of both indoor and outdoor facilities. Phase I of the facility consists of a 3,000- square-foot building with space for holding aquariums designed as both emergency holding for the minnows as well as research areas. It also includes an outdoor racetrack pond, consisting of an advanced breeding pond and a supplemental rearing pond.

The NMISC is funding a portion of the costs for the design and construction of Phase I and the first-year costs for operation and maintenance. The City of Albuquerque is providing the land to host the facility, as well as the staff to manage and operate the facility. In addition, the City of Albuquerque Biological Park has obtained a \$300,000 Challenge Grant from the National Fish and Wildlife Foundation, by using the funds provided by the NMISC as matching funds. The Challenge Grant will be used in purchasing supplies as well as assist in paying staff salaries throughout the year.

The total cost for design and construction of Phases I and II of the facility is estimated at \$1.6 million. Refer to “\$640,000 for Phase II of the Naturalized Refugia” for a description of Phase II efforts.

The 3,000-square-foot building associated with Phase I has been completed, and City of Albuquerque BioPark staff began moving into it during the first week in March 2003. The racetrack-pond under Phase I is scheduled to begin operation and testing during late spring of 2003.