A PROPOSAL FOR INTEGRATED WATERSHED PLANNING
submitted by
THE PASO DEL NORTE WATERSHED COUNCIL

BACKGROUND AND NEED STATEMENT: The Paso del Norte Watershed Council was established by the New Mexico-Texas Water Commission to investigate, develop, and recommend options for watershed planning and management and to explore how water-related resources can best be balanced to benefit the Paso del Norte Watershed ecosystem and the interests of all watershed stakeholders. The Council is an alliance of private citizens, nongovernmental organizations, representatives of federal and state agencies, water utilities, municipal governments, and universities dedicated to providing an integrated vision for watershed management. Council members represent diverse regional interests and provide interdisciplinary expertise in many aspects of watershed and natural resource management.

The Paso del Norte Watershed extends along the Rio Grande/Río Bravo from Elephant Butte Reservoir in southern New Mexico to Fort Quitman, Texas crossing into Mexico at Ciudad Juárez. The watershed lies within two countries, the United States and Mexico, and includes the states of New Mexico, Texas, and Chihuahua. Within those states, the watershed serves the needs of towns, municipalities, and several irrigation districts. The population within the Paso del Norte Watershed receives its water from the Rio Grande/Río Bravo and the Hueco, Mesilla, and Jornada aquifers. These water sources support more than 2 million people and irrigate approximately 200,000 acres of farmland, with average precipitation of 8 inches per year within the region.

Opportunities for collaborative efforts to enhance watershed conditions have grown in response to drought and the need to better manage our natural resources for the benefit of agriculture, economic development, and environmental concerns. These regional efforts will benefit the natural functioning of the Paso del Norte Watershed ecosystem by contributing to the improvement and sustainability of its future biological diversity and health.

PLAN PURPOSE: The purpose of this plan for integrated watershed management and planning includes the development and implementation of the following programs:

PROGRAM A: Strengthen existing partnerships and create new ones for on-the-ground projects in the Paso del Norte watershed, including:

1. Mesilla Valley Bosque Park
2. Rio Bosque Wetlands Park
3. Elephant Butte Irrigation District flood control dams

PROGRAM B: Identify opportunities for integrated watershed management to better meet the future needs of agriculture, economic development, and environmental concerns.

PROGRAM C: Develop a science-based and peer-reviewed comprehensive biological management plan to enhance the Rio Grande ecosystem and meet the interests of all watershed stakeholders.

PLAN DESCRIPTION: The planning will include public participation and will (1) summarize historic and existing biotic and abiotic information and assess data gaps on the Paso del Norte

watershed; (2) analyze the multiple functions of the watershed including the ability to support plant, fish, and wildlife communities; (3) investigate, and develop recommendations for watershed planning and management to achieve a healthy watershed; (4) host forums and workshops to further the exchange of information and support broad stakeholder participation; (5) identify opportunities to integrate water management for multiple uses; and (6) create opportunities and develop partnerships to implement one or more pilot projects to demonstrate watershed enhancement practices.

ACTION REQUESTED: The Paso del Norte Watershed Council respectfully requests approximately $2 million over a three-year period to implement integrated watershed management planning as described herein. The monies will be administered by the Paso del Norte Watershed Council consisting of the following member groups: City of El Paso; City of Las Cruces; Environmental Defense Fund; Fort Bliss Army Base; Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias; Instituto Municipal de Investigación y Planeación; New Mexico Department of Agriculture; New Mexico State University; Southwest Environmental Center; Texas A&M University; University of Texas at El Paso; U. S. Bureau of Reclamation; U. S. Fish and Wildlife Service; U. S. Section International Boundary and Water Commission; Water Resources Research Institute, World Wildlife Fund; and others.

PROGRAM A.1
IMPROVEMENT PROJECTS
for the
MESILLA VALLEY BOSQUE PARK

The Mesilla Valley Bosque Park (MVBP) is a collaborative project spearheaded by the Southwest Environmental Center (SWEC) to restore and enhance 400 acres of riparian and wetland habitat plus associated uplands along the Rio Grande near the Town of Mesilla in Doña Ana County. Total development costs are estimated at $1.5 million, including visitor facilities and habitat restoration projects. Of this amount, $500,000 has been raised, including $284,000 appropriated by the New Mexico Legislature in 2003.

Approximately $240,000 has been spent to date to develop the Picacho Wetlands, a 20-acre wetland construction project located within the proposed MVBP to improve wildlife habitat and agricultural drain water quality. Major partners include SWEC, the City of Las Cruces, Elephant Butte Irrigation District, New Mexico Department of Game and Fish, and the U. S. Section of the International Boundary and Water Commission. This project will be largely completed by the end of 2003.

TASKS: The next phase is to develop a 30-acre wetland/alternate river channel to restore/enhance spawning and nursery habitat for native fish. Two-thirds of the native fish species once found in this segment of the Rio Grande have disappeared, in large part due to habitat loss. This project will be designed to provide empirical data applicable to future restoration projects. A monitoring plan will be developed to measure changes in ecosystem structure and function, surface and ground water quality, groundwater levels, and surface water depletions. The project will be implemented over a two to three year period.

BUDGET:

Design and engineering	$ 40,000
Permits/environmental compliance	40,000
Dirt moving	270,000
Ecological/hydrological monitoring	50,000
Revegetation	50,000
Project management	50,000
Total	$500,000

PROGRAM A.2
ENHANCEMENT PROJECTS
at the
RIO BOSQUE WETLANDS PARK

Rio Bosque Wetlands Park is a 372-acre City of El Paso park located in southeast El Paso County near the town of Socorro, Texas. The park is enclosed by irrigation and drainage canals on three sides and the western boundary of the park lies adjacent to the Rio Grande.

The City of El Paso acquired the land in December 1973 from the federal government with the stipulation that the property be developed as a park. Twenty-three years later, in November 1996, the City entered into a cooperative agreement with the Center for Environmental Resource Management (CERM) at the University of Texas at El Paso (UTEP) whereby the city retains ownership of the Park and UTEP-CERM oversees management and development of the Park. That agreement specifies that the management of the Park focus on restoring and enhancing valuable riparian habitat in the Chihuahuan Desert while providing public open space and educational opportunities.

TASKS: As a result of this agreement, the overarching goal for management of Rio Bosque Wetlands Park is to re-create the mosaic of habitats characteristic of the Rio Grande and its floodplain in pre-settlement days. To continue and enhance the work already undertaken, there are five tasks that will help keep the project and the Park moving forward. They are:

1. Commission a study and implement the best option for securing water for the Park during spring and summer months. (Currently, the Park is assured of water only during the non-irrigation season.) Options to consider include groundwater pumping and modifying the channel system of the Park to enable conveyance of water from the Park to the Riverside Canal.
2. Construct a permanent pond along the main channel which will provide unique habitat within the Park, serve as an educational resource, and also serve as a small reservoir if watering of adjacent areas is required and as a water-holding area if water must be pumped back to the Riverside Canal.
3. Secure funding for continued restoration work.
4. Initiate a long-term ecosystem monitoring program at the site.
5. Modify the structure of the existing ponds so that additional acreage can be flooded in the fall and winter.

BUDGET:

Study	$ 20,000
Pond excavation and contouring	80,000
Pumps and pipes	150,000
Salaries and equipment	80,000
Total	$330,000

PROGRAM A.3
GAUGING SYSTEM FOR FLOOD CONTROL DAMS DOWNSTREAM OF ELEPHANT BUTTE DAM

This is a joint project with Elephant Butte Irrigation District (EBID), USDA Natural Resources Conservation Service, and the Paso del Norte Watershed Council to place radio telemetry stations at various flood control dams and arroyos throughout EBID. The EBID contains 33 flood control dams that are either the responsibility of EBID or the U. S. Section International Boundary and Water Commission. These dams provide flood control for downstream municipalities including Hatch and the City of Las Cruces, water for livestock, and wildlife habitat in the Paso del Norte Watershed.

TASKS: This project will utilize radio telemetry systems on the dams located in the irrigation district to gauge flows from storm events and resulting flows entering the Rio Grande through the EBID system. The types of data recorded by these systems can be used to reconstruct flood and storm events, as input into watershed modeling, and in rehabilitation or design of future flood control structures. All telemetry systems will be placed on EBID property.

In conjunction with the dam gauging, a weir structure with radio telemetry will be installed on the Rincon Arroyo, which is the largest arroyo entering the Rio Grande with no sediment control or damming structures. This weir will allow collection of flow data from the arroyo and allow monitoring of storm events. The weir will need a biological assessment to investigate the placement of the structure, assess possible sediment problems, and any wildlife or other biological concerns. If possible, the weir will be located on EBID property, but if another location is found to be more suitable then rights-of-way might be needed for legal purposes.

EBID will add the telemetry to their current data collection system used to monitor flows in the irrigation district and a programmer will link the web-based system to the Doña Ana County Flood Commission to alert them of possible flooding events and allow for preparation and alert of the proper authorities. Based on information gathered from these gauges, other projects may be identified and initiated, such as adding sediment ponds to an arroyo or reclamation of problem dams.

BUDGET:

Radio Telemetry $3000 each for 33 dams	$115,500
Weir structure and telemetry for Rincon Arroyo	50,000
Computer programming for telemetry	5,000
Biological Assessment/Improvements	40,500
Total	$211,000

An as of yet undetermined amount of in-kind contributions including design of the telemetry units and weir structure, operation and maintenance of the units, and rights-of-way will be contributed by EBID.

PROGRAM B
INTEGRATED WATERSHED MANAGEMENT
OUTREACH, COMMUNICATION, AND EDUCATION

PROJECT OBJECTIVES: It is essential to define the needs of the stakeholders within the Paso del Norte Watershed in order to facilitate municipal planning, ecological restoration, economic stability, and fundraising opportunities for enhancement projects. Determining these needs can be accomplished through public outreach activities. This is a proposal for a multi-phased approach to public participation in watershed planning. There are four primary objectives:

1. Establish regional dialogues to determine the topics of interest to citizens.
2. Incorporate citizen input into watershed planning efforts.
3. Create and distribute a watershed plan to all municipalities in the watershed.
4. Enhance student awareness of the functions, processes, and importance of a healthy watershed.

ACTIVITIES AND TIMELINE:

Year 1 Watershed Conference. A three-day event will feature speakers from groups involved in natural resource management, including federal and local government agencies, universities, and nongovernmental organizations. This will provide a comprehensive, in-depth examination of the condition of the watershed and the demands of the stakeholders, both currently and in the future.

Roundtables. A series of listening sessions and focus groups held by the Paso del Norte Watershed Council Project Team will provide a forum for stakeholders to express their opinions about the quality of the watershed and suggest ways to improve it.

Regional Media. The Council will provide information for increased newspaper coverage of water, wildlife, and recreation topics.

Year 2 Watershed Management Plan Feedback. Stakeholder groups will meet to discuss the Plan as it is being developed and provide feedback for revisions.

Plan Implementation Meetings. Stakeholder groups will convene to determine methods to adopt and implement the plan.

Watershed Education. Students will receive educational materials about the condition of the Rio Grande and other water-related issues.

Media Communications. Public service announcements for radio and television will be developed to promote interest in water conservation and improving the ecological health of the Rio Grande. Brochures, posters, and fact sheets about watershed health and sustainability will be distributed.

Year 3 Official Adoption of a Management Plan. Stakeholder groups will be convened to adopt the watershed management plan.

BUDGET:

2-3 day conference	$100,000
Stakeholder outreach	75,000
Environmental education	200,000
Public service announcements	50,000
Brochures, fact sheets, posters	25,000
Plan meetings and feedback	150,000
Total	$600,000

PROGRAM C
COMPREHENSIVE BIOLOGICAL MANAGEMENT PLAN
for the
RIO GRANDE WATERSHED
DOWNSTREAM OF ELEPHANT BUTTE DAM, NEW MEXICO,
TO FORT QUITMAN, TEXAS, INCLUDING MEXICO

PURPOSE: A management plan is needed to guide protection, restoration, and enhancement of the watershed so that natural processes sustain biological diversity and health.

BACKGROUND: Two public meetings were held concerning a biological management plan in this 217 mile reach of the Rio Grande in Albuquerque on December 2, 2002, and in Las Cruces on December 9, 2002. Overall, there is strong public support for a biological management plan. The need for a plan has been the topic of several meetings of the Paso del Norte Watershed Council.

TASKS:

1. Summarize the historic and existing information in the watershed, including landscape, vegetation, fish, wildlife, and ecological processes. The EIS prepared for the New Mexico-Texas Water Commission's Regional Sustainable Water Project will be used as one of the sources of information for this task.
2. Identify general actions that can improve the health of ecosystem in the watershed, including the removal of exotic vegetation and establishment of native vegetation.
3. Gather data for areas that currently lack information, answering questions about the location of permanent water sources, the type of wildlife and vegetation existing, and the type of information that may be available from Mexico.
4. Identify important habitats in the area in need of protection, for example, valuable wetlands.
5. Identify areas that can be improved, such as those with excessive erosion or pollution, as well as areas that are already being improved and could be expanded.
6. Incorporate public input, review the draft plan, and review each of the above tasks.

FUNDING OPTIONS: Each task can be funded separately or all tasks can be funded as one project. The first three tasks are necessary if a document will be used for guiding actions, but they can be accomplished in phases. The funding amount will depend on the scope of the project and the source of the funding.

BUDGET: A minimum of $20,000 for each task, for a minimum total of $100,000.

The document will be a product of the Paso del Norte Watershed Council. The Council will select the appropriate individuals, groups, or companies to produce the document and will provide the review of the final document. Councilors represent governmental agencies, environmental groups, universities, and private businesses, and their expertise in natural resources will provide valuable guidance in preparing the plan.