CENTRAL ARIZONA PROJECT FUND TRANSFER PROGRAM
STRATEGIC PLAN 2003-2008

INTRODUCTION

This is the first 5-year strategic plan to assist the near-term implementation of the Central Arizona Project (CAP) Fund Transfer Program (Program). The Program is funded by the U.S. Bureau of Reclamation (Reclamation), and is directed by the U.S. Fish and Wildlife Service (Service) and Reclamation, in cooperation with the Arizona and New Mexico Departments of Game and Fish. The purpose of the Program is to undertake conservation actions (recovery and protection) for federal/state-listed or candidate fish species native to the Gila River basin by implementing existing and future recovery plans for those fishes. A complete description of the overall program, its goals, priorities, funding criteria, and project selection process is provided in the companion document entitled "Central Arizona Project Fund Transfer Program Long-term Direction, Project Allocation Guidance, and Rationale" (guidance document). The guidance document and this strategic plan were developed to better describe the program to interested parties and assist with its implementation.

This strategic plan restates broad Program goals, and identifies the strategies and objectives that are expected to be accomplished by the Program during the next five years. It also documents objectives that have been implemented since initiation of the Program in 1997. The overall goal of the Program is to recover native fishes of the Gila River basin. This strategic plan is intended to identify major sub-goals and provide a basis for a step-wise approach toward achieving the main goal.

RECOVERY NEEDS AND STRATEGIES

Recovery Need 1. Build the scientific foundation for recovery efforts.

Although the Program concentrates on implementing on-the-ground recovery actions, certain basic research and planning needs are needed to build the foundation for future recovery actions.

Goals/Strategies:

1. Identify critical streams and populations in need of protection.
2. Document existing and investigate novel methods to control non-native aquatic biota through funding of integrated pest management/control studies, including genetic methods.

3. Develop propagation techniques as necessary.
4. Assemble and complete information needed to identify larval stages of Gila River basin native fishes.
5. Update and assemble existing knowledge of life history needs and ecology of Gila River basin native fishes.
6. Determine needs for artificial propagation facilities for Gila River basin native fishes.
7. Assemble a database of historic and recent distributions of native fishes of the Gila River basin.
8. Survey existing water rights to identify possible protection and acquisition opportunities.
9. Survey poorly-studied stream systems to document existing fish communities.
10. Determine genetic differentiation among species and stocks as needed.
11. Develop and implement a program to obtain management easements for private stock tanks.
12. Obtain independent critical review of Fund Transfer Program goals, priorities, and strategies.

Objectives (numbers correspond to goals/strategies):

1. Complete the research, assembly, and prioritization lists of streams/fish stocks in need of protection.
2. Complete studies of: 1) integrated pest management techniques; 2) crayfish control methodologies. Initiate new studies of 1) genetic methods of non-native fish control; 2) use of TFM (lampricide) for catfish control in the Gila River basin.
3. Complete studies of propagation techniques for spikedace and loach minnow. Initiate new studies of propagation techniques for roundtail chub, headwater chub, and Gila chub.
4. Complete key development of larval native fishes of the Gila River basin .
5. Complete assistance with publication of the book "Chronicles of a vanishing fish biota" by W.L. Minckley and P.C. Marsh.
6. Initiate a study of existing native fish hatchery facilities and determine potential needs for new facilities to assist with recovery of Gila River basin native fishes.
7. Initiate a study to develop an interactive database of historic and present distributions of native fishes of the Gila River basin.
8. Complete a survey of major surface and groundwater rights in perennial stream reaches of the Gila River basin.
9. Complete a study of fish distributions in the Verde River basin. Initiate a study of fish distributions of the Tonto River basin and other basins as needed.

10. Initiate a study of population structure of the roundtail chub complex of the Gila River basin (initiated).
11. Initiate an agreement to develop easement language for management of private stock tank fishes, and acquire five stock tank easements.
12. Initiate an independent critical review of Fund Transfer Program goals, priorities, and strategies.

Recovery Need 2. Prevent extinction of rare populations and species.

Fundamental goals are to protect remaining populations of target fish species and replicate the rarest populations to preclude local extirpation or extinction. Protection includes establishing "captive" populations of all existing unique genetic stocks of all target species. Captive populations may be maintained in a hatchery or other facility, or at secure sites in the wild. Salvage followed by chemical renovations may be necessary to prevent extinctions of some populations or to secure certain waters for population replications; renovations will not be necessary for replications to fishless or native-only waters.

Goals/Strategies:

1. As needed, identify or develop and maintain hatchery/pond stocks of critically endangered populations as insurance against extinction in the wild and to provide sources for population replications.
2. If new hatchery facilities are recommended under Recovery Need 1.6, scope, design, and construct a new hatchery facility.
3. Scope, design and install low-head fish barriers to prevent upstream movements of non-native biota.
4. Acquire adequate supplies of chemicals and associated equipment to conduct surface water renovations.
5. Survey stock tanks and other surface waters in drainages identified for native fish protection under Recovery Need 1.1, and remove non-native fishes in advance of renovations.
6. Renovate streams and other surface waters identified under Recovery Need 1.1 to remove non-native fishes.
7. Replicate rare populations and their associated native fish community into protected streams and other surface waters.
8. Acquire critical water rights or easements to protect or enhance key surface waters.

9. Acquire habitat and management easements to further protect key surface waters.
10. Assess Colorado squawfish and razorback sucker Gila River basin reintroduction successes, failures, and future needs.
11. Facilitate the above strategies by ensuring compliance with applicable federal and state laws and regulations, and completion of internal compliance processes.

Objectives (numbers correspond to goals/strategies):

1. Initiate acquisition and maintenance of hatchery/pond stocks of Verde River spikedace, Eagle Creek spikedace, Eagle Creek loach minnow, a San Pedro River drainage population of Gila chub, all major genetic stocks of Gila topminnow (including mixed lineage), and other species as appropriate.
2. Initiate the scope, design, and construction of a dedicated native fish hatchery as needed.
3. Complete the scoping, design, and installation of low-head fish barriers on five streams.
4. Complete the purchase of antimycin and application equipment in sufficient quantity to allow successful renovations of all approved surface waters.
5. Initiate the survey and removal of non-native fishes from stock tanks in drainages approved for renovations under Recovery Need 1.1.
6. Initiate renovation of a minimum of five streams or other surface waters to prepare them for repatriations of native fishes.
7. Initiate replication of stocks of rare species into 10 streams or other surface waters.
8. Initiate acquisition of water rights or easements on three surface waters.
9. Initiate acquisition of floodplain easements on two streams.
10. Complete a study of the Colorado squawfish/razorback sucker reintroduction program for the Gila River basin, and initiate implementation of recommendations to improve the program's success.
11. Complete environmental compliance for all proposed on-the-ground projects.

Recovery Need 3. Manage Toward Recovery.

The overarching goal of this phase of the Program is to build upon on-the-ground actions implemented during prior years. This will be accomplished by identifying additional streams and populations that are considered necessary to ensure long-term persistence of target species, and by geographically expanding protective measures to

encompass selected watersheds and connect streams that are occupied by only native fishes. The bulk of this recovery need will be accomplished in later years.

Goals/Strategies:

1. Plan, scope, design and install additional fish barriers.
2. If a new hatchery facility is constructed under Recovery Need 2.2, maintain and operate as needed through the course of the Program.
3. Identify sub-drainages with potential for connecting stream complexes (sub-drainages) into native fish recovery areas.
4. Continue and expand repatriations of native fish communities.
5. Protect target surface waters through water rights and/or land acquisition.
6. Inform and educate the public about the conservation status and values of native fishes and the problems non-native fishes create for them.
7. Monitor on-the-ground activities to quantitatively measure and evaluate programmatic success in improving the status of target species and their habitats.
8. Track projects to ensure that prerequisites are met before succeeding projects are implemented.
9. Periodically evaluate the success of species repatriations and surface water renovations.

Objectives (numbers correspond to goals/strategies):

1. Complete the scoping, environmental compliance, and design of five additional fish barriers, and initiate their construction.
2. If a new hatchery facility is constructed under Recovery Need 2.2, initiate maintenance and operation as needed through the course of the Program.
3. Initiate the identification of five sub-drainages with interconnected perennial stream reaches with potential to convert to native fish recovery areas.
4. Initiate planning activities for renovations of five new stream reaches or other surface waters.
5. Initiate an investigation of acquisition potential for a minimum of five water rights/properties/ easements to improve watershed protection for Gila River basin native fishes..
6. Initiate the development and implementation of a public awareness program designed to educate about the conservation status and values of native fishes and the problems non-native species create for them.

7. Initiate the implementation of 5-year monitoring and evaluation programs for all species repatriations that occur during the period of this plan.
8. Initiate the tracking of progress and status of all projects identified in annual fund transfer agreements during the period of this plan.
9. Initiate the periodic evaluation of the success of species repatriations and surface water renovations.