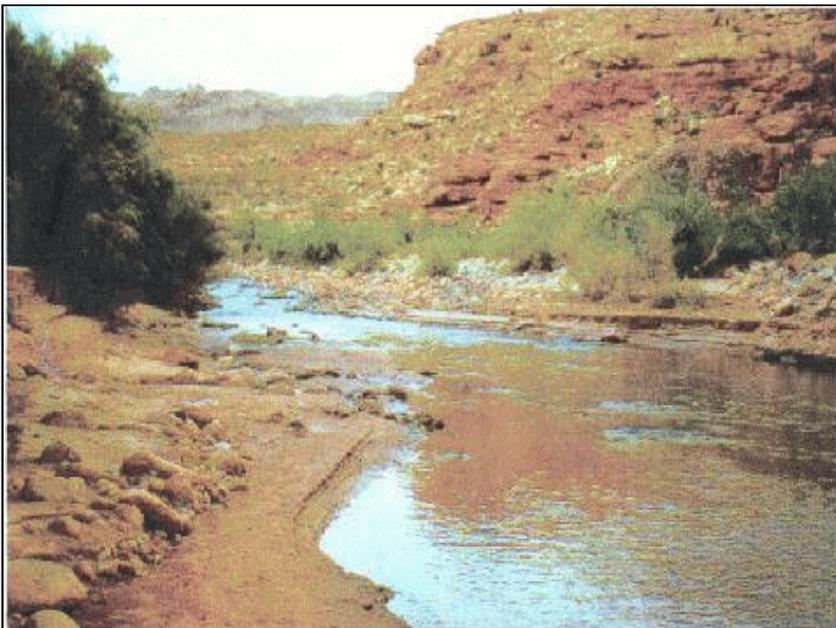


PROGRAM DOCUMENT
for the
VIRGIN RIVER
RESOURCE MANAGEMENT
AND
RECOVERY PROGRAM



Utah Department of Natural Resources

January 5, 2002

ACKNOWLEDGMENT

This document, in combination with the documents referenced herein, represents the culmination of over four years of effort to develop a recovery program for the

Virgin River Basin within Utah. During that period, numerous hours of intense discussion, data analysis, and negotiations by representatives from agencies with statutory responsibilities for resource management in the Virgin River Basin occurred. The principal credit for preparing this document resides with the Drafting Workgroup and their staff. Members of this Workgroup included:

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INTRODUCTION

PROGRAM PURPOSE

One of the most challenging issues facing communities in the Virgin River Basin (Basin) is providing adequate water supplies required to sustain continued growth of domestic, industrial, and agricultural needs, while, at the same time, maintaining and improving water supply and quality required for recreation, wildlife, and other environmental demands. Future growth, prosperity, and quality of life in the Basin are dependent upon effective management of the Virgin River and its tributaries.

Existing efforts to manage Basin Resources (see Section X, Definitions) include the recovery of threatened and endangered species, conservation of native species, river corridor protection, recreation, flood control, and water development for urban and commercial development and agriculture. Basin management is currently affected by applicable law, including but not limited to the Endangered Species Act of 1973 (ESA), as amended. Three documents direct management activities: (1) *Virgin River Fishes Recovery Plan* (VRFRP) (USFWS 1995); (2) *Virgin Spinedace Conservation Agreement and Strategy* (VSCAS) (Lentsch et al. 1995); and (3) the *Virgin River Management Plan* (VRMP) (WCWCD 1999). Additionally, at least five teams, committees, and groups have been established to address Basin management issues. Effective coordination among these planning documents and groups is improving.

The Virgin River Resource Management and Recovery Program (Program) establishes a multi-agency cooperative program that is intended to implement the VSCAS and VRFRP in Utah, and, in a holistic, ecosystem-based manner, coordinate and manage competing uses of land and water resources throughout the Basin, including efforts to recover, conserve, enhance, and protect native species and their habitat, while balancing and accommodating recreational and consumptive needs required for the growing human population in the Basin. Specifically, the Program is designed to implement conservation (VSCAS) and recovery actions (VRFRP) in Utah by:

- (1) Coordinating the implementation of those actions outlined in the VRFRP and the VSCAS and those actions described in the VRMP, to the extent such actions are consistent with Program goals;

- (2) Promoting the recovery of listed species, preventing the need for further listing, and generally improving habitat conditions for wildlife;
- (3) Taking an adaptive management approach wherein biological information and data will be gathered, reviewed, and incorporated into the Program on an annual basis; and,
- (4) Serving as a basis for determining whether recovery is being achieved sufficient to off-set project effects.

PROGRAM SCOPE

The scope of this Program includes only the Virgin River (including the 100-year floodplain) and its tributaries upstream from the Utah/Arizona state line. Program participants intend to initiate discussion with other federal, state, and local agencies within the states of Arizona and Nevada and to assist, to the extent possible, in the development and implementation of recovery efforts range-wide and for the entire Virgin River Basin.

PROGRAM PARTICIPANTS

The following parties, identified herein as “Program Participants,” have agreed to dedicate their efforts to ensure the success of this Program: United States Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), National Park Service (NPS), Utah Department of Natural Resources (UDNR), and the Washington County Water Conservancy District (WCWCD). See Appendix 1 for the *Memorandum of Understanding for the VRRMRP*. Program Participants recognize that other entities, governments, associations, and individuals have an interest in Basin resources and this Program. Meaningful, constructive participation by such entities is encouraged as set forth herein.

FEDERAL WILDLIFE LAW

Program Participants intend this Program to fulfill federal, state, and local obligations under Section 7 of the ESA, and provide reasonable and prudent alternatives to actions that may otherwise be deemed likely to jeopardize the continued existence of federally listed species in the Basin. The Program Participants also intend the Program to provide the reasonable and prudent alternatives which avoid the likely destruction or

adverse modification of critical habitat, to the same extent as it does avoid the likelihood of jeopardy.

Pursuant to Section 6 of the ESA, a cooperative agreement has been entered into between the State of Utah and the Secretary of the Interior. The Program will also serve as a recovery implementation program for the conservation of federally listed species in the Basin. The State of Utah shall be deemed as having the lead role in carrying out its provisions.

PROGRAM GOALS

Two goals have been defined for the Program. These goals have been developed from the objectives, actions, and tasks outlined in the VRFRP, VSCAS, and VRMP. These goals are:

GOAL 1: IMPLEMENT ACTIONS TO RECOVER, CONSERVE, ENHANCE, AND PROTECT NATIVE SPECIES

GOAL 2: ENHANCE THE ABILITY TO PROVIDE ADEQUATE WATER SUPPLIES FOR SUSTAINING HUMAN NEEDS

Program goals will be achieved through implementation of the Recovery Action Plan (Lentsch et al. 1998b), VRMP, and the recovery banking process outlined herein. A description of how the tasks associated with achieving these goals will be implemented is detailed in the Recovery Action Plan and in the VRMP. See Appendix 2.

PROGRAM ORGANIZATION

Three committees have been established for the Program. The Administration Committee governs the Program and makes final decisions on all actions. Two committees serve the Administration Committee: the Technical Committee and the Local Coordination Committee. These committees have been formed to provide involvement by interested entities.

ADMINISTRATION COMMITTEE

The primary responsibility of the Administration Committee is to oversee and administer the Program, including funding and budget (recognizing that it is intended that Program Participants will share equally in funding the Program), Program participation and operations, and ensuring Program success. In addition, the Administration Committee will make final decisions on management of the recovery bank and will be responsible for tracking and/or implementing specific project requirements necessary to minimize or off-set the “taking” of species and adverse modification of critical habitat. The Administration Committee consists of a representative from each of the following entities:

- Utah Department of Natural Resources
- U.S. Fish and Wildlife Service
- Washington County Water Conservancy District
- Bureau of Land Management - Utah
- National Park Service
- Environmental Interests

The representative of the UDNR will serve as chair and will maintain an up-to-date ledger for the recovery bank, and receive/administer Project fees. The individual representing environmental interests will be selected by the Administration Committee from nominations submitted by environmental groups and will serve on the committee subject to the execution of a resolution in support of the concepts created by this Program. Additional participants to the Program and membership on Program Committees will be determined by the Administration Committee. This determination will be based on the willingness of the participant to support both Program goals, the ability of the participant to contribute to achieving the Program goals, and the commitment of the participant to achieving the Program goals. The Administration Committee will operate by consensus.

TECHNICAL COMMITTEE

The Technical Committee is a subcommittee of the Administration Committee and has the primary responsibility of providing recommendations to the Administration Committee on all technical issues. The Technical Committee will work with and make recommendations to project proponents on ways to minimize adverse project effects and will recommend the number of habitat units required for the Administration Committee to approve the project's reliance on the Program. The Technical Committee consists of a representative from each of the following entities who has the appropriate technical expertise:

- Utah Division of Wildlife Resources
- Utah Division of Water Resources
- U.S. Fish and Wildlife Service
- Washington County Water Conservancy District
- Bureau of Land Management- Utah
- Bureau of Land Management - Arizona
- Arizona Game and Fish Department
- Nevada Division of Wildlife
- National Park Service - Zion
- Environmental Representative

The Technical Committee may invite input from other appropriate technical experts, however, such additional technical experts will serve only as ad hoc advisors. The representative from the Utah Division of Wildlife Resources will serve as chair. The individual representing environmental interests will be selected by the Administration Committee from nominations submitted by environmental groups and will serve on the committee subject to the execution of a resolution in support of the concepts created by this Program. The Technical Committee will operate by consensus.

LOCAL COORDINATION COMMITTEE

The Local Coordination Committee is a subcommittee of the Administration Committee and has the primary responsibility for receiving, coordinating, reviewing, and distributing proposals from project proponents who wish to rely on the Program to offset impacts to federally listed or state sensitive species and any critical habitat. The Local Coordination Committee consists of five members designated by the VRMP Administration Committee. The representative from the

Washington County Water Conservancy District will serve as chair. The Local Coordination Committee will operate by consensus.

RECOVERY BANKING

This Program establishes a recovery banking process to promote species recovery and conservation, while, at the same time, maintaining the ability to provide for development of adequate water supplies for sustaining human needs. The recovery bank will be the primary mechanism used to monitor progress toward achieving Program goals. The recovery bank process quantifies the allocation and administration of measurable units in the recovery bank.

The currency of the recovery bank is “recovery units.” These units of measure are directly related to the “habitat units” used to describe baseline conditions for the Program (Lentsch et al. 1998a). See Appendix 3, Description of Baseline Conditions. They are simply a summation of habitat units. A recovery unit is the sum of all the habitat units across all reaches and two flow scenarios by species, life stage, and season. They have been determined for baseline and desired conditions for fish within the mainstem of the Virgin River (Table 1). Recovery units for other reaches and species will be developed as directed by the Administration Committee. A ratio of equivalencies may also be developed by the Technical Committee, to be approved by the Administration Committee, to allow for trading of terrestrial and aquatic units, where appropriate. A ledger will be used to track the current number of recovery units relative to baseline conditions and desired conditions (Table 2).

PROPOSAL PROCESS

The Administration Committee, with the advise of the Technical Committee and Local Coordination Committee, shall develop a format to be used for all project proposals. Proposals for projects that may affect the recovery, enhancement, conservation, or protection of native species or that may have a detrimental impact on these species may be submitted to the Program through a written request for evaluation.

The project proposal should discuss the proposed action and the effects of the action on existing conditions. The project proponent must submit the proposal and all other appropriate documents to the Local Coordination Committee. The Local Coordination Committee shall distribute the project proposal to the Administration Committee and Technical Committee for review and evaluation. The Administration Committee will determine whether or not the proposal should be processed by the Program.

Proposed actions will be evaluated relative to the goals of the Program.

Specifically, the Program implements a recovery banking process that provides for the allocation of recovery units for deposits into or withdrawals from the recovery bank. The recovery bank is managed to account for actions taken for the recovery and conservation of native species and the impacts of development.

Local Coordination Committee Review

The Local Coordination Committee will review the proposal for completeness and evaluate it with respect to the goals of the VRMP and the Program. If the proposal is incomplete or additional information is needed, the Local Coordination Committee will request the necessary information from the project proponent. Once the Local Coordination Committee is reasonably satisfied with the completeness of this information, the Local Coordination Committee will circulate copies of the proposal and accompanying documentation to each member of the Technical Committee, who will, within a reasonable time, submit to the Local Coordination Committee a request for any supplemental information deemed necessary or appropriate to complete the Technical Committee's review of the proposal. All additional information requested from the project proponent and all relevant documentation received or prepared in the course of the Local Coordination Committee's initial review will be submitted to the Technical Committee chair.

Technical Committee Review

The Technical Committee will review the project proposal and accompanying documentation to assess the benefits or impacts of the proposed project. This assessment will follow the quantification methods used for describing baseline conditions and use the best scientific and commercial data available. The Technical Committee will recommend to the Administration Committee whether or not the project should be allowed to withdraw any unallocated recovery units from the recovery bank, referencing the recovery banking standards. The Technical Committee will also make a recommendation as to whether the project should be allowed to deposit recovery units in the recovery bank based upon the action.

The Technical Committee will complete its review of the proposed action within 60 days of final submission of all information and documentation required, or provide a written explanation of why it is unable to meet the deadline. A copy of its recommendations to the Administration Committee

will also be submitted to the Local Coordination Committee.

Administration Committee Review

The Administration Committee will review the recommendations of the Local Coordination Committee and Technical Committee and shall determine the number of recovery units to be deposited or withdrawn from the recovery bank in connection with the proposed project, the number of recovery units required to offset any withdrawals, and the number of available, unallocated recovery units, if any, the action will receive from the recovery bank. All project proponents will be assessed a project fee to be determined by the Administration Committee, based upon the effects of the project, that will be used to fund recovery actions. UDNR will receive, maintain an up-to-date register, and administer the project fees. The Administration Committee will notify the proponent, Technical Committee, and Local Coordination Committee of its final decision within a reasonable time after the Administration Committee receives the Technical Committee's recommendations. If the Administration Committee determines that the proposed project is not appropriate for the recovery banking program, the Administration Committee will state its reasons in writing and notify the project proponent.

Table 1. Summary of recovery units for species inhabiting the Virgin River mainstem.

Species	Spring		Summer		Winter		All Seasons	
	Baseline	Desired	Baseline	Desired	Baseline	Desired	Baseline	Desired
Juvenile Woundfin	1410	2031	1865	3315	1902	2697	5177	8043
Adult Woundfin	2200	4589	2596	5386	2651	5192	7446	15167
Juvenile Virgin River Chub	105	466	139	591	147	643	391	1700

Adult Virgin River Chub	122	185	162	217	153	200	438	602
Virgin Spinedace	512	559	835	988	698	762	2045	2309
All Species	4349	7830	5597	10497	5551	9494	15497	27821

Table 2. Example of a recovery bank ledger for the Virgin River Resource Management and Recovery Program accounting for baseline, desired and existing recovery units for mainstem Virgin River fish species (Appendix 2 and 3).

Action	JWF ¹			AWF			JVC			AVC			SP			GEN	TOT	AVAIL
	SR ²	SU	WI	SR	SU	WI	SR	SU	WI	SR	SU	WI	SR	SU	WI			
Baseline	1410	1865	1902	2200	2596	2651	105	139	147	122	162	153	512	835	698		15497	
QC -3cfs*	29	51	15	30	49	14	23	20	12	16	8	8					275	

																		0	
																		0	
<i>Existing</i>	<i>1439</i>	<i>1916</i>	<i>1917</i>	<i>2230</i>	<i>2645</i>	<i>2665</i>	<i>128</i>	<i>159</i>	<i>159</i>	<i>138</i>	<i>170</i>	<i>161</i>	<i>512</i>	<i>835</i>	<i>698</i>	<i>0</i>	<i>15772</i>	<i>302</i>	
<i>Desired</i>	<i>2031</i>	<i>3315</i>	<i>2697</i>	<i>4589</i>	<i>5386</i>	<i>5192</i>	<i>466</i>	<i>591</i>	<i>643</i>	<i>185</i>	<i>217</i>	<i>200</i>	<i>559</i>	<i>988</i>	<i>762</i>		<i>27821</i>		
<i>Remain</i>	<i>592</i>	<i>1399</i>	<i>780</i>	<i>2359</i>	<i>2741</i>	<i>2527</i>	<i>338</i>	<i>432</i>	<i>484</i>	<i>47</i>	<i>47</i>	<i>39</i>	<i>47</i>	<i>153</i>	<i>64</i>	<i>0</i>	<i>12049</i>		

QC - 3cfs = action of adding 3 cfs below Quail Creek Diversion.

- 1: JWF=juvenile woundfin, AWF=adult woundfin, JVC=juvenile Virgin River chub, AVC=adult Virgin River chub, SP=Virgin spinedace
- 2: SR= Spring, SU=summer, WI=winter

RECOVERY BANKING STANDARDS

Recovery units will be allocated according to the following standards:

- (1) The following priorities will be used in assigning recovery units to recovery actions (from highest to lowest). Generally, recovery actions that provide direct benefits to habitat will be credited more recovery units than indirect actions.
 - (a) Implementing actions described in the Recovery Action Plan that result in the desired recovery and conservation conditions (Appendix 2);
 - (b) Implementing actions that enhance and protect riparian and 100-year floodplain habitat;
 - (c) Conducting studies and research to acquire information expected to provide an improved basis for project design or recovery and conservation parameters; and
 - (d) Cash contributions.
- (2) Recovery units must be available in the recovery bank prior to withdrawal.
- (3) The recovery bank will be managed to result in a net movement toward desired conditions with respect to the entire Basin.
- (4) The description of baseline conditions represents the initial (zero) balance in the bank. No actions will be approved by the Administration Committee that reduce biological conditions below those necessary to support the native aquatic community in a given reach. See Appendix 3.
- (5) The current balance in the recovery bank represents the net progress toward desired conditions, taking into account the deposits and withdrawals which have been authorized to date and other changes that have occurred since the documentation of baseline conditions.
- (6) The Program Participants are responsible for maintaining the

net benefits derived from making deposits and withdrawals.

- (7) Recovery units will be available in the bank once an action is completed, as defined in the Recovery Action Plan (Appendix 2) and/or in a project proposal approved by the Administration Committee. If recovery actions have been repeated, any recovery units previously generated by that action remaining in the bank cannot be withdrawn until the benefits of the recovery action have been achieved.
- (8) Recovery units will be determined on an action-by-action basis, taking into account the conservation and recovery of the Virgin River Basin as a whole, and considering the following:
 - (a) Like withdrawals for like deposits are preferred (e.g., water for water).
 - (b) Interrelationships of location and seasonal impacts will be considered.
 - (c) Preference will be given to recovery actions that enhance the entire life cycle of a species.
 - (d) Restoration and enhancement of existing or historically occupied habitat is preferred over creation of new habitat.
 - (e) Restoration, enhancement, or creation of habitat may be on-site or may be off-site if off-site benefits outweigh on-site replacement.
- (9) The Program shall be deemed to be making a net positive movement toward recovery when at least 25 percent of the recovery units derived from any recovery action will remain in the recovery bank.
- (10) Once desired conditions are reached in a river segment, additional credits which are accumulated can be used or transferred as long as removal of credits do not reduce that segment below desired conditions.
- (11) Withdrawals shall be assessed to actions that are adverse to

the Program's conservation and recovery goals. The manner and amounts in which withdrawals are made will be established by the Administration Committee.

- (12) Deposits are granted from remedial actions only if specifically approved by the Administration Committee.
- (13) The Program may approve a project proposal specifying that recovery units resulting from a proposed action will not be allowed to be withdrawn from the bank or used to offset the effects of any other project.

ACQUISITION OF RECOVERY UNITS

In exchange for implementing recovery actions approved by the Administration Committee in consultation with the Technical Committee as described herein, and subject to USFWS biological opinions issued pursuant to Section 7 of the ESA, the project proponent will be granted approval by the Administration Committee to rely on the Program to offset impacts to federally listed or state sensitive species and any critical habitat for the development of the proposed project. By providing incentives through recovery banking, benefits are to accrue to native species which would otherwise not likely be pursued.

The Administration Committee will grant recovery units to the project proponent upon the completion of the required recovery actions. In addition, the project proponent will be required by the Administration Committee to minimize potential effects to the native and listed species, thereby reducing the need to draw recovery units from the recovery bank, and, where appropriate, take specific actions that promote the recovery of threatened or endangered species, or improve conditions for other native species in the Basin before the proposed action proceeds. The range of recovery actions that may be required include, but are not limited to, live propagation, transplanting, and habitat acquisition (including but not limited to the acquisition and maintenance of instream flows) deemed necessary or appropriate to minimize the adverse effects of a proposed project on native species or their habitats and/or to improve the conservation status of the species beyond that which would occur without such action. Recovery actions should be reasonable in cost, technologically feasible, and include other considerations and actions that promote Program goals. The range of recovery actions that may be required are more fully described in (Appendix 2).

Once the Administration Committee has determined that the proposed project is designed to minimize its effects to the listed and native species to extent practicable and has been assessed fees and/or specific recovery actions to be accomplished to off-set its effects, no additional recovery requirements will be imposed on the project by the Program, so long as the project construction and operation does not change from that approved by the Administration Committee. This shall remain true regardless of changes in existing conditions after the project was approved, or further understanding of existing conditions that, if known at the time the project was approved, would have altered the decision to approve the project or impose different or additional recovery actions. If it is later shown that the recovery actions that were approved by the Administration Committee in connection with a project did not off-set its affects as anticipated, the Program Participants agree to undertake actions reasonably necessary to achieve the anticipated effects.

Recovery units can be deposited or withdrawn from the bank. The four general means of depositing recovery units are:

- (1) Implementing actions described in the Recovery Action Plan that result in the desired recovery and conservation conditions;
- (2) Implementing actions that enhance and protect riparian and 100-year floodplain habitat;
- (3) Conducting studies and research that acquire information expected to provide an improved basis for design of projects or recovery and conservation parameters; and
- (4) Making cash contributions. (Appendix 2)

ACHIEVING DESIRED RECOVERY AND CONSERVATION CONDITIONS

The recovery and conservation conditions that the Program Participants desire to achieve are described in detail. This description is based on the primary assumption that the Program will maintain, protect, and enhance the baseline conditions described in Appendix 3. Improvements and enhancements to baseline conditions will occur through implementation of the Recovery Action Plan. Program progress will be evaluated on the ability of the Program to enhance conditions from baseline conditions toward desired conditions. See Appendix 2 and 3.

ENHANCEMENT OF RIPARIAN 100-YEAR FLOODPLAIN HABITAT

Recovery units are acquired by implementing recovery and conservation actions within the riparian and 100-year floodplain habitats in accordance with desired conditions. These actions include an array of activities associated with habitat enhancement and restoration, control of nonnative vegetation, and habitat acquisition and protection. Since existing conditions of riparian and 100-year floodplain habitat remain unclear, the specific desired conditions and actions to obtain recovery units described in Appendix 2 will be described in greater detail as new information and data is gathered and as directed by the Administration Committee.

RESEARCH ACTIVITIES

Several research and study needs have been identified in the VRFRP, VSCAS, and in this document. This research will acquire information expected to provide an improved basis for project design or recovery and conservation parameters. Once a determination has been made as to how each research action will benefit the overall goals of the Program, it will be prioritized and assigned a recovery unit value. The Program is responsible for funding research and monitoring actions recommended by the Technical Committee and approved by the Administration Committee.

CASH CONTRIBUTIONS

Cash contributions will be applied toward implementing recovery and conservation actions and necessary research activities. The value in

recovery units offered for cash contributions will be based upon the amount of the contribution, the amount of funding otherwise available to the Program, and the action funded. Once a determination has been made as to how a cash contribution will benefit the overall goals of the Program, it will be assigned a recovery unit value by the Administration Committee.

PROGRAM OPERATION

ANNUAL WORK PLAN AND SCHEDULING

The operational year for the Program will begin on January 1 and end on December 31. A five-year strategic plan and an annual work plan will be developed and updated annually (Appendix 2). Work plans will be developed one year prior to the year of implementation. The plans will identify actions to be taken to meet the Program's recovery and conservation goals, which will be recognized as recovery units that may be deposited into the recovery bank.

On or before September 1 of each year, the Technical Committee and the Local Coordination Committee will submit recommendations to the Administration Committee for elements of and amendments to the strategic plan and the annual work plan. Based upon these recommendations, available funding, agency participation, and any other considerations which it may identify, the Administration Committee will specify the elements of the strategic plan and the annual work plan. The Administration Committee will submit an outline of the elements of the annual work plan to the Technical Committee and Local Coordination Committee by December 1 of each year. The outline will describe: (1) when each action is targeted to be implemented; (2) which agency will be assigned to the implementation of the action; (3) the source of funding, and (4) a reporting schedule. Prior to December 31, the Technical Committee will develop a draft annual work plan according to the outline established by the Administration Committee. Once completed, the Technical Committee will submit the annual work plan to the Administration Committee for review, finalization, and distribution.

PROGRAM REPORTING

The Technical Committee will prepare an annual progress report on recovery and conservation activities. This report will include an update of the status of each activity, costs associated with the activity, and an assessment of the effectiveness of these activities toward meeting the recovery and conservation objectives of the Program. This report will also include recommendations regarding prioritization of future recovery and conservation activities as well as recommendations on any revisions deemed necessary to the Program. The annual progress report will also recommend any contingency and/or remedial actions deemed necessary or appropriate by the Technical Committee, based upon the amount of changes from baseline conditions toward desired conditions. The report will include an assessment of new conditions, or changes to the baseline

conditions, given the prior activities of the Program, taking into account the elements of baseline conditions, as defined in Section X. The annual report will also provide an accounting of recovery units based on project developments.

The Local Coordination Committee will prepare an annual progress report on proposed projects and other activities, including an assessment of the effectiveness of the Program in meeting the need for adequate water supplies to sustain domestic, industrial, agricultural, recreational, and wildlife needs. This report will also include recommendations regarding prioritization of future activities as well as recommendations on any revisions deemed necessary to this Program.

PROGRAM ASSESSMENT

Based upon the reports, evaluations, and recommendations of the Technical Committee and the Local Coordination Committee, and any other identified considerations, the Administration Committee will develop an annual assessment of Program accomplishments and progress. This assessment will determine the effectiveness of the Program, progress toward desired conditions, and whether revisions are warranted. The annual report will also provide an accounting of recovery based on project developments. This assessment will also provide an annual accounting of recovery units. This assessment will be completed by December 1 of each year. The Recovery Team will provide recommendations to the Administration Committee and Technical Committee for consideration in developing the annual work plan for the following year.

D. PROGRAM FUNDING

It is anticipated that expenditures to implement this Program could exceed \$14,000,000 (Table 3). It is projected that the actions implemented for the re-establishment of population maintenance flows to stream channels and elimination of nonnative fish species will incur the greatest expense and occur during the first three to five years of the Program.

It is the intention of the Program Participants to adequately fund the Program on a matching basis from a variety of federal, state and local sources. Funding for the Program will be provided by a variety of sources:

- (1) Federal sources include, but will not be limited to, the USFWS, BLM, Land and Water Conservation funds, and the Natural Resource Conservation Service.
- (2) State funding sources include, but will not be limited to, direct appropriation of funds by the legislature, community impact boards, Water Resources revolving funds, State Department of Agriculture, and other state resource management

agencies.

- (3) Local sources of funding will be provided by the Habitat Conservation Plan, WCWCD, cities and towns, Washington County, and irrigation companies.

In-kind contributions in the form of personnel, field equipment, supplies etc., will be provided by participating agencies (Table 3). In addition, each agency will have specific task responsibilities and proposed actions/commitments related to their in-kind contributions.

It is understood that all funding commitments made by the Program Participants are subject to approval and appropriations by the appropriate local, state or federal entities.

Table 3. Estimated cost of implementing the Virgin River Resource Management and Recovery Program over a ten-year period.

Objectives for the Program (10 years)	State	Federal	Local	Total
Complete Description of Baseline Conditions (Basis to measure program process)			\$400,000.00	\$400,000.00
Provide and Protect Instream Flows (Pipeline construction, evaluate flows, protect flows, etc.)	\$1,500,000.00	\$1,600,000.00	\$2,000,000.00	\$5,100,000.00
Protect and enhance aquatic, riparian, and 100-year floodplain habitat (Identify, plan, implement enhancement actions)	\$500,000.00	\$300,000.00	\$800,000.00	\$1,600,000.00

Protect and enhance native species communities (Eliminate and/or control nonnative fish)	\$1,000,000.00	\$850,000.00	\$300,000.00	\$2,150,000.00
Maintain genetically appropriate brood stocks (Build facilities, Develop brood stocks, stock fish, etc.)	\$600,000.00	\$600,000.00		\$1,200,000.00
Determine ecological factors limiting abundance of native species (Fish barriers, temperature, etc.)	\$250,000.00	\$450,000.00	\$550,000.00	\$1,250,000.00
Monitor habitat conditions and populations of native species (Monitor population, database, reports, etc.)	\$400,000.00	\$450,000.00	\$200,000.00	\$1,050,000.00
To improve education and communication on resource issues (Develop information program)	\$100,000.00	\$100,000.00	\$100,000.00	\$300,000.00

Program Management	\$300,000.00	\$300,000.00	\$300,000.00	\$900,000.00
Total of all objectives	\$4,650,000.00	\$4,650,000.00	\$4,650,000.00	\$13,950,000.00

E. PROGRAM MANAGEMENT

A Program Director's Office will be established to ensure the timely and effective planning, implementation, and coordination of the Program. The Administration Committee shall determine and select the Program Directors' Office and shall oversee the activities of the office. UDNR will administer the Program Director's Office for the Administration Committee. Responsibilities of this office will include:

(1) Coordination of Recovery Activity Implementation

- < Coordinate with Program Participants to plan, execute, and evaluate recovery efforts.
- < Assist with coordination of regulatory issues associated with implementing the Program.
- < Make recommendations on Program implementation priorities to the Technical and Administration Committee.

(2) Program Planning and Evaluation

- < Review and update the recovery action plan and annual work plan for Program Committee review.
- < Assist the Administration Committee to develop recommendations for changes to the strategic plan and annual work plan.
- < Solicit proposals to implement the annual work plan.

- < Compile and distribute annual Program accomplishment reports.
- < Produce planning documents for the Program.

(3) Budget Management

- < Provide assistance to the Administration Committee to secure annual and long-term funding.
- < Monitor and track the budget for the Program.
- < Develop and administer interagency agreements, cooperative agreements, contracts, etc. necessary to implement the Program.
- < Develop, revise, and maintain budgets for the Program.

(4) Committee Staff Assistance

- < Provide staff assistance to the Program Committees.
- < Prepare and distribute agendas, meeting summaries, and other related documents.
- < Maintain an administrative record of the Program.
- < Compile and distribute a calendar of important events for the Program.

(5) Coordinate Technical Review

- < Develop procedures to ensure independent peer review of the technical aspects of the Program.
- < Keep the Administration Committee informed of any and/or all technical issues requiring peer review.

VII. SECTION SEVEN CONSULTATION

A. BIOLOGICAL OPINIONS

Section 7(a)(2) of the ESA requires each federal agency to consult with, and with the assistance of the USFWS, to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat, unless such agency has been granted an exception for such action. Section 7(a)(1) of the ESA also requires federal agencies to utilize their authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of federally listed species.

The USFWS will consult on the effects of implementing the Program and develop a biological opinion detailing how the Program affects listed species or any designated critical habitat. The biological opinion for the Program will include an incidental take statement in compliance with Section 7(b)(4) of the ESA. This consultation must be completed before the Program takes effect. To insure that the Program complies with the Section 7 requirements, future Program decisions about recovery actions must comply with requirements of the ESA. The USFWS also will consult on the effects of individual projects which apply to the Program and request to rely on the Program's recovery bank. Each biological opinion has its own Section 7 baseline as defined in 50 C.F.R. 402.02.

Neither the operation of an individual project covered by the Program nor of the entire Program can be likely to violate Section 7. Recovery actions implemented by the Program must be sufficient to avoid the likelihood of jeopardy or adverse modification for each individual project in order for such projects to rely on the Program for ESA compliance. The Program Participants recognize that the USFWS may recommend additional reasonable and prudent alternatives for the Program or for individual projects than those approved by the Administration Committee in order to avoid violating Section 7.

The Program and individual projects also must be designed to minimize the incidental take of federally listed or species proposed for listing. The Program Participants recognize that the USFWS may require continuing terms and conditions on projects in order to minimize such impacts. Project proponents and their successors will have an ongoing responsibility to comply with such terms and conditions in order to receive ongoing incidental take protection to avoid violating the ESA.

The Program will facilitate consultations to be conducted on individual projects. The Program is intended to serve as the reasonable and prudent alternative, reasonable and prudent measures, or terms and conditions to be included in individual biological opinions, with modifications as necessary to reflect site specific conditions of individual projects in order to comply with the requirements of the ESA.

The USFWS will notify the Administration Committee when a situation may result in the Program not serving as the reasonable and prudent alternative or when the USFWS contemplates recommending site-specific requirements on any project. The Administration Committee will work with the USFWS to evaluate the situation and develop the most appropriate response to restore the Program as a reasonable alternative. If the Program cannot be restored to provide the reasonable and prudent alternative, as a last, resort, the USFWS will seek to develop a reasonable and prudent alternative, with the lead agency, the project proponent and the Technical Committee.

Consultation must be reinitiated under the circumstances described in 50 C.F.R. 1402.16. In that event, the Program is intended to implement any resulting reasonable and prudent alternatives, reasonable and prudent measures, or terms and conditions unless otherwise determined by the Administration Committee. Project proponents must assume all responsibility for requirements relating to re-initiation resulting from failure to accurately describe project components and operations in the project proponent's application to the Program, or from subsequent project modifications.

A. SUFFICIENT PROGRESS

In order to monitor the effectiveness of the Program and determine whether sufficient progress toward desired conditions throughout the Basin is being made, the USFWS will review the strategic and annual work plans, the reports and assessments prepared pursuant to the Program accomplishment report prepared by the Technical Committee and approved by the Administration Committee. The USFWS will review the monitoring of recovery actions and the evaluation of the existing conditions in relation to the baseline conditions and the desired conditions and make an evaluation as to whether the Program is making sufficient progress toward desired conditions. Sufficient progress will be deemed to have been made if there is a net gain in recovery units throughout the Basin, the Program has maintained the recovery actions, and the anticipated

biological response has been obtained. So long as sufficient progress is being made, the Program is intended to serve as the reasonable and prudent alternative for the Program and participating projects. If the USFWS determines that progress is not being made, the USFWS will identify the deficiencies that the Program must implement for the Program to meet the sufficient progress test. If the Program fails to implement such measures, the USFWS may reinstate Section 7 consultation.

VIII. CONSERVATION AGREEMENTS

This Program has been developed to expedite measures which have been identified by the USFWS and the Utah Division of Wildlife Resources for the continued existence and conservation of Virgin spinedace (*Lepidomeda mollispinis mollispinis*), flannelmouth sucker (*Catostomus latipinnis*), desert sucker (*Catostomus clarki*), speckled dace (*Rhinichthys osculus*), and the southwestern toad (*Bufo microscaphus*). Implementation of the Program will also reduce threats to these species that might otherwise warrant listing as a sensitive, threatened, or endangered species. It is intended that the implementation of the actions identified in Appendix 2 will not only meet the requirements of the VSCAS, but is intended to also serve as a conservation strategy for the additional species named above.

IX. MISCELLANEOUS PROVISIONS

This Program sets forth a cooperative process that each Program Participant is committed to rely upon as set forth herein. All Program Participants recognize that each Participant has statutory responsibilities that cannot be delegated. This Program does not and is not intended to abrogate any of the Program Participants statutory responsibilities.

- < The term of this Program shall be 10 years.
- < It shall be automatically renewed on consecutive 10-year intervals unless the Program Participants agree otherwise.
- < Any Participant may withdraw from this Program on sixty (60) days written notice to the other Program Participants.
- < This Program is subject to and is intended to be consistent with all applicable federal and state laws.
- < Any funding commitments made under this Program are subject to approval and appropriations by appropriate state, local, and federal legislative bodies.
- < No member of, or delegate to Congress, or resident Commissioner, shall receive any benefit that may arise from this Program.
- < The requirements of the National Environmental Policy Act will be met before the implementation of this Program.

X. DEFINITIONS

100-Year Floodplain - The area adjacent to the river channel or standing body of water that is periodically inundated by the one in 100-year flood event.

Baseline Conditions - Conditions as described in Appendix 3 effect as a result of past and present impacts of all federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed federal projects in the action area that have already undergone formal or early Section 7 consultation, including but not limited to flows which would occur if all extant water rights were fully exercised and flows simulated by Creamer & Noble with respect to the operation of Quail Creek Reservoir project (Quail Creek Simulation Program Documentation (1983), Appendix IV). This document was relied upon in preparation of the December 2, 1982, Biological Opinion for the Quail Creek Reservoir Project and the impact of state or private actions which are contemporaneous with the consultation regarding this Program.

Basin Resources - As used in this Program includes the resources within the Virgin River channel as well as the 100-year floodplain.

Consensus - Unanimous agreement to move forward with a stated action by those present at a meeting, although each person voting may not completely agree with each element of the action.

Deposit - Actions completed in accordance with the Recovery Action Plan (Appendix 2) by a project proponent or other entity which results in the granting of recovery units.

Desired Conditions - Refer to Appendix 2.

Existing Conditions - An annual description of aquatic and terrestrial habitat.

Habitat Unit - A unit of measure quantifying a species habitat. Habitat unit indicates the amount of available habitat based on a specific set of parameters. Habitat units may be used for aquatic or terrestrial species.

Historical Flows - Flows in the Virgin River and its tributaries prior to Virgin River water diversions.

Historically Occupied Habitat - Areas believed to be occupied by species

prior to 1850.

In stream Flows - Water flow conditions necessary to sustain fish life and habitat, maintained in the natural stream channel.

Recovery Actions - Measures selected from the VFRP, including live propagation, translocation, the establishment of instream flows, and habitat acquisition and improvement necessary or appropriate to minimize the adverse effects of a proposed action on native species or their habitats and/or to improve the conservation status of the species beyond that which would occur without the action. Recovery actions must be likely to protect the species or its habitat and be reasonable in cost, technologically feasible, and include other considerations and actions that promote Program goals.

Recovery Unit - A unit of measure for quantifying recovery, conservation, or development actions. Recovery units are specific for aquatic or terrestrial species. Aquatic recovery units for mainstem Virgin River fish were developed by combining habitat units across all reaches and the two flow scenarios used to describe each set of conditions (baseline, existing, desired). Recovery units for other reaches and species will be developed as directed by the Administration Committee.

Section 7 Baseline - Defined in 50 C.F.R. 402.02.

Withdrawal - Actions by a project proponent that move existing conditions away from desired conditions.

XI. REFERENCES

Lentsch, L. D. , M. J. Perkins, and H. Maddux. 1995. Virgin spinedace Conservation Agreement and Strategy. Utah Department of Natural Resources, Division of Wildlife Resources, Native Aquatic Species, Salt Lake City, Utah. Publication Number 95-13.

Lentsch, L. D., C. Addley, T. Hardy, R. Williams, H. Maddux, N. Stauffer, T. Adams, and M. J. Perkins. 1998a. Description of Baseline Conditions for the Virgin River Resource Management and Recovery Program. Utah Department of Natural Resources, Division of Wildlife Resources, Native Aquatic Species, Salt Lake City, Utah.

Lentsch, L. D., M. J. Perkins, C. Addley, T. Hardy, R. Williams, H. Maddux, N. Stauffer, and T. Adams. 1998b. Description of Desired Conditions and Recovery Action Plan for the Virgin River Resource Management and Recovery Program. Utah Department of Natural Resources, Division of Wildlife Resources, Native Aquatic Species, Salt Lake City, Utah.

USFWS. 1995. Virgin River Fishes Recovery Plan. United States Fish and Wildlife Service, Region 6, Denver Service Center, Denver, Colorado.

WCWCD. 1997. Draft Virgin River Management Plan. Washington County Water Conservancy District, St. George, Utah. Pp. 1-98, with Appendices.

MEMORANDUM OF UNDERSTANDING

BETWEEN

**UTAH DEPARTMENT OF NATURAL RESOURCES,
UNITED STATES FISH AND WILDLIFE SERVICE,
UNITED STATES BUREAU OF LAND MANAGEMENT
UNITED STATES NATIONAL PARK SERVICE**

AND

WASHINGTON COUNTY WATER CONSERVANCY DISTRICT

This Memorandum of Understanding (“MOU”) is made and entered into by and between the Utah Department of Natural Resources (“UDNR”), United States Fish and Wildlife Service (“USFWS”), United States Bureau of Land Management (“BLM”), United States National Park Service (“NPS”) and Washington County Water Conservancy District (“District”), referred to herein collectively as “Program participants.”

WHEREAS, the parties to this MOU have worked cooperatively and in good faith since 1995 to develop the Virgin River Resource Management and Recovery Program (“Program”) in an effort to recover, conserve, enhance, and protect native species and their habitat within the Virgin River Basin, while balancing and accommodating the growing need for future water development and use; and

WHEREAS, Program participants intend that this Program will fulfill all federal obligations under Section 7 of the Endangered Species Act of 1973, as amended (“ESA”), and federal regulations promulgated thereunder, in that it will provide the basis for reasonable and prudent alternatives to actions processed through the Program; and

WHEREAS, Program participants have embodied their intent to recover, enhance, and protect native species and their habitat while facilitating future use and development of Virgin River Basin resources in a document entitled “Virgin River Resources Management and Recovery Program” dated June, 1998 and attached hereto; and

WHEREAS, Program participants understand that the Program cannot be implemented until the USFWS issues a biological opinion for the Program in accordance with the ESA and other federal review is completed in accordance with

the National Environment Policy Act.

NOW THEREFORE, Program participants agree to submit the Program to the USFWS as it is currently drafted for the purpose of obtaining a biological opinion and meeting other federal requirements and review. Program participants understand that any and all agreements made in developing this Program have been made conditionally and that the Program may be changed or modified in accordance with such review and approval. Program participants further understand that any Participant may unilaterally withdraw participation in this Program if it is determined that the concepts embodied therein are required to be materially altered to meet the requirements of federal law.

During the pendency of the issuance of the biological opinion, Program participants agree to continue to work in good faith and to exercise all rights and authority available to them to facilitate the successful implementation of this Program.

This MOU may be executed in several counterparts, each of which shall be an original, and all of which shall constitute one and the same agreement.

Utah Department of Natural Resources

Date

United States Fish and Wildlife Service

Date

United States Bureau of Land Management

Date

United States Park Service

Date

Washington County Water Conservancy
District

Date

APPENDIX I

MEMORANDUM OF UNDERSTANDING

**VIRGIN RIVER
RESOURCE MANAGEMENT
AND
RECOVERY PROGRAM**

APPENDIX II

DESCRIPTION OF DESIRED
CONDITIONS

RECOVERY ACTION PLAN

APPENDIX III

DESCRIPTION OF BASELINE
CONDITIONS

APPENDIX IV

QUAIL CREEK SIMULATION PROGRAM DOCUMENTATION

JUNE 1983

CREAMER & NOBLE ENGINEERS