SAN JUAN RIVER BASIN

RECOVERY IMPLEMENTATION PROGRAM

Final

PROGRAM DOCUMENT

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List of Acronyms

ALP	Animas-La Plata Water Development Project
AWP	Annual Work Plan
Basin	San Juan River Basin
BIA	Bureau of Indian Affairs
BLM	U.S. Bureau of Land Management
BO	Biological Opinion
CA	Cooperative Agreement
cfs	cubic feet per second
DOI	U.S. Department of the Interior
ESA	Endangered Species Act (16 U.S.C. 1531 et. seq.)
Hydrology Model	San Juan River Basin Hydrology Model
Lower Basin	Colorado River mainstem and its tributaries from Glen Canyon Dam downstream to the southerly International Boundary with Mexico
LRP	Long Range Plan
mm	millimeter

Mumma	J. W. Mumma Native Species Hatchery
NAPI	Navajo Agricultural Products Industry
NFH	National Fish Hatchery
NIIP	Navajo Indian Irrigation Project
NMFWCO	U.S. Fish and Wildlife Service New Mexico Fish and Wildlife Conservation Office
Principles	*Principles for Conducting Endangered Species Act Section 7 consultations on Water Development and Water Management Activities Affecting Endangered Fish in the San Juan River Basin (SJRRIP 2001)*
Program	San Juan River Basin Recovery Implementation Program
Reclamation	U.S. Bureau of Reclamation
Recovery Goals	*Razorback sucker (Xyrauchen texanus) Recovery Goals: amendment and supplement to the Razorback Sucker Recovery Plan and Colorado pikeminnow (ptychocheilus lucius) Recovery Goals: amendment and supplement to the Colorado Squawfish Recovery Plan (USFWS 2002)*
Recovery Plans	*Razorback Sucker Recovery Plan (USFWS 1998a.) and Colorado Squawfish Recovery Plan (USFWS 1991)*
RPA	Reasonable and prudent alternative
RPM	Reasonable and prudent measure
Service	U.S. Fish and Wildlife Service
SOW	Scope of work
TL	Total length
Upper Basin	Green River, Upper Colorado River, and San Juan River subbasins
Upper Colorado Program	Upper Colorado River Endangered Fish Recovery Program
μg/L	micrograms per liter

CHAPTER 1: INTRODUCTION

The San Juan River Basin Recovery Implementation Program (Program) was initiated in 1992 to conserve and recover populations of two endangered fish species in the San Juan River Basin (Basin) while allowing water development to proceed in compliance with all applicable federal and state laws. As such, it is recognized and agreed that the Program is intended to provide the measures for compliance with the Endangered Species Act of 1973 (ESA) for water development and water management activities in the Basin.

Endangered fish species in the Basin are the Colorado pikeminnow and razorback sucker. It is anticipated that actions taken under this Program will provide benefits to other native fishes in the Basin as well.

The specific goals of the Program are:

> *(1) to conserve populations of Colorado pikeminnow and razorback sucker in the Basin consistent with the recovery goals established under the Endangered Species Act, 16 U.S.C. 1531 et seq.; and*
>
> *(2) to proceed with water development in the Basin in compliance with federal and state laws, interstate compacts, Supreme Court decrees, and federal trust responsibilities to the Southern Ute Indian Tribe, Ute Mountain Ute Indian Tribe, Jicarilla Apache Nation, and the Navajo Nation.*

The Program operates through its committee processes to identify the actions needed to attain these goals. The Program uses as its foundation the "Cooperative Agreement (CA) for the San Juan River Basin Recovery Implementation Program" which is incorporated by reference and is attached as Appendix A.

This Program Document provides the framework for the Program and outlines the Program's purposes, authority, structure and operating procedures, including funding and budgeting and details the purposes of the Program's committees, defining their composition, authority and duties. In addition, this document describes the process for conducting section 7 consultations under the ESA, and for reviewing the progress of the Program in providing reasonable and prudent alternatives (RPA) and measures (RPM) for water development and water management activities in the San Juan River Basin.

The Program's Long Range Plan (LRP) identifies multi-year research, monitoring and recovery actions necessary to achieve the Program's goals.

CHAPTER 2: SAN JUAN RIVER BASIN

The San Juan River Basin is the second largest of the three sub-basins which comprise the Upper Colorado River Basin (Figure 1). The San Juan River Basin drains about 38,000 square-miles of southwestern Colorado, northwestern New Mexico, northeastern Arizona, and southeastern Utah. From its origins in the San Juan Mountains of Colorado, the San Juan River flows some 31 miles to the New Mexico border, 190 miles westward to the Four Corners area, and then another 136 miles to Lake Powell. In its upper reaches, the river traverses rugged terrain and has a relatively high gradient. The river emerges from canyon-bound reaches at Navajo Reservoir in New Mexico and flows through a broad floodplain for much of its course in New Mexico and Utah. About 70 miles upstream of Lake Powell, the river again enters canyon reaches for the remainder of its course. The river is generally restricted to a single channel in canyon portions, but is often divided into several channels in floodplain reaches.

The San Juan River has comparatively few perennial tributaries, most of which are in upper reaches. Historically, the Rio Blanco, Navajo River, Piedra River, Los Pinos River, Animas River, La Plata River, Mancos River and McElmo Creek were the only perennially flowing tributaries. Other streams such as Montezuma and Chinle Creeks contributed flows seasonally. Numerous washes and arroyos also entered the river, but none provided regular flow. The Animas River contributes the greatest flow.

Historic Flows

The San Juan River exhibits highly variable annual and monthly natural flows. Prior to the construction of Navajo Dam, the hydrograph was characterized by large spring peaks resulting from snowmelt runoff and low base flows at other times of the year. Typically, spring runoff begins in March, peaks in mid-May to early June, and ends by the first week of July. The remainder of the year, natural flow is characteristically low, punctuated by large, short-duration peaks caused by summer and fall storm events. Measured flows in the San Juan River at Bluff, Utah, have ranged from a high of about 70,000 cubic feet per second (cfs) to no flow at times.

Since the completion of Navajo Dam in 1962, flows immediately below Navajo Reservoir and above the Animas River confluence have been largely controlled and stabilized. Prior to the initiation of experimental flow releases from Navajo Dam in 1991 to meet the needs of the endangered fish species in the San Juan River, spring peak flows were significantly reduced in magnitude, base flows were increased and stabilized, and late winter flows were increased markedly to provide storage space in the reservoir for the spring runoff. In addition to moderating natural flows, hypolimnetic releases from Navajo Reservoir have decreased mean annual water temperature and diminished temperature fluctuations of the San Juan River downstream to near the confluence of the Animas River.

From Navajo Dam to Lake Powell, flows in the San Juan River are supplemented by inflows from perennial and ephemeral tributary streams, arroyos, and washes. Diversions of flow of the San Juan River and its tributaries are made for industrial, municipal, and agricultural uses. Inflows below Navajo Dam provide the main variation in flow, including spring runoff and thunderstorm peaks.

Fish Fauna

Native Fish Fauna

Ichthyofaunal surveys of the Basin prior to extensive European settlement were very limited. These surveys documented the occurrence of at least eight native fish species (Table 1): cutthroat trout, roundtail chub, Colorado pikeminnow, speckled dace, flannelmouth sucker, bluehead sucker, razorback sucker, and mottled sculpin. Based on two specimens from skeletal remains in Native American middens, bonytail chub may also have inhabited the river. Of these species, Colorado pikeminnow, razorback sucker, and bonytail chub are listed as endangered under the ESA. In addition, New Mexico lists the roundtail chub as endangered; Colorado classifies the flannelmouth sucker, bluehead sucker, and roundtail chub as species of special concern; and Utah lists the roundtail chub and Colorado River cutthroat trout as sensitive species.

Although Colorado pikeminnow was presumed in the Basin prior to 1900, the first confirmed records of occurrence were not until 1936 when three juveniles were captured at Alcove Canyon, Utah. Thereafter, specimens were taken from several locations in Utah, Colorado, and New Mexico. During a three-year study initiated in 1987, 10 adult and 18 young-of-year specimens of Colorado pikeminnow were captured. This effort documented the persistence of the species from about Shiprock, New Mexico, downstream to Lake Powell and successful reproduction in New Mexico and Utah. Subsequently, nine additional specimens of Colorado pikeminnow were captured between Shiprock and Four Corners in 1991 and one was observed about 5 miles upstream of Shiprock.

Razorback sucker were reported ascending the Animas River in the 1890's, but specimen confirmation of its presence in the Basin was not made until 1976 when two adults were found in a floodplain pond near Bluff, Utah. During the 1987-1990 study, razorback sucker adults were collected in the San Juan Arm of Lake Powell and a single male was found near Bluff, Utah.

Occurrence of bonytail in the Basin is uncertain as the record consists only of skeletal remains from Native American middens and two questionable specimens collected prior to 1930. One specimen is a hybrid of roundtail chub and another chub species (possibly bonytail or humpback chub), and the second has not been critically examined.

Table 1. Native Fish Fauna of the San Juan River Basin

Species	Status
Bluehead Sucker	Abundant, generally distributed and typically numerous
Bonytail	Endangered, United States
Colorado Pikeminnow	Endangered, United States
Colorado River Cutthroat Trout	Protected, Colorado
Flannelmouth Sucker	Abundant, generally distributed and typically numerous
Mottled Sculpin	Rare, not generally distributed and never numerous
Razorback Sucker	Endangered, United States
Roundtail Chub	Protected, New Mexico
Speckled Dace	Common, generally distributed but typically not numerous

Among the remaining six native fish species, all persist in the Basin. Cutthroat trout (Colorado River subspecies) survives in several isolated headwater tributaries. Roundtail chub is extremely rare in the San Juan and Animas rivers, but may be more common in other streams (Piedra, Los Pinos, La Plata, and Mancos rivers). Mottled sculpin occurs mainly in the Animas River, but is not common. Speckled dace is generally distributed in the drainage, particularly in upper tributaries, the Animas River, and the San Juan River upstream of Bluff. Flannelmouth and bluehead suckers inhabit most reaches of the San Juan and Animas rivers as well as lower reaches of some tributaries.

Non-native Fish Fauna

Since the late 1800's, at least 40 non-native fish species have been introduced to the Upper Colorado River Basin. In the San Juan River Basin, 23 non-native fish species have been reported (Table 2). Of these, 21 have been documented in the San Juan River since 1987. In warm water reaches of the mainstem San Juan River, common carp and channel catfish were the only common and generally distributed non-native fish species. Rainbow, cutthroat (Snake River subspecies), and brown trout were common in coldwater reaches of the San Juan River (including the Navajo Dam tailwater reach) and its upper tributaries. Red shiner, fathead minnow, and mosquitofish were the most common non-native species found in low-velocity habitats associated with the mainstem San Juan River. Other non-native fish species, such as black bullhead, plains killifish, green sunfish, and largemouth bass, were very rare and probably derived from upstream or downstream or from off-channel impoundments.

Some non-native fish species were introduced by federal, state, and tribal agencies to establish food or recreational fisheries while others became established as a result of bait minnow, fishermen, or accidental releases. In New Mexico and Utah, stocking of non-native warm water species has been discontinued, but non-native salmonids are still stocked in suitable habitats in Colorado and New Mexico (including the Navajo Dam tailwater reach).

Table 2. Non-native Fish Fauna of the San Juan River Basin

Species	Status and Distribution
Black Crappie	Navajo Reservoir, may rarely enter riverine habitats
Black Bullhead	Rare, not generally distributed and never numerous
Bluegill	Rare, not generally distributed and never numerous
Brown Trout	Common, generally distributed and typically not numerous
Channel Catfish	Abundant, generally distributed and typically numerous
Common Carp	Abundant, generally distributed and typically numerous
Snake River Cutthroat Trout	Common, generally distributed and typically not numerous
Fathead Minnow	Common, generally distributed and typically not numerous
Golden Shiner	Navajo Reservoir, may rarely enter riverine habitats
Green Sunfish	Rare, not generally distributed and never numerous
Kokanee Salmon	Navajo Reservoir, may rarely enter riverine habitats
Largemouth Bass	Rare, not generally distributed and never numerous
Mosquitofish	Common, generally distributed and typically not numerous
Northern Pike	Lake Powell and Navajo Reservoir, may rarely enter riverine habitats
Plains Killifish	Rare, not generally distributed and never numerous
Rainbow Trout	Common, generally distributed and typically not numerous
Red Shiner	Common, generally distributed and typically not numerous
Sand Shiner	Rare, not generally distributed and never numerous
Smallmouth Bass	Rare, not generally distributed and never numerous
Striped Bass	Lake Powell, may rarely enter riverine habitats
Threadfin Shad	Lake Powell, may rarely enter riverine habitats
White Crappie	Lake Powell and Navajo Reservoir, may rarely enter riverine habitats
White Sucker	Rare, not generally distributed and never numerous

Water Quality

The water quality of the San Juan River is influenced by both natural and anthropogenic factors. The river exhibits the results of these influences both longitudinally and seasonally as it flows through the habitat occupied by the endangered fish species. Like much of the Western United States, the Basin is considered naturally seleniferous. Data concerning concentrations of selenium in the mainstem of the San Juan River indicate a general increase in concentration levels as distance downstream increases from Archuleta, New Mexico (downstream of Navajo Dam) to Bluff, Utah. While the mean concentration of dissolved selenium is less than 1 µg/L, 41% of the readings are above detection (1 µg/l) at Mexican Hat while there are no samples above detection at Archuleta (1994-2004 monitoring period). The maximum recorded level at Mexican Hat is 4 µg/L.

Tributaries to the San Juan River carry higher concentrations of selenium than are found in the mainstem of the river immediately upstream from their confluence with the San Juan River. Although these levels are diluted by the flow of the San Juan River, the net effect is a gradual increase in concentration of the element in the river as it travels downstream. Increased selenium concentrations may also result from the introduction of ground water to the mainstem of the river along its course.

Irrigated agriculture is known to contribute selenium to the river through three potential avenues: 1) concentration of selenium in the irrigation water by evapotranspiration; 2) selenium pickup from the soils that are irrigated; and, 3) selenium pickup in the shale beds underlying the irrigated areas.

Development of the oil and gas resources in the Basin, as well as other factors such as urban runoff, domestic and industrial sewage effluents, and spillage of petroleum and petroleum products, have contributed to the presence of polycyclic aromatic hydrocarbons in the biota of the San Juan River. Sampling of fish species from the San Juan River in 1990 and 1991 suggested that aquatic organisms are being exposed to high levels of hydrocarbons such as naphthalene, benzo(a)pyrene, and phenanthrene.

Studies funded by the Bureau of Land Management to monitor concentrations of hydrocarbons in the San Juan River since 1991 and studies of fish tissues taken from Colorado pikeminnow and razorback sucker captured in the river during the 1990s as part of the Program's research activities, indicate that selenium and hydrocarbon concentrations in the San Juan River currently may not be a factor in limiting recovery potential for the two species. The individual effect of other environmental contaminants or their synergistic or antagonistic effects in the presence of naturally occurring or introduced elements or compounds have not been the subject of site or species specific investigations, and it is not known whether water quality is a limiting factor for recovery.

Water Development and Depletions

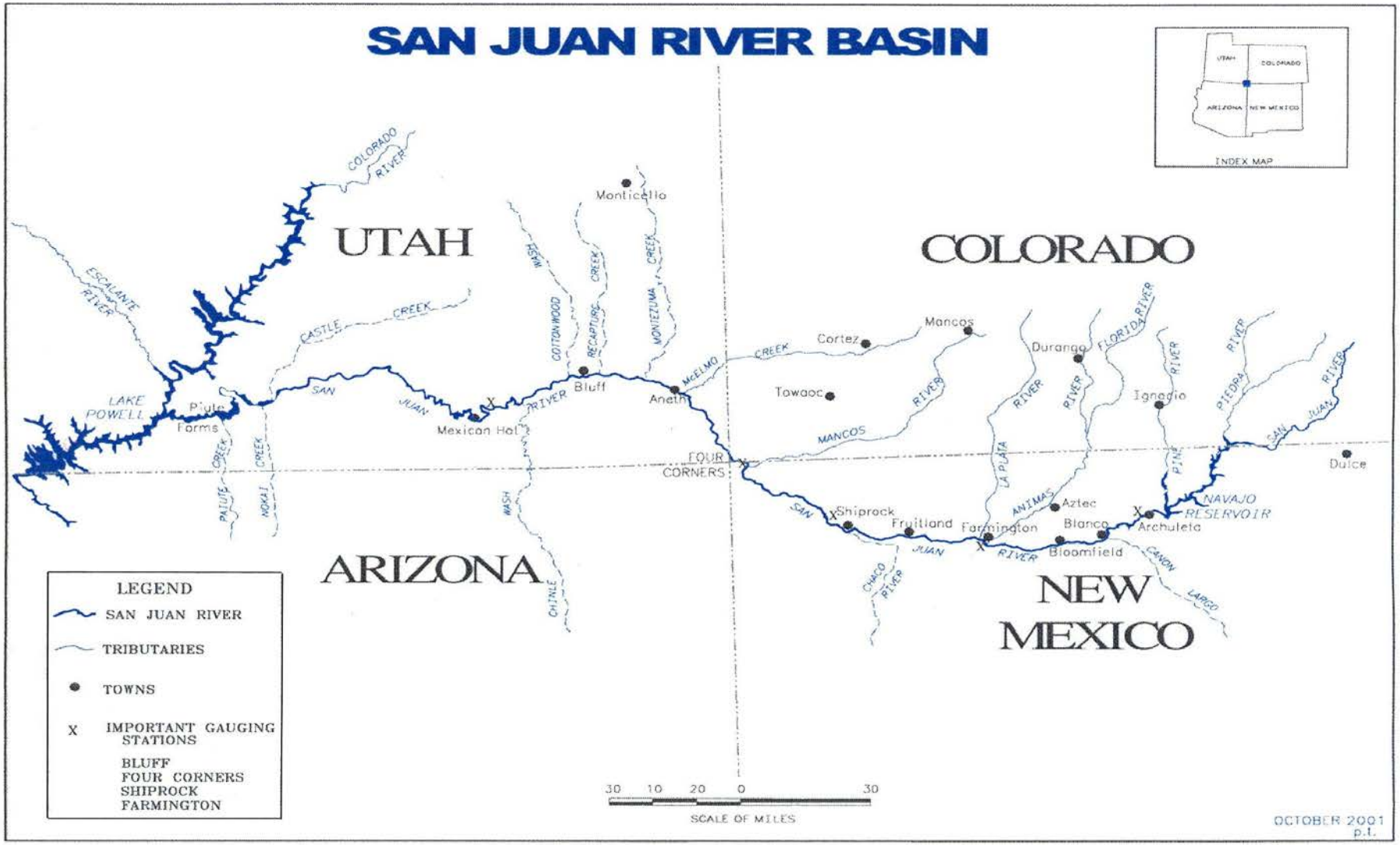
Between Navajo Dam and its confluence with Lake Powell, there are many points of water diversion, including a number of pumps on the San Juan River. Downstream of the dam, water is diverted by the Citizens Ditch, the Hammond Canal, the Farmers Mutual Ditch, the Fruitland Irrigation Canal, the San Juan Generating Station, the Jewett Valley Ditch, the Four Corners Power Plant, the Hogback Canal, and other water users. A portion of the diversion for the Four Corners Power Plant is returned to the San Juan River via Chaco Wash. Additional return flows enter the San Juan River from various irrigation and municipal diversions, the Animas River, the La Plata River, the Mancos River, McElmo Creek, and Montezuma Creek. Irrigation return flow from Dolores River diversions enters the San Juan River via the Mancos River and McElmo Creek, augmenting the natural flows of the San Juan River.

There are seven major diversion structures on the mainstem San Juan River in New Mexico, ranging from soil and boulder dikes to concrete and metal weirs over which the entire river flows. The most upstream of these structures are dikes and levees at the heads of the Citizens Ditch and the Hammond Canal, which are upstream of the confluence with the Animas River. The other diversion structures are located downstream of Farmington, and are the Farmers Mutual Ditch, the Fruitland canal, the San Juan Generating Station diversion, the Four Corners Power Plant pump station, and the Hogback Canal. Water for the Jewett Valley Ditch is diverted approximately 1/2

mile downstream of the San Juan Generating Station weir, and water for the Cudei project has been supplied from the Hogback Canal since 2002.

These diversions, as well as other diversions of water from the San Juan River and its tributaries, may in the future result in an average annual net depletion of San Juan River flows of up to 854,376 acre-feet per year based on the baseline depletions used by the U.S. Fish and Wildlife Service (Service) in the ESA section 7 consultation completed for Navajo Reservoir operations (see the final biological opinion (BO) for Navajo Reservoir operations dated September 30, 2005). The baseline depletions and return flows used in that consultation, and included in the San Juan River Basin Hydrology Model (Hydrology Model) for the consultation purpose of evaluating impacts of reservoir operations on San Juan River flows within the critical habitat reaches, are shown in Appendix B. The depletions for some projects shown in Appendix B are not present depletions, but depletions that could result in the future upon full project development and full authorized use. The modeled baseline depletions have been derived or otherwise incorporated by federal action agencies in previous section 7 consultations on water projects, and are not necessarily concurred with by the Program participants. Inclusion of the depletion quantities in Appendix B in this Program Document shall not be construed as agreement of the Program participants to these quantities. The depletion table in Appendix B is subject to review and modification as new information is developed and the Hydrology Model is refined.

Figure 1. San Juan River Basin



CHAPTER 3: SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM

Impacts to Fish Species

In 1922, representatives of the seven Colorado River Basin States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming signed a compact dividing the consumptive use of water from the Colorado River system between the Upper Basin and the Lower Basin. The compact was ratified by the legislatures of all the states except Arizona, and the President of the United States proclaimed the compact effective in 1929. Arizona later ratified the compact in 1944. In 1948, the Upper Basin States, including Arizona, Colorado, New Mexico, Utah, and Wyoming, signed the Upper Colorado River Basin Compact to apportion among them the consumptive use of water available to the Upper Basin pursuant to the Colorado River Compact. The Colorado River Storage Project Act in 1956 subsequently authorized construction of Glen Canyon Dam and Lake Powell on the Colorado River, Navajo Dam and Reservoir on the San Juan River, Flaming Gorge Dam and Reservoir on the Green River, and the Aspinall Unit on the Gunnison River.

The construction of these impoundments was essential for the development of water storage and flood control and to allow the Upper Basin States to develop their compact apportionments while complying with Article III of the Colorado River Compact. However, physical and biological changes to the environment, such as the modification of the natural flow regime and changes in water temperature and quality resulted from the construction of such large impoundments within the Upper Basin. This contributed to the endangerment of four native fish species of the Colorado River system. Within the San Juan River Basin, two of these species, Colorado pikeminnow and razorback sucker, inhabit the San Juan River. The other two species, bonytail chub and humpback chub, may have occurred historically in the river.

Other human-induced impacts in the San Juan River Basin included the use of selective chemical treatments applied in the San Juan River to eradicate native species and the introduction of non-native sport fish species via stocking. In addition, contamination of waterways in the Basin resulting from oil and gas development, grazing and other watershed land uses, agricultural return flows and urban development, along with attendant contaminants from urban runoff and sewage effluent, has affected the aquatic environments of the San Juan River system. The effects of these and other impacts resulted in extremely low population levels of Colorado pikeminnow and razorback sucker in the San Juan River.

Pre-Program Consultation History

Species Listings

The Colorado pikeminnow and the humpback chub were listed in 1967 as endangered. Since the passage of the ESA, two other species of Colorado River fishes have been listed as endangered. The bonytail was listed in 1980, and razorback sucker was listed in 1991. As required under section 7 of the ESA, federal agencies whose actions may affect listed species must consult with the Service. This is to insure that actions undertaken by a federal agency are not likely to jeopardize the continued existence of listed species.

Critical Habitat Designation

Critical habitat is defined as the areas that provide physical or biological features that are essential for the recovery of a species. Critical habitat was designated for the Colorado pikeminnow and razorback sucker in 1994. Critical habitat designations for both species are within the 100-year floodplain of the species' historical range.

Colorado pikeminnow critical habitat was designated in the following section of the San Juan River Basin (59 FR 13374):

> New Mexico, San Juan County; and Utah, San Juan County. The San Juan River from the State Route 371 Bridge in T. 29 N., R. 13 W., section 17, to the full pool elevation at the mouth of Neskahai Canyon on the San Juan arm of Lake Powell in T. 41 S., R. 11 E., section 26.

Razorback sucker critical habitat was designated in the following section of the San Juan River Basin (59 FR 13374):

> New Mexico, San Juan County; and Utah, San Juan County. The San Juan River from the Hogback Diversion in T. 29 N., R. 16 W., section 9, to the full pool elevation at the mouth of Neskahai Canyon on the San Juan Arm of Lake Powell in T. 41 S., R. 11 E., section 26.

The Service identified water, physical habitat, and the biological environment as primary constituent elements of critical habitat for both Colorado pikeminnow and razorback sucker. This includes a quantity of water of sufficient quality that is delivered to specific habitats in accordance with a hydrologic regime that is required for the particular life stages of the species. The physical habitat includes areas of the Colorado River system that are inhabited or potentially habitable for use in spawning and feeding or as a nursery, or that serve as corridors between these areas. In addition, oxbows, backwaters, and other areas in the 100-year floodplain, which when inundated provide access to spawning, nursery, feeding and rearing habitats, are included. Food supply, predation, and competition are also considered important elements of the biological environment.

Pre-Program Consultations

Since 1977, various federal agencies have initiated actions within the Upper Colorado River Basin that have required consultation with the Service. Many of these consultations were on actions initiated by the Bureau of Reclamation (Reclamation) and the Bureau of Indian Affairs (BIA). Consultations in the late 1970's and early 1980's resulted in no jeopardy BOs.

Since the early 1980's, two major projects have gone through section 7 consultation with the Service. These were the Animas-La Plata Water Development Project (ALP) and Navajo Indian Irrigation Project (NIIP). At the time of these consultations, a small reproducing population of Colorado pikeminnow persisted and a population of razorback sucker was documented in the river. During the section 7 consultation for ALP, the importance of the San Juan River population of endangered fish species was reevaluated and it was recognized that the current and cumulative adverse impacts of water development projects were creating conditions in the San Juan River that jeopardized the continued existence of the species. The impacts discussed in the BOs for

ALP and NIIP primarily focused on water depletions and included an analysis of impacts associated with water development such as water quality degradation, contaminants from irrigation return flows, scouring and sedimentation of the river channel, and water temperature changes. The consultations resulted in RPAs being developed to avoid a jeopardy determination for these projects.

During these consultations, it was recognized that in order to continue development of the waters of the San Juan River and to protect and recover the endangered fish populations within the river, a program or plan was needed whereby all entities with responsibilities for, or substantial stake in, water development or management and endangered species might work cooperatively to meet the needs of the people and conserve resources. The basis for such a program was established in the 1991 BO for ALP.

Development of the San Juan River Basin Recovery Implementation Program

In 1992, the Secretary of the Interior, on behalf of the Service (Regions 2 and 6), Reclamation, and BIA; the Governors of Colorado and New Mexico; and the Southern Ute Indian Tribe, the Ute Mountain Ute Indian Tribe, and the Jicarilla Apache Nation executed a CA to carry out this Program (Appendix A). The CA incorporates the terms, objectives and undertakings of the Program and commits each party to its timely implementation. The CA has been executed under the statutory authority of the ESA and other appropriate state, federal and tribal laws. All entities that have signed the CA are referred to in this Program as the "Signatories."

The Bureau of Land Management became a participant in the Program in October 1993 as a result of a jeopardy BO issued by the Service.

The Navajo Nation did not initially execute the CA. The Navajo Nation, by and through a letter dated October 21, 1996, from its President to the Program Coordinator for the Program, agreed to participate in and commit itself to the timely implementation of the Program. This commitment includes the utilization of the authorities of the Navajo Nation to protect flow releases from Navajo Dam made for the purpose of benefiting endangered fish populations in the San Juan River. The Coordination Committee approved the Navajo Nation’s participation in the Program on November 6, 1996.

In 2006, the Secretary of the Interior, the governors of the states of Colorado and New Mexico, the Navajo Nation, Jicarilla Apache Nation, Southern Ute Indian Tribe and Ute Mountain Ute Indian Tribe signed an extension of the cooperative agreement for the San Juan River Basin Recovery Implementation Program that extends the Recovery Program through 2023.

Trust Responsibilities

The reservations of four federally recognized Indian tribes, the Southern Ute Indian Tribe, the Ute Mountain Ute Tribe, the Navajo Nation, and the Jicarilla Apache Nation, are located within the San Juan River Basin. The four tribes have reserved water rights under federal law, some of which have been quantified, to provide water to the reservations for use as permanent homelands. The Secretary of the Interior has a trust responsibility to protect and maintain the trust water resources of the tribes.

The Department of the Interior (DOI) intends to use its authority to the fullest extent possible to preserve and protect the water resources of the tribes in the Basin. A goal of this Program is to conserve the populations of Colorado pikeminnow and razorback sucker in the Basin while meeting the Department's trust responsibilities to the tribes.

Water Rights

Nothing in the CA or this Program will be construed to affect, or to be a recognition of, the right to use water under any federal or state law or permit, federal contract, treaty or interstate compact, or to affect the right of any party in any adjudication proceeding to determine rights to use water or to contract for water.

Coordination with Other Recovery Efforts

Activities conducted under the Program are closely coordinated with the ongoing Upper Colorado River Endangered Fish Recovery Program (Upper Colorado Program). The Upper Colorado Program was initiated on October 1, 1988, with the objective of recovering endangered Colorado River fishes in the Green River and Upper Colorado River sub-basins above Glen Canyon Dam. The San Juan River sub-basin was not included in that program. Efforts beneficial to the species are also underway in the Lower Colorado River Basin. Coordination with these recovery efforts reduces the overlap and duplication of recovery and research efforts, allows available resources to be focused on pressing needs in the San Juan River sub-basin, and improves the overall effectiveness of the programs.

Major Program Recovery Activities

Recovery is based on the reduction or removal of threats and the improvement of the status of a species during the time it is listed. Management actions and tasks conducted by recovery or conservation programs for listed species are expected to minimize or remove threats and improve the species' status. To delist a species, the Service must determine that the five listing factors described in section 4(a)(1) of the ESA no longer apply (e.g., the habitat is no longer threatened with destruction or modification, the current abundance and range is adequate, and the habitat needed to sustain recovered populations is present).

The Recovery Goals[1] include site-specific management actions and tasks, as well as objective, measurable downlisting and delisting criteria. Downlisting can be considered when site-specific management actions and tasks to minimize or remove threats have been identified, developed, and implemented; delisting can be considered when those management actions and tasks have been finalized and implemented. The Recovery Goals also include objective, measurable

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[1] U.S. Fish and Wildlife Service. 2002. Razorback sucker (Xyrauchen texanus) Recovery Goals: amendment and supplement to the Razorback Sucker Recovery Plan. U.S. Fish and Wildlife Service, Mountain-Prairie Region (6), Denver, Colorado.

U.S. Fish and Wildlife Service. 2002. Colorado pikeminnow (ptychocheilus lucius) Recovery Goals: amendment and supplement to the Colorado Squawfish Recovery Plan. U.S. Fish and Wildlife Service, Mountain-Prairie Region (6), Denver, Colorado.

demographic criteria that describe numbers of populations and individuals (adults and juveniles) required for consideration of downlisting and delisting.

Management, research, and monitoring actions of the Program must be consistent with accomplishing the Recovery Goals for the populations of the two endangered fishes, Colorado pikeminnow and razorback sucker, in the San Juan River sub-basin. The Program operates under recovery elements with imbedded actions that are consistent with the Recovery Goals. Recovery elements of the Program include:

Protection, Management and Augmentation of Habitat - This element identifies important river reaches and habitats for different life stages of the endangered fishes and makes appropriate habitat improvements, including providing flows in the San Juan River and passage around migration barriers so as to provide suitable habitat to support recovered fish populations.

Water Quality Protection and Enhancement – This element identifies and monitors water quality conditions and takes actions to diminish or eliminate identified water quality problems that limit recovery.

Interactions Between Native and Non-native Fish Species - This element identifies problematic non-native fish species and implements actions to reduce negative interactions between the endangered fish species and non-native fish species.

Monitoring and Data Management - This element evaluates the status and trends of endangered fish species, and of other native and non-native species, and measures progress toward achieving the Recovery Goals.

Protection of Genetic Integrity and Management and Augmentation of Populations - This element insures that the Program's augmentation protocols maintain genetically diverse fish species while raising new generations of Colorado pikeminnow and razorback sucker to stock in the river system.

Long Range Plan

The LRP is the Program's research, monitoring, and implementation document. Using the research information provided from past studies and Program evaluation reports, the LRP outlines a multi-year proposal to guide the research and monitoring programs and recovery actions necessary to achieve the Program's goals. The LRP will indicate the logical progression and priority of implementing identified recovery actions within the Basin that are expected to result in recovery of the San Juan River populations of Colorado pikeminnow and razorback sucker and contribute to recovery and delisting of both species. As these actions are completed, they constitute milestones marking progress of the Program toward achieving the goal of recovery of the endangered fish species. The LRP will be used as a basis for scheduling, budgeting and implementing program research, monitoring and capital project and other recovery activities. The LRP is the basis for developing the Annual Work Plan (AWP).

The development of a comprehensive research, monitoring and recovery program was required to address the dual goals of the Program of conserving populations of endangered fish species in the Basin and proceeding with water resource development in the Basin. All of the Program participants recognize that the biological requirements of the endangered fish species and the

management of Basin waters are complex. The LRP proposes a broad range of measures that will enable the Program to: (1) identify and quantify factors which limit the abundance and survival of endangered fishes in the San Juan River; (2) develop strategies to improve the status of the populations of endangered fish species in the river; and (3) provide the means to evaluate the success of such endeavors. For the first ten years of the Program, the Program and the LRP focused on research activities. The focus of the LRP has shifted to monitoring and recovery actions.

Flow Recommendations

In May 1999, the Program's Biology Committee made recommendations as to specific flow regimes within the reaches of critical habitat in the San Juan River that the committee believed would provide for the recovery of the populations of the two endangered fish species in the river. The flow recommendations consisted of: (1) flow statistics for the San Juan River at Four Corners for spring snowmelt period peak flow rates, durations and recurrence intervals to provide for creation and maintenance of spawning and rearing habitats for endangered fish; and (2) target base flows in the San Juan River for the summer, fall and winter months, as measured by a combination of gages at Farmington, Shiprock, Four Corners, and Bluff, to provide low-velocity habitats for rearing endangered fishes. The flow recommendations were adopted by the Program’s Coordination Committee and have been implemented by modifying operations decision criteria for Navajo Dam to provide sufficient releases of water at times, quantities and durations necessary to meet them while maintaining the authorized purposes of the Navajo Unit.

The flow recommendations are not sacrosanct or inviolate, and are subject to change through adaptive management as new information on habitat and biological response to flows is obtained from the Program’s long-term monitoring activities. Also, the flow recommendations may be relaxed during periods of extreme drought, in which insufficient flows are available to fully meet endangered fish flow demands and water user demands, without impairing the survival of existing populations of endangered fish species in the San Juan River. In response to drought in the early 2000s, agreements were made by water users on the San Juan River in 2003-2006 for the administration of diversions from the river and for Navajo Reservoir operations that provided for a sharing of limited water supplies among water users and fish habitat flows in the event of anticipated shortages. These agreements were accepted by Reclamation, the New Mexico State Engineer, and supported by the Service. A similar shortage sharing agreement was developed by San Juan River water users for the time period 2009-2012.

Navajo Dam and Reservoir Operation

The Colorado River Storage Project Act authorized as storage units Lake Powell on the mainstem of the Colorado River, the Aspinall Unit on the Gunnison River, Flaming Gorge Reservoir on the Green River, and Navajo Reservoir on the San Juan River. Reclamation operates and maintains all four dam and reservoir units of the Colorado River Storage Project. Navajo Dam is located on the San Juan River in New Mexico just below the confluence with the Los Pinos River, and the reservoir area lies predominantly within New Mexico with a small portion of the reservoir area lying within Colorado. The operation of Navajo Reservoir is subject to the terms of the Upper Colorado River Basin Compact, the Colorado River Storage Project Act, and the Act of June 13, 1962, authorizing the San Juan-Chama and Navajo Indian Irrigation projects. The authorized purposes of the Colorado River Storage Project are: regulating the flow of the Colorado River;

storing water for beneficial consumptive use; making it possible for the Upper Basin States to utilize, consistent with the provisions of the Colorado River Compact, the apportionments made to and among them in the Colorado River Compact and the Upper Colorado River Basin Compact, respectively; and providing for the reclamation of arid and semiarid land, control of floods, and the generation of hydroelectric power, as an incident of the foregoing purposes.

Construction of the four Colorado River Storage Project units was critical to the development of the water resources of the Upper Basin; however, natural riverine habitats were altered due to the variation of natural flow regimes, water quality, and water temperatures caused by operation of the Colorado River Storage Project units. A reevaluation of Navajo Reservoir operations began when Reclamation requested formal consultation with the Service under section 7 of the ESA in 1991. The catalyst for operational changes and section 7 consultation was the proposed construction of ALP. A draft BO on ALP (May 7, 1990) concluded that construction of the project would jeopardize the continued existence of the Colorado pikeminnow and razorback sucker. During this time, new hydrological investigations suggested that additional flexibility which existed in the operation of Navajo Reservoir could help offset the negative impacts of the operation of ALP. A reduction in late fall and winter releases would allow for water availability to increase spring peaks and return the San Juan River to a more natural hydrograph that would mimic pre-dam historic flow conditions. This flexibility in flow patterns would assist in the development of a reasonable and prudent alternative to the jeopardy BO and allow initial ALP construction efforts to move forward. The reasonable and prudent alternative that was developed, required Navajo Dam operations to mimic a natural hydrograph for the life of the dam. The reasonable and prudent alternative also included Reclamation's commitment to fund approximately seven years of research to determine the flow requirements for the Colorado pikeminnow and razorback sucker. The Program completed the seven-year study in 1997. As a result of the seven-year study, the Program's Biology Committee in 1999 developed quantitative flow recommendations for the San Juan River below the Animas River confluence that mimic a natural hydrograph.

The Biology Committee's May 1999 report on the flow recommendations suggested that, based on the Hydrology Model, the flow recommendations could be met by operating Navajo Dam and Reservoir: (1) with a spring peak release of 5,000 cfs, which is the capacity of both the dam outlet works and the downstream channel, for one to three weeks each spring depending upon the availability of water from reservoir storage and inflows; (2) with a minimum release rate of 250 cfs during the summer, fall and winter months, with higher releases when necessary to bypass inflows for downstream senior water rights or to maintain base flows in the critical habitat reaches of the San Juan River below Farmington at or above the targeted level of 500 cfs to 1,000 cfs; and, (3) with spike releases of excess storage water in Navajo Reservoir during the summer, fall and winter months resulting from storm runoff. Since 1999, Navajo Reservoir has largely been operated to meet the flow recommendations, with reasonable deviations during extreme drought. A BO on operating Navajo Reservoir to meet the flow recommendations or a reasonable alternative was completed September 30, 2005. The related Final Environmental Impact Statement on Navajo Reservoir Operations was completed in April 2006, and the Record of Decision was issued in July 2006.

San Juan River Basin Hydrology Model

The Hydrology Model is used to support Program goals to recover populations of the endangered razorback sucker and Colorado pikeminnow in the San Juan River while proceeding with water development in the Basin. The model is used in ESA section 7 consultations to determine the level of impact, if any, of a proposed water development or water management action on Reclamation's ability to operate Navajo Dam to meet the Program's flow recommendations for the San Juan River below Farmington, or a reasonable alternative. Model results are not the sole criteria used to determine the level of a proposed water project's impact, and model assumptions and model uncertainty are considered when interpreting results. The Hydrology Model was used to evaluate and develop the current flow recommendations, and will be used in developing future revisions to the flow recommendations. In addition, the model will be used to develop and evaluate revisions to the hydrologic baseline. The Hydrology Model currently uses natural flow data based on historic depletions (1929-1993); however, Reclamation is working on a revised version of the model that will, among other things, extend the period of hydrologic record and allow for more regular updates to keep the modeled hydrology up-to-date. Consistent with the provisions of Chapter 6, "Bureau of Reclamation" section, the model may be modified to provide alternative hydrologic conditions, in addition to historic hydrologic conditions, that might be used to evaluate future water availability and risks under different assumptions of future climatic and hydrologic conditions.

The Hydrology Model, like any hydrologic model, has error and uncertainty associated with it. Sources of error include historical data, uncertainty about future inflows or depletions, and error in hydrologic methods selection. The model simulates the flow below Navajo Reservoir under given water uses and hydrologic conditions. Model assumptions and error should be evaluated to determine their net impact on the reliability of the model results. Reclamation is responsible for maintaining and improving the model, and for making model runs at the request of the Service and the Program's Coordination Committee.

Use of the Hydrology Model in the work of the Program does not necessarily constitute agreement or approval by individual program participants with the model data, methodologies, or assumptions. The model data, methodologies and assumptions do not under any circumstances constitute evidence of actual water use, water rights or water availability under compact apportionments and should not be construed as binding on any party. Furthermore, use of the model, model data, methodologies and assumptions does not change the responsibilities of the respective states to maintain records of water rights and water use. Official records of water rights and water use are maintained by the state agencies statutorily charged with that responsibility.

Recommendations to Reclamation and the Service to change the environmental baseline depletions used in ESA section 7 consultations may be made by the Coordination Committee with the understanding that the Service has the authority and responsibility under its regulations for implementing the ESA to make the final decision on any changes to the environmental baseline.

Fish Passages and Fish Screens

There are seven major diversion structures on the mainstem San Juan River in New Mexico, ranging from soil and boulder dikes to concrete and metal weirs over which the entire river flows. The most upstream of these structures are dikes and levees at the heads of the Citizens Ditch and the Hammond Canal, which are upstream of the confluence with the Animas River and are not deemed to pose a problem to fish passage. The other diversion structures are located downstream of Farmington, and are the Farmers Mutual Ditch, the Fruitland canal, the San Juan Generating Station (PNM Weir), the Four Corners Power Plant pump station (APS Weir), and the Hogback Canal. Water for the Jewett Valley Ditch is diverted approximately 1/2 mile downstream of the PNM Weir, and water for the Cudei project has been supplied from the Hogback Canal since 2002 when the Program funded removal of the Cudei diversion dam and installation of a siphon to connect the Cudei project to the Hogback Canal to improve upstream passage for endangered fish species in the river.

In addition to the Cudei diversion, other structures had the potential to impede fish movement, particularly during low flow periods. In 2002, the Hogback diversion dam was reconstructed to provide for improved fish passage as well as improved irrigation diversion control. The Program funded that portion of the Hogback diversion reconstruction assignable to fish passage. The Program also funded the construction in 2003 and operation of a selective fish passage facility at the PNM Weir, located just downstream of Fruitland. The Program provides funding to the Navajo Nation each year to operate the selective fish passage facility. A 2005, Program-funded evaluation of the Fruitland diversion, located just above the confluence of the San Juan and La Plata rivers, and the APS Weir, indicated these structures may also pose an impediment to endangered fish migration. The Program has requested that Reclamation develop appropriate design alternatives for the APS Weir and Fruitland diversion. The Program is also evaluating potential entrainment of endangered fish into the diversion structures located below the confluence of the San Juan and Animas rivers. The Program is funding construction of a fish weir at the Hogback diversion to prevent entrainment of endangered fish.

Non-native Fish Control

Over 40 nonnative fish species now occur in the Upper Colorado River Basin, compared to 14 native fish species. Nonnative fishes can be numerically predominant in riverine fish habitats and communities, and negative interactions with certain warm-water nonnative fish species (particularly sportfishes) have contributed to declines in native fish populations. The 2002 Recovery Goals identified predation or competition by nonnative fish species as a primary threat to the continued existence or the reestablishment of self-sustaining populations of these endangered fishes.

The Recovery Goals require that management actions to address threats posed by nonnative fishes be implemented in two steps: (1) develop management programs to identify the levels of management needed to minimize or remove the threat for selected species in selected river reaches (requirement for downlisting), and (2) implement the identified levels of nonnative fish management (requirement for delisting). Nonnative fish management actions conducted by the Program are consistent with these requirements.

The goals of the Program and its participating partners, with respect to nonnative fish management, are:

1. Nonnative fish management will occur to attain and maintain fish communities where populations of the endangered and other native fish species can persist and thrive, and the Recovery Goals for the endangered fishes can be achieved;
2. Management of nonnative fishes will be conducted as needed. Implementation of an effective nonnative fish management program is an adaptive process. As strategies are developed and implemented, they will be evaluated and revised based on results of research and monitoring;
3. Because nonnative fish species targeted for management may have sportfish value to the angling public, the dual responsibilities of state and federal fish and wildlife agencies to conserve listed and other native species while providing for recreational fishery opportunities will be considered in nonnative fish management strategies developed and implemented by the Program. This consideration will include consultation and approval from the state wildlife agencies prior to implementation of nonnative fish management actions; and,
4. Agency and public understanding of the purpose and scope of nonnative fish management actions by the Program and its participating agencies is critical to the success of the effort. Program partners agree to support and actively participate in public communication and involvement.

The impact of nonnative species on native fish populations is an ongoing concern for the Program. The establishment of nonnative fish populations negatively impacts native fishes through direct competition for habitat and resources or through predation. While many large bodied nonnative fish species occur throughout the San Juan River, the Program's research results show that the most abundant and widespread is the channel catfish. The earliest report of channel catfish in the Basin was 1957, but it is likely the species was present prior to this. Channel catfish occupy all available habitat types on a year-round basis, exhibit localized movement, and the larger individuals prey upon native fish. Channel catfish survive within the San Juan River without substantial exploitation from humans.

The second most abundant large-bodied nonnative fish in the San Juan River is the common carp. The first introductions in New Mexico occurred in 1883 from stock produced by the U.S. Fish Commission. Common carp occupy a wide variety of habitats in the river and constitute a large proportion of the total weight of fish present due to their omnivorous feeding habits. The common carp is often considered a pest species because it alters habitat through increased turbidity, uproots aquatic vegetation, feeds on the eggs of more desirable species and is not considered a favorable food fish in the United States.

In addition to channel catfish and common carp, Program surveys revealed the presence of three lake fish species including threadfin shad, walleye, and striped bass. The source of these fish is believed to be the inundation of the waterfall at river mile 0.0 at Lake Powell, which occurred in the spring of 1995.

Opportunistic removal of nonnative fishes began in 1996 and was formally adopted as a management tool in 1998. The Service's New Mexico Fish and Wildlife Conservation Office (NMFWCO) evaluated numerous capture techniques and determined that raft mounted

electrofishing was the most efficient method to remove large-bodied nonnative fish. Removal efforts by NMFWCO officially began in 1998 with intensified removal of non-native fish via raft electrofishing beginning in the upper and lower portions of the San Juan River in 2001 and 2002, respectively. Efforts originally focused on a 7.6-mile reach of river located near Fruitland, New Mexico, between the Hogback diversion dam and the PNM Weir. Data suggested that large adult channel catfish and common carp were common in this reach and were limited upstream of the PNM Weir. Due to seasonal variance in catch rates of nonnative fishes, efforts were expanded to include an additional 11.1 river miles immediately downsteam from the Hogback diversion dam. Mark/recapture work conducted by NMFWCO documented upstream movement into the study reach by channel catfish and common carp. These movement patterns correspond to the construction of a non-selective fish ladder completed in 2001 at the Hogback diversion dam. The Hogback fish ladder allows for unobstructed movement by all fish species, including non-natives.

To remove nonnative fish from a greater proportion of critical habitat, the nonnative fish removal program began including the reach from Shiprock, New Mexico to Mexican Hat, Utah starting in 2006. Although river-wide capture rates of channel catfish remained relatively constant following the initiation of intensive nonnative removal efforts, catfish appeared to be responding to removal efforts by shifting their distribution into sections of the river that had not experienced the long-term removal effort. In 2008, the nonnative fish removal effort was expanded to include river-wide coverage. Opportunistic removal of nonnative fish river-wide has also occurred during sub-adult and adult fish monitoring trips since 1996.

Stocking of Endangered Fishes

Within the San Juan River Basin, viable wild populations of razorback sucker and Colorado pikeminnow currently do not exist. It is recognized that self-sustaining populations need to be established through augmentation with hatchery-produced fish. The Recovery Plans for both species specifically identify augmenting populations as a necessary course of action for recovery. The following is a summary of the Program's augmentation plans for razorback sucker and Colorado pikeminnow.

Razorback Sucker

A successful experimental stocking program for razorback sucker from 1994 to 1996 led to the initiation of a five-year augmentation effort beginning in 1997. The five-year augmentation plan for the species recommended stocking 73,482 razorback suckers between 1997 and 2001. However, difficulties in obtaining enough razorback sucker stock from outside sources and the lack of hatchery and grow-out facilities owned by the Program created large stocking shortfalls. In order to improve the razorback sucker augmentation effort, the Program in 1997 began to develop a series of grow-out facilities which consisted of nine grow-out ponds on Navajo Agricultural Products Industry (NAPI) lands southwest of Farmington, New Mexico. Additionally, because of the large stocking shortfalls, the Program amended and extended the stocking program through 2011. However, although the extended stocking program called for stocking 11,400 age-2 razorback suckers (> 300 mm TL) per year beginning in 2004, only a total of 2,989 razorbacks were stocked in that year. Causes for the shortfall from the NAPI grow-out ponds were numerous, including lower than expected production rates, predation by birds and salamanders, and unexpected large fish kills. The Program in 2005 funded the installation of

aerators in the NAPI grow-out ponds to eliminate fish kills resulting from low dissolved oxygen levels and the operation of noise cannons at the ponds to deter birds from the sites.

Because of the shortfall issues encountered at the NAPI grow-out ponds, the Program diversified its razorback production strategy in 2006 by acquiring hatchery-reared razorback sucker (> 300 mm TL) from Uvalde National Fish Hatchery (NFH) in addition to those raised at the NAPI ponds for stocking into the San Juan River. Pursuant to the Program's current stocking plan and genetics management plan for razorback sucker, the objectives for razorback sucker augmentation include:

1. producing and rearing genetically-appropriate lots of razorback sucker at the Dexter NFH and bi-annually stocking 25,000 larvae and 18,000 fingerlings into grow-out ponds at Uvalde NFH and NAPI ponds, respectively;

2. annually harvesting, PIT tagging, and stocking approximately 11,400 razorback sucker > 300 mm TL into the San Juan River from grow-out ponds at Uvalde NFH; and,

3. annually harvesting, PIT tagging, and stocking razorback sucker from three grow-out ponds at NAPI to supplement the 11,400 razorback sucker provided to the Program by Uvalde NFH.

Colorado Pikeminnow

In 2003, the Program finalized an augmentation plan for Colorado pikeminnow in the San Juan River. The augmentation plan called for annually stocking >300,000 age-0 Colorado pikeminnow into the San Juan River for seven years (2003-2009) in order to facilitate establishing a population of >800 adult Colorado pikeminnow in the river between the Animas River confluence and Lake Powell (i.e., within the riverine portion of Colorado pikeminnow critical habitat in the San Juan River). The first stocking occurred in October 2002 while the augmentation plan was still in draft form. At that time, the draft augmentation plan called for 250,000 age-0 fish to be stocked annually (this number was increased to >300,000 age-0 fish in the final version of the plan). In the summer of 2002, a contract was established with the Dexter NFH to provide >300,000 age-0 Colorado pikeminnow for stocking throughout the duration of this augmentation effort. Between 2002 and 2004, a total of 666,346 age-0 Colorado pikeminnow from the Dexter NFH were stocked into the San Juan River. The augmentation plan called for 850,000 age-0 fish to be stocked over this same time period. This represented a shortfall of 183,654 in the number of fish stocked over the three-year period. In addition to stocking age-0 fish between 2002 and 2004, the Program obtained two lots of age-1 and age-2 Colorado pikeminnow from the J. W. Mumma Native Species Hatchery (Mumma) in Alamosa, Colorado. From these lots, 1,005 age-1 fish (2002 year-class) were stocked into the San Juan River on November 6, 2003, and 1,219 age-2 fish (2002 year-class) were stocked into the river on June 9, 2004. While the recapture rate among Mumma fish stocked in 2003 (i.e., age-1) is low, the short-term recapture rate among Mumma fish stocked in 2004 (i.e., age-2) was relatively high.

In 2006, the stocking plan was modified to include 3,000 age-1+ pikeminnow in addition to the 300,000 age-0 fish stocked annually. New information at that time indicated increased survivorship of stocked fish in the river with increased size at stocking. From 2005 to 2009, the Program met or exceeded the total stocking goal. The Phase II razorback stocking plan for the time period 2010-2020 will shift all augmentation efforts to production and stocking of age-0

Colorado pikeminnow. Cost/benefit analyses using San Juan River capture-recapture data shows no long-term survival advantage to rearing and stocking larger pikeminnow. With full utilization of available rearing space, production forecasts suggest ≥400,000 age-0 Colorado pikeminnow can be produced annually. Pursuant to the Program's stocking plan and genetics management plan for Colorado pikeminnow, the objectives for Colorado pikeminnow augmentation include:

1. producing and rearing genetically-appropriate lots of Colorado pikeminnow at the Dexter NFH; and

2. annually stocking ≥400,000 age–0 Colorado pikeminnow in the San Juan River.

Research and Monitoring

Standardized, quantitative monitoring of San Juan River endangered fish species populations is necessary to document the Program's progress toward achieving the Recovery Goals for the San Juan River populations of Colorado pikeminnow and razorback sucker set by the Service in 2002, and to evaluate the management actions taken by the Program to reach these Recovery Goals under the policy of adaptive management. To the extent possible, habitat monitoring should be closely coordinated and integrated with population monitoring to allow assessment of changing habitat availability and fish use in response to management actions and population recovery. Program research must be in support of recovery actions, be based on scientifically-sound and testable hypotheses, and be directly relevant to the Recovery Goals.

Objectives for the Program's monitoring activities include:

1. making population estimates for razorback sucker to assess progress toward recovery, survival of different life stages, response to recovery actions, additional stocking needs, and possible hybridization with other sucker species;

2. making population estimates for Colorado pikeminnow to assess progress toward recovery, survival of different life stages, response to recovery actions, and additional stocking needs;

3. evaluating the relative abundance of native fish species and nonnative fish species to assess response to recovery actions and enhanced endangered fish populations;

4. periodically evaluating potential limiting factors, augmentation plans and recovery goals;

5. determining important razorback sucker and Colorado pikeminnow habitats and limiting factors for each life stage; and,

6. determining the availability, creation and maintenance of important habitats in relation to the streamflow regime and adaptively managing the flow recommendations based upon these findings.

CHAPTER 4: RECOVERY OBJECTIVES

The recovery objectives for the razorback sucker and the Colorado pikeminnow are downlisting, followed by delisting of the species under the ESA. Recovery goals have been developed for the razorback sucker and the Colorado pikeminnow by recovery teams, which are advisory teams of experts established under section 4 of the ESA. The Recovery Goals for both species are published in the species Recovery Plans that were approved by the Service in 2002, and include target sizes for populations of each species in the San Juan River. The Recovery Goals provide specific management actions, measurable downlisting and delisting criteria, and estimates of the time required to achieve recovery of each of the endangered fish species. A status review for both species is conducted at least once every five years.

The Program seeks to determine and implement recovery actions to meet the Recovery Goals stated for the San Juan River populations of Colorado pikeminnow and razorback sucker. Although considerable research and planning are required to maximize the effectiveness of the Program's recovery actions, the Program participants recognize that action is required. Management actions and capital projects need to be implemented expeditiously to improve the habitat for and status of the populations of endangered fish species in the San Juan River and to allow water development in the Basin to proceed in compliance with federal and state laws.

The Recovery Goals and criteria are summarized below for each species. The Recovery Goals and criteria are based on the best available commercial and scientific information and are structured to attain a balance between reasonably achievable criteria and ensuring the viability of the species beyond delisting. The recovery criteria may need to be reevaluated and revised after self-sustaining populations are established and there is an improved understanding of the biology of the species.

The specific management actions and downlisting and delisting criteria that apply to the razorback sucker and Colorado pikeminnow throughout the Colorado River system are described in the Recovery Plans for each species. The Recovery Plans are available for viewing and downloading at http://www.r6.fws.gov/crrip/rg.htm.

Conservation Plans

Conservation plans for razorback sucker and Colorado pikeminnow will go into effect at delisting to provide for long-term management and protection of the species, and to provide reasonable assurances that recovered species populations will be maintained without the need for relisting. Elements of the conservation plans could include: provision of flows for maintenance of habitat conditions required for all life stages of the species; regulation and/or control of nonnative fishes; minimization of the risks of spills of hazardous materials; and monitoring of populations and habitats. In order for delisting of a species to occur, state agencies, federal agencies, Indian tribes, and possibly other parties may need to sign agreements to provide for implementation of a conservation plan for that species.

Razorback Sucker Recovery Goals and Criteria

Objective, measurable criteria for recovery of razorback sucker in the Colorado River Basin were developed for each of two recovery units, which are the Upper Basin and the Lower Basin.[2] Recovery of the species is considered necessary in both the upper and lower basins. Without viable wild populations, self-sustaining populations will need to be established through augmentation with hatchery-produced fish.

Downlisting

Downlisting can occur if, over a five-year period:

1. genetically and demographically viable, self-sustaining populations are maintained in the Green River subbasin and EITHER in the Upper Colorado River subbasin or the San Juan River subbasin such that: (a) the trend in adult (age 4+;>400mm TL) point estimates for each of the two populations does not decline significantly; (b) the mean estimated recruitment of age-3 (300-399 mm TL) naturally produced fish equals or exceeds mean annual adult mortality for each of the two populations; and (c) each point estimate for each of the two populations exceeds 5,800 adults (5,800 is the estimated minimum viable population [MVP] needed to ensure long-term genetic and demographic viability);

2. a genetic refuge is maintained in Lake Mojave in the lower basin recovery unit;

3. two genetically and demographically viable, self-sustaining populations are maintained in the lower basin recovery unit (e.g., Colorado River mainstream and/or tributaries) such that: (a) the trend in adult point estimates for each population does not decline significantly; (b) mean estimated recruitment of age-3 naturally produced fish equals or exceeds mean annual adult mortality for each population; and (c) each point estimate for each population exceeds 5,800 adults; and,

4. certain site-specific management tasks to minimize or remove threats have been identified, developed and implemented.

Delisting

Delisting can occur if, over a three-year period beyond downlisting:

1. genetically and demographically viable, self-sustaining populations are maintained in the Green River subbasin and EITHER in the Upper Colorado River subbasin or the San Juan River subbasin such that: (a) the trend in adult point estimates for each of the two populations does not decline significantly; (b) mean estimated recruitment of age-3 naturally produced fish equals or exceeds mean annual adult mortality for each of the two

[2] The Upper Basin includes the Green River, Upper Colorado River, and San Juan River subbasins, and the Lower Basin includes the Colorado River mainstem and its tributaries from Glen Canyon Dam downstream to the southerly International Boundary with Mexico.

populations; and (c) each point estimate for each of the two populations exceeds 5,800 adults;

2. a genetic refuge is maintained in Lake Mojave;

3. two genetically and demographically viable, self-sustaining populations are maintained in the lower basin recovery unit such that: (a) the trend in adult point estimates for each population does not decline significantly; (b) mean estimated recruitment of age-3 naturally produced fish equals or exceeds mean annual adult mortality for each population; and (c) each point estimate for each population exceeds 5,800 adults; and,

4. certain site-specific management tasks to minimize or remove threats have been finalized and implemented, and necessary levels of protection are attained.

Summary of Management Actions Needed in the San Juan River Basin

The Recovery Plan for razorback sucker lists the following management actions applicable to recovering and conserving the San Juan River Basin population:

1. reestablish the San Juan River population with hatchery-produced fish;

2. provide habitat in the San Juan River, including flow regimes necessary to restore and maintain needed environmental conditions, necessary to provide adequate habitat and sufficient range for all life stages to support a recovered population of razorback sucker in the river;

3. provide passage over, around or through fish migration and movement barriers within occupied habitat to allow unimpeded movement and, potentially, range expansion;

4. minimize entrainment of sub-adults and adults at diversion structures, including ditch headings and pumping stations;

5. provide for adequate protection against over–utilization;

6. provide for adequate protection against diseases and parasites;

7. regulate non-native fish introduction, stocking and escapement into the San Juan River and its floodplains and tributaries;

8. control invasive, detrimental non-native fishes as needed;

9. minimize the risks of spills of hazardous materials within critical habitat;

10. remediate water quality problems, if any;

11. minimize the threat of hybridization with white sucker; and,

12. provide for the long-term management and protection of the population and its habitat beyond delisting (i.e., develop and implement a conservation plan for the population).

Estimated Time to Achieve Recovery

Time to achieve recovery of the razorback sucker cannot be accurately estimated until self-sustaining populations are established through augmentation and habitat enhancement. Extant populations of razorback sucker are small with little or no recruitment. Therefore, the use of hatchery fish (progeny of cultured brood stock) will be necessary to establish new populations or augment existing populations. The rate at which populations become established will depend on survival of stocked fish in the wild, integration of stocked fish with wild stocks, reproductive success, and recruitment. Response of the species to ongoing management activities will need to be assessed through monitoring leading to the development of strategies for recovery. Estimates of time to achieve recovery will be reevaluated periodically. Based on current information and associated uncertainties, it is estimated that a self-sustaining population of razorback sucker may be established in the San Juan River within fifteen years. During this time, population dynamics and responses to management actions will be evaluated.

For razorback sucker populations to be self-sustaining, reproduction and recruitment must occur at a rate to maintain at a minimum a population of 5,800 adults. When this occurs, the definition of a "self-sustaining" population is met, and the "clock" starts on the downlisting and delisting process.

Once a self-sustaining population is established, reliable population estimates, based on a multiple mark-recapture model, are needed over a five-year monitoring period for downlisting and over a three-year monitoring period beyond downlisting in order to achieve delisting. The Service will assess the accuracy and precision of each point estimate in cooperation with the respective recovery or conservation programs and in consultation with investigators conducting the point estimates and qualified statisticians and population ecologists. The first reliable point estimates are expected by 2015. If those estimates are acceptable to the Service and all recovery criteria are met, including establishment of a self-sustaining population, downlisting could be proposed in 2020 and delisting could be proposed in 2023.

Colorado Pikeminnow Recovery Goals and Criteria

Objective, measurable criteria for recovery of Colorado pikeminnow in the Colorado River Basin were developed for the Upper Colorado River Basin (including the Green River, Upper Colorado River, and San Juan River subbasins). Recovery of the species is considered necessary only in the Upper Basin because of the status of populations and because information on Colorado pikeminnow biology support application of the metapopulation concept to extant populations. The need for self-sustaining populations in the Lower Basin and associated site-specific management actions and tasks necessary to minimize or remove threats will be reevaluated at the status review of the species.

Downlisting

Downlisting can occur if, over a five-year period, the upper basin metapopulation is maintained such that:

1. a genetically and demographically viable, self-sustaining population is maintained in the Green River subbasin such that: (a) the trends in separate adult (age 7+; >450 mm TL)

point estimates for the middle Green River and the lower Green River do not decline significantly; (b) the mean estimated recruitment of age-6 (400-449 mm TL) naturally produced fish equals or exceeds mean annual adult mortality for the Green River subbasin; and (c) each population point estimate for the Green River subbasin exceeds 2,600 adults (2,600 is the estimated minimum viable population [MVP] needed to ensure long-term genetic and demographic viability);

2. a self-sustaining population of at least 700 adults (number based on inferences about carrying capacity) is maintained in the Upper Colorado River subbasin such that: (a) the trend in adult point estimates does not decline significantly; and (b) the mean estimated recruitment of age-6 naturally produced fish equals or exceeds mean annual adult mortality;

3. a target number of 1,000 age-5+ fish (>300 mm TL; number based on estimated survival of stocked fish and inferences about carrying capacity) is established through augmentation and/or natural reproduction in the San Juan River subbasin; and,

4. certain site-specific management tasks to minimize or remove threats have been identified, developed and implemented.

Delisting

Delisting can occur if, over a seven-year period beyond downlisting, the upper basin metapopulation is maintained such that:

1. a genetically and demographically viable, self-sustaining population is maintained in the Green River subbasin such that: (a) the trends in separate adult point estimates for the middle Green River and the lower Green River do not decline significantly; (b) the mean estimated recruitment of age-6 naturally produced fish equals or exceeds mean annual adult mortality for the Green River subbasin; and (c) each population point estimate for the Green River subbasin exceeds 2,600 adults;

2. either the Upper Colorado River subbasin self-sustaining population exceeds 1,000 adults OR the Upper Colorado River subbasin self-sustaining population exceeds 700 adults and San Juan River subbasin population is self-sustaining and exceeds 800 adults (numbers based on inferences about carrying capacity) such that for each population: (a) the trend in adult point estimates does not decline significantly; and (b) the mean estimated recruitment of age-6 naturally produced fish equals or exceeds mean annual adult mortality; and,

3. certain site-specific management tasks to minimize or remove threats have been finalized and implemented, and necessary levels of protection are attained.

Summary of Management Actions Needed in the San Juan River Basin

The Recovery Plan for Colorado pikeminnow lists the following management actions applicable to recovering and conserving the San Juan River Basin population:

1. provide habitat in the San Juan River, including flow regimes necessary to restore and maintain needed environmental conditions, necessary to provide adequate habitat and sufficient range for all life stages to support a recovered population of Colorado pikeminnow in the river;

2. provide passage over, around or through fish migration and movement barriers within occupied habitat to allow adequate movement and, potentially, range expansion;

3. minimize entrainment of sub-adults and adults at diversion structures, including canal headings and pumping stations;

4. provide for adequate protection against over-utilization;

5. provide for adequate protection against diseases and parasites;

6. regulate non-native fish introduction, stocking and escapement into the river and its floodplain and tributaries;

7. control problematic non-native fishes;

8. minimize the risks of spills of hazardous materials within critical habitat;

9. remediate water quality problems, if any; and,

10. provide for the long-term management and protection of the population and its habitat beyond delisting (i.e., develop and implement a conservation plan for the population).

Estimated Time to Achieve Recovery

Reliable population estimates, based on a multiple mark-recapture model, are needed for all populations over a five-year monitoring period for downlisting and over a seven-year period beyond downlisting in order to achieve delisting. The Service will assess the accuracy and precision of each point estimate in cooperation with the respective recovery or conservation programs and in consultation with investigators conducting the point estimates and qualified statisticians and population ecologists. The first point estimates were completed for all populations in 2001. The Service is reviewing those estimates for reliability, and if the Service accepts them and all recovery criteria are met, downlisting could be proposed as early as 2013 and delisting could be proposed as early as 2021. This estimated time frame is based on current understanding of the status and trends of populations and on the monitoring required meeting the downlisting and delisting criteria.

CHAPTER 5: PRINCIPLES FOR CONDUCTING ENDANGERED SPECIES ACT SECTION 7 CONSULTATIONS

The Program is intended to provide measures for compliance with the ESA for water development and water management activities in the San Juan River Basin. The Coordination Committee in 2001 adopted the *Principles for Conducting Endangered Species Act section 7 Consultations on Water Development and Water Management Activities Affecting Endangered Fish in the San Juan River Basin* (Principles). The Principles are provided in Appendix C, and constitute a guide to define how Program actions will be used to provide ESA compliance for water development and water management activities. The Principles were reviewed by the Service and found to be consistent with the ESA and its implementing regulations (50 CFR Part 402).

Modification of Principles

Experience may dictate a need to modify the Principles in the future. The Principles may be modified or amended by vote of the Coordination Committee, pursuant to normal Program voting procedures. However, modifications to the Principles will be subject to review by the Service to assure continued compliance with the ESA and applicable regulations in conducting section 7 consultations on water development and water management activities in the San Juan River Basin. Should the Service find that proposed modifications to the Principles are inconsistent with the ESA or applicable regulations or policies, the Service will notify the Coordination Committee in writing with recommendations for bringing the Principles into compliance with the ESA.

CHAPTER 6: PROCEDURES AND ORGANIZATION

Participation in the Program

The Program is a cooperative effort of the following participating entities:

U.S. Bureau of Reclamation (Upper Colorado Region)

U.S. Bureau of Land Management

U.S. Bureau of Indian Affairs

U.S. Fish and Wildlife Service (Regions 2 and 6)

State of Colorado

State of New Mexico

Navajo Nation

Southern Ute Indian Tribe

Ute Mountain Ute Indian Tribe

Jicarilla Apache Nation

Water Development Interests (local governments and non-federal water users)

Conservation Interests

Participation in the Program does not in any way diminish, detract from, or add to the Secretary's ultimate responsibility for administering the ESA, nor is it intended to affect the authorities and responsibilities of the states and the tribes to manage and administer their water and fish and wildlife resources. The parties must make independent judgments to determine whether they will carry out the determinations of the Program.

Participation in the Program is voluntary. Each participant will assess whether Program goals are being achieved. If any participant decides not to continue, that participant will submit its reason(s) to the Coordination Committee in writing. The Coordination Committee will be given sufficient time to resolve any problem(s). If participation in this Program is essential to implementing a RPA to avoid jeopardy to the endangered fish species, a participant's withdrawal may result in reinitiation of consultation under section 7 of the ESA. Participation by additional entities, and the terms of such participation, in this Program are subject to unanimous approval by the Coordination Committee.

The State of Utah has not joined the Program. If Utah decides to participate by signing the CA, a vote of the Coordination Committee will not be required. All participants of the Program agree to conduct the Program according to the terms of the Program Document.

A Coordination Committee and a Biology Committee are currently responsible for carrying out the work of this Program. The Coordination Committee is the only committee with decision-making authority for the Program. The Biology Committee is a technical committee whose role is to provide technical support to the Coordination Committee, Reclamation, and the Service. The Coordination Committee may establish additional technical committees if needed to carry out the work of the Program.[3] The Coordination Committee has defined the role of the Biology Committee to ensure transparency in the decision-making process leading up to the awarding of funding contracts and agreements. The intent is to ensure that individuals serving on a technical committee of the Program who may also directly or indirectly benefit financially by the awarding of funding, contracts, and/or agreements are not involved in any vote or approval regarding the LRP, project prioritization, scopes of work (SOWs), AWPs, and budgets. No member of a technical committee of the Program may be a member of the Coordination Committee.

The DOI established a policy entitled "Integrity of Scientific and Scholarly Activities" (Jan. 28, 2011) to ensure and maintain scientific and scholarly ethical standards in Departmental decision-making http://elips.doi.gov/elips/0/doc/3045/Page1.aspx). The policy applies to all DOI employees and all contractors, cooperators, partners, permittees, and volunteers who assist with developing or applying the results of scientific and scholarly activities. The Program operates in accordance with this policy, including future updates of this policy.

The composition and functions of each committee, the Service, and Reclamation are discussed below. Any member of the public may attend open meetings of the committees and present his or her concerns or recommendations for consideration by the Program participants. With the exception of the Service, participants in the Program will have the right to one representative on each Program committee. The Service is represented by Region 2 and Region 6, which will be represented by one person from each region on each committee who will share one vote. Committee members are responsible for coordinating with the parties that they represent.

Department of the Interior Responsibilities

There are two DOI agencies with primary responsibilities for the Program, Reclamation and the Service. In 1991, a RPA for ALP was agreed on. Reclamation is ultimately responsible for the implementation of the RPA. The DOI, through the Service, is responsible for ESA compliance and administration of cooperative programs such as the recovery program on the San Juan River to ensure accomplishment of recovery actions.

The DOI entered into a Memorandum of Understanding with the Signatories to the Program in 1991 to implement the RPA and to establish the foundation for a long-term program to recover the endangered fish species of the San Juan River. A CA, signed in 1992 and extended through 2023, established the Program. As specified in the CA, the authorities and responsibilities for the DOI are section 2 (c) (2), section 4 (f), and section 7 of the ESA and sections 1 and 2 of the Fish and Wildlife Coordination Act.

[3] A Navajo Dam Operating Committee and a Hydrology Committee operated in past years to assist in carrying out this Program by performing particular responsibilities as needed. Standing technical committees are no longer needed to address the responsibilities originally charged to the Navajo Dam and Hydrology committees.

U.S. Fish and Wildlife Service

The Service is responsible for coordinating the Program. To accomplish this responsibility, the Service will appoint a Program Coordinator for the Program. The Program Coordinator is responsible for overall Program coordination and the dissemination of information about Program activities. Specific responsibilities[4] include the following:

1. coordinating the activities of the Coordination Committee and the Program's technical committees, including providing notices, agendas, information packets, and providing draft and final summaries for committee and subcommittee meetings and conference calls as per the committee meeting procedures described in this document;

2. preparing and updating the LRP with research, monitoring, and recovery elements and goals;

3. ensuring consistency of the LRP with Service-approved species Recovery Plans;

4. prioritizing projects based on the LRP, and preparing AWPs, annual budgets, and annual progress reports;

5. ensuring the approved recovery activities as defined in the LRP and species Recovery Plans are implemented;

6. evaluating project accomplishments and shortcomings and providing an annual report to the Program;

7. monitoring implementation of all Program actions, including those Program actions identified as RPAs and RPMs in BOs, and reporting results to the Service on an annual basis;

8. developing an annual integration report that assesses the preceding year's monitoring data, progress toward recovery, and adaptive management recommendations, including recommendations for changes in direction, termination of projects, new projects, or other pertinent recommendations;

9. coordinating and overseeing development of any revisions to the Program's flow recommendations;

10. maintaining records showing the distribution and expenditures of all annual base and capital funds expended under AWPs by each funding source, and providing to the Coordination Committee at the end of each federal fiscal year an accounting of funds expended during the preceding year;

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[4] Some of these responsibilities are carried out with the assistance from the committees as more specifically defined in the sections entitled "Biology Committee," "Long Range Plan Development and Annual Revision Process," and "Annual Work Plan Development Process."

11. reporting to the Coordination Committee at each of its meetings the status of Program activities, the accomplishment of milestones or delays in meeting milestones, and any problems with maintaining Program work schedules along with recommendations for solving the problems;

12. disseminating information to state, federal, and tribal agencies;

13. ensuring that appropriate collecting permits are provided to each principal investigator;

14. advising Program participants of requests for initiation of consultation;

15. maintaining a list of interested parties as described in the committee meeting procedures provided in this document;

16. managing and maintaining the Program's data, central database, library, website, and listserves;

17. coordinating activities among the Program, the Upper Colorado Program, and the Colorado River Fishes Recovery Team, including participating in the five-year status review and in the updating of recovery goals for Colorado pikeminnow and razorback sucker;

18. implementing Coordination Committee recommendations to resolve problems or issues that may arise with regard to accomplishing Program activities;

19. providing materials and technical support to the non-federal participants for briefings with the members and committees of the U.S. Congress and state legislatures;

20. reviewing BOs for consistency with the Program's Principles;

21. preparing on a biennial basis a written "Sufficient Progress" assessment of the Program's progress towards recovery, the Program's ability to provide ESA compliance for water development and management activities, and any corrective actions needed to ensure future ESA compliance, in accordance with the Program's Principles;

22. working with Reclamation and other Program participants to improve, maintain, and utilize the Hydrology Model; and,

23. implementing other activities needed to ensure the success of the Program as assigned by the Service or by the Coordination Committee.

Bureau of Reclamation

Reclamation, as the action agency for ALP and Navajo Dam operations, is responsible for insuring the RPMs, terms and conditions, and RPAs in the BOs for the projects are implemented. This includes a commitment to develop and implement a recovery implementation program for the San Juan River. Specific responsibilities include the following:

1. working with the Program Coordinator to oversee the implementation of AWPs and budgets, review project SOWs, manage peer review procedures, manage Program funds, and implement capital projects;

2. working with the Program Coordinator to maintain records showing the distribution and expenditures of all annual base and capital funds expended under AWPs by each funding source, and providing to the Coordination Committee at the end of each federal fiscal year an accounting of funds expended during the preceding year;

3. maintaining and improving the Hydrology Model for use in developing and evaluating the flow recommendations and the hydrologic impacts of proposed water development and management activities on the ability to maintain flows in accordance with the flow recommendations[5];

4. generating and analyzing model runs associated with section 7 consultations or special requests from action agencies or the Coordination Committee;

5. maintaining model documentation to ensure that all assumptions and model operating procedures are fully documented and up-to-date;

6. conducting an annual hydrology meeting of Program participants and/or their designees to review and solicit input on accomplishments and activities relating to the model for the previous year, status of the model, and proposed activities for the coming year; and providing a report on the meeting to the Coordination Committee for their review and approval;

7. managing and operating Reclamation's San Juan River reservoirs in accordance with applicable federal and state laws, contracts, and agreements to meet the diversion requirements of water right holders and to provide flows, including Navajo Reservoir releases from reservoir storage to benefit endangered fish species in the San Juan River in accordance with BOs;

8. developing annual operating plans for Navajo Reservoir in cooperation with the Service;

9. reporting annually to the Coordination Committee on the implementation of the flow recommendations;

10. collecting, managing, and reviewing hydrologic data as appropriate for recovery program purposes; and

11. providing technical advice and input on channel morphology, hydrogeology, and geomorphic data.

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[5] It is understood that the Bureau of Reclamation is not the sole arbiter of issues and disagreement related to data input, development, operation, results or interpretation of the San Juan River Basin Hydrology Model. Resolution of these issues and disagreement will be referred to the Coordination Committee.

Reclamation will submit an annual SOW for tasks associated with maintenance, improvements and changes for the Hydrology Model during the AWP process. The SOW will include enough detail for a technical evaluation of the proposed work. The SOW will be evaluated through the AWP process.

Program Committees

Coordination Committee

The purpose of the Coordination Committee is to ensure the goals of the Program are achieved in a timely manner. The Coordination Committee is responsible for the establishment of Program policies, direction, procedures, and organization. The Coordination Committee will approve AWPs and budgets, perform conflict resolution and all other Program management responsibilities not specified herein. The Coordination Committee is the principal point of contact for all requests to the Program.

Participants in the Program will have the right to one voting representative on the Coordination Committee. The Service's Region 2 Regional Director or designee will chair the Coordination Committee. On all issues except Program participation, the Committee will function by two-thirds vote of the committee membership. A quorum is two-thirds of the appointed committee membership. Unresolved issues will be referred for resolution to the Signatories of the CA and to the appropriate authorities in the case of participants added to the Program without signing the CA. Under this Program, all participants will work cooperatively to ensure the successful implementation of the recovery actions. If, however, any participant is unable to support the Program or components of it, or finds the recommendations of the Coordination Committee not justified, they will report their position to the Coordination Committee in writing. The Coordination Committee will be given sufficient time to resolve any problems.

Although the Secretary of the Interior, through the Service, is responsible for administering the ESA, each federal agency is bound by the requirements of the Act. Additionally, as evident by the execution of the CA and this Program, each Program participant is committed to the conservation and recovery of the San Juan River Basin populations of Colorado pikeminnow and razorback sucker. In order to provide the organizational focus to facilitate cooperative efforts, the Service will direct its efforts to assuring the full and cooperative consideration of all agency views, responsibilities, and constraints in the analysis of project impacts and recovery potential.

Biology Committee

The Biology Committee reports to the Coordination Committee. The Biology Committee provides review and evaluation of biologically-related information to the Program. The Biology Committee provides technical advice to the Program Coordinator and the Coordination Committee regarding the technical aspects of the Program. Responsibilities of the Biology Committee as related to the biological elements of the Program include:

1. assessing the biological needs of the endangered fish species and identifying activities in support of recovery elements;

2. providing technical evaluations, comments, and recommendations regarding Program recovery activities, project SOWs, AWPs, and the LRP to the Program Coordinator;

3. identifying and reviewing recovery activities, including monitoring, and making recommendations to the Program Coordinator;

4. identifying, evaluating, and recommending potential recovery actions consistent with species Recovery Plans to the Program Coordinator;

5. providing technical assistance to the Program Coordinator for data integration and review of draft results of data integration;

6. reviewing the LRP and providing comments and recommendations to the Program Coordinator;

7. reviewing and commenting on the Program Coordinator's recommended annual list of prioritized projects, based on the LRP, for the development of AWPs;

8. reviewing AWPs and providing comments and recommendations to the Program Coordinator;

9. reviewing annual reports and providing recommendations to the Program Coordinator;

10. providing the Program Coordinator with an evaluation of project accomplishments and shortcomings;

11. providing technical review of proposed changes to the Program's flow recommendations;

12. requesting Hydrology Model runs, subject to Coordination Committee approval, for the purposes of evaluating revisions to the Program's flow recommendations;

13. providing technical review on issues pertinent to adaptive management of the San Juan River system to meet the goals of the Program; and,

14. providing technical assistance and review regarding the development of the annual integration report that assesses the preceding year's monitoring data, progress toward recovery, and management recommendations.

The Biology Committee will provide technical comment and input, including recommendations to the Program Coordinator, regarding the various issues set forth above and in the sections entitled "LRP Development and Annual Revision Process" and "Annual Work Plan Development Process." In addition to providing its input to the Program Coordinator, the Biology Committee may provide its rationale relating to comments and recommendations. The Program Coordinator will review and provide Biology Committee comments and recommendations, with the pros and cons and the Program Coordinator's recommendations, to the Coordination Committee. The role of the Biology Committee is to provide technical review and comments of a technical nature to the Program Coordinator. Biology Committee members do not have a role in the approval of any particular project. It shall be the duty of Biology Committee chair and the Program Coordinator to ensure that committee procedures are followed.

Because the efforts of the Biology Committee relate specifically to the scientific basis for recovery, each participant on the committee will have expertise that is generally applicable to the San Juan River or its native fish fauna. Due to the technical nature of the committee, members

should have experience in biology, fisheries, ecology, water quality, or fluvial hydrology/geomorphology that is applicable to the San Juan River ecosystem. Each of the Program participants may nominate one representative to the committee. The Biology Committee will evaluate the technical qualifications of each representative nominated to serve on the Biology Committee. The Biology Committee shall determine by two-thirds vote of the committee membership that a nominated representative is technically qualified. If a nominated representative is determined not to be technically qualified, the Biology Committee will report the reasons for rejecting the nominee to the Coordination Committee. At the request of the nominating Program participant, the Coordination Committee will determine if there are extenuating considerations, other than the technical evaluation, that would allow the nominee to serve on the Biology Committee. The Coordination Committee will determine by two-thirds vote of the committee membership if the nominee will serve on the Biology Committee and make the final decision on this matter. The representatives on the Biology Committee must bring to the Program a cooperative and objective analysis of the river's habitats and fish community. The Biology Committee will elect its chair from the committee's membership.

Meeting Procedures

The following procedures apply to meetings of the Coordination Committee and the technical committees of the Recovery Program.

The Program Coordinator will maintain a list of interested parties. Any person or organization may be placed on the list of interested parties simply by requesting the Program Coordinator to place them on the list, specifying the committee information they want to receive, and providing the Program Coordinator with their name and mailing address. The Program Coordinator will notify interested parties annually to assess continued interest in the Program, and will remove from the list those parties that fail to respond.

The Program Coordinator will provide notification of meeting times, dates, locations, and draft agendas for committee meetings to interested parties 30 days in advance of the meeting. Interested parties will be notified of any changes in committee meeting time, date, or location. A public notice stating the time, date, location, and agenda for all committee meetings will be sent by the Program Coordinator to newspapers in the Four Corners area between seven and ten days prior to the meeting. The Program Coordinator will maintain on the Program's website a calendar of all currently scheduled meeting dates for each committee. The Program Coordinator will provide the Coordination Committee and technical committees with agendas, information packets, and materials related to the agenda, as needed, in advance of committee meetings or conference calls. All committees require a seven-day notice of agenda items requiring a vote or recommendation unless the committee members present unanimously decide to consider an issue for a vote when it is presented.

Committee meetings will be held in the San Juan River Basin unless there are circumstances or reasons requiring meetings to be held elsewhere, as determined by the committees. Meetings of subcommittees or working groups may be held outside of the Basin and without public notice. Conference calls of committees, subcommittees, or working groups may be convened without public notice, as circumstances require.

The Program Coordinator will prepare summaries of committee meetings, subcommittee meetings, and conference calls describing the issues, decisions, and action items resulting from the meetings, and showing meeting attendance. The Program Coordinator will provide the draft summaries to the committees or subcommittees within ten working days of the meeting or conference call. The committees or subcommittees will provide comments to the Program Coordinator within seven working days. The Program Coordinator will make the revisions and post the draft summaries to the Program's website within seven working days if there is no disagreement over a proposed revision. If there is a disagreement regarding a proposed revision, the Program Coordinator will highlight the language in question and redistribute to the committee or subcommittee for resolution. The committee or subcommittee will finalize the draft meeting or conference call summaries at their next meeting. The Program Coordinator will provide the final summaries to the committees or subcommittee and post the summaries to the Program's website within three weeks after final approval by the committee or subcommittee.

The Program Coordinator will maintain a list of official committee members that includes the entity that each member represents and the mailing address and phone number of each committee member. Interested parties and organizations will be encouraged to contact the appropriate representative with questions regarding committee and subcommittee meetings and activities.

Program Peer Review Process

To ensure that the best available science and data are used as a basis for recovery goals and recovery actions for the San Juan River populations of Colorado pikeminnow and razorback sucker, the Program Coordinator will be responsible for ensuring that the Program maintains a standardized process by which Program projects and reports, upon the request of the Coordination Committee or a technical committee, will be subjected to peer review by qualified specialists in appropriate technical disciplines. Due to the technical nature of the Program, the peer review specialists will have the appropriate expertise applicable to the needs of the San Juan Program. The appropriate technical committees will review the qualifications of the peer review specialists.

The Program Coordinator in coordination with Reclamation will:

1. develop an annual SOW for peer review and include it in AWPs;

2. coordinate meetings among peer reviewers, the appropriate technical committees of the Program, and the Coordination Committee;

3. provide copies of the peer review reports to the appropriate technical committees of the Program and the Coordination Committee;

4. identify, in consultation with peer reviewers and the appropriate technical committees, high priority issues for peer review;

5. manage the peer review process by ensuring that acceptable peer review products are delivered in a timely manner, annually evaluating the peer review process, and making annual recommendations to the Coordination Committee; and,

6. keep the Coordination Committee fully informed on issues that may arise regarding the peer review process.

Long Range Plan Development and Annual Revision Process

The Program Coordinator is responsible for the development and updating of the LRP. The LRP is a detailed implementation plan for the elements of the Service's Recovery Plans for the Colorado pikeminnow and razorback sucker specific to the Basin. The LRP will include those actions that the Program and the Service believe are necessary to achieve recovery and those ESA compliance actions identified in BOs that the Program has assumed responsibility for implementing.

Identification of recovery actions and annual update of the Long Range Plan

The Program Coordinator, in coordination with the technical committees, shall identify, evaluate, and recommend potential recovery actions. If an action is identified that may potentially facilitate the recovery of the endangered fish populations in the San Juan River, that is not in the LRP, the technical committee will provide a recommendation, with pros and cons to the Program Coordinator. The Program Coordinator will make a recommendation to the Coordination Committee that the action either be included or not be included in the LRP. The LRP will also be updated following update of species Recovery Plans or Goals by the Service to incorporate applicable changes into the LRP.

The Coordination Committee, technical committees, and the Service will provide recommendations to the Program Coordinator for updating the LRP. The Program Coordinator will normally update the LRP following the annual meeting. The update will reflect accomplishments during the past year, new projects needed to achieve goals, and changes in timing of projects. The Program Coordinator will provide the updated LRP to the technical committees and the Coordination Committee for initial review and comment. Following receipt of comments, the Program Coordinator will modify the LRP as needed and develop a draft LRP for presentation to the Coordination Committee.

The Program Coordinator will consider all technical comments and recommendations from the technical committees. The revised LRP will be provided to the Coordination Committee for review and approval and will be accompanied by all documentation regarding all revisions. The Program Coordinator will provide the technical comments or recommendations, including the appropriate documentation, provided by technical committees to the Coordination Committee. If a particular technical comment or recommendation is not agreed to by the Program Coordinator, the Program Coordinator will provide their reasoning in the documentation to the Coordination Committee. The revised LRP will be approved by vote of the Coordination Committee.

Annual Work Plan Development Process

The Program Coordinator will be responsible for the development of the AWP as outlined in Figure 2. The AWP process involves the following activities:

1) **Conduct annual meeting**: An annual meeting involving the Coordination Committee, the Service, and technical committees will be conducted each year. At the meeting, presentations will be made by principal investigators or members of the technical

committees as appropriate. Coordination Committee members and the Service will be provided an opportunity to ask questions and to come to an understanding of current program activities and their relationship to the LRP and recovery of the species.

2) **Develop list of prioritized projects for the AWP:** Based on the LRP, the Program Coordinator will develop a list of prioritized projects for the next AWP. The prioritized list will be consistent with the LRP, reviewed by the technical committees, and approved by the Coordination Committee.

3) **Request for proposals and development of SOWs:** SOWs and associated budget estimates will be prepared by the Program Coordinator with assistance from the technical committees, as needed. The Program Coordinator will work with the Reclamation to develop requests for proposals for activities considered by the Program as eligible for competition. Upon review of the SOWs and responses to requests for proposals, the Program Coordinator will compare the list of prioritized projects to the available funds. Generally, projects that are low on the priority list will not be included in the AWP if funding is not available to fund all projects in that fiscal year. Unfunded projects may be considered in the next AWP development cycle.

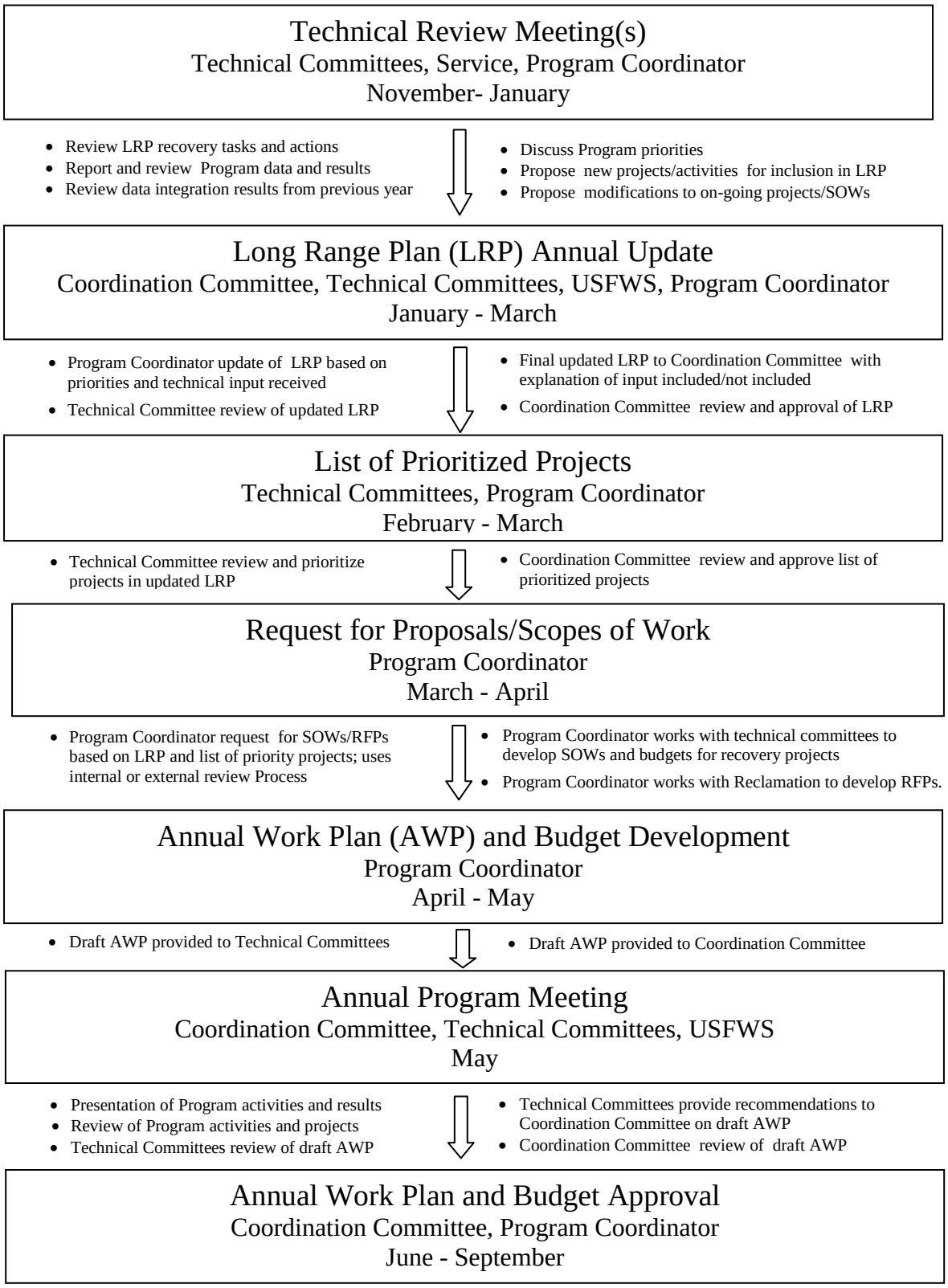
4) **Development of the AWP and budget:** After comparing the prioritized list to available funds, the Program Coordinator will provide a draft AWP to the technical committees for review. The technical committees will provide any technical comments or recommendations to the Program Coordinator for consideration. The Program Coordinator will consider all technical comments and recommendations from the technical committees. The revised AWP and proposed budget will be provided to the Coordination Committee for review and approval and will be accompanied by the necessary documentation regarding revisions to the AWP. The Program Coordinator will provide any technical comment or recommendation, including the rationale, to the Coordination Committee. The draft AWP will be reviewed and approved by vote of the Coordination Committee.

5) **Modifications to final AWP and budget:** Any request for substantive modification to an approved SOW included in the final AWP and budget will be provided to the Program Coordinator for consideration and will include written documentation regarding the proposed modification. The Program Coordinator will forward the request to the appropriate technical committee for review and comment. The Program Coordinator will consider all technical comments and recommendations from the technical committees. The Program Coordinator will provide the technical comments and recommendations to the Coordination Committee including its analysis, which will include whether the modification is consistent with the LRP and the effect of the modification on the AWP and budget with respect to availability of funds and impact(s) on previously approved SOWs. The proposed modification will be made if two-thirds of the Coordination Committee members vote to approve the modification.

6) **Coordination Committee approval or modification of the AWP and budget:** Any needed clarification or modification of the AWP or budget will be **c**ompleted by the Program Coordinator at the direction of the Coordination Committee prior to distribution of funds to entities managing or performing approved SOWs. The Coordination Committee may approve or modify the AWP and budget in whole or in part.

The projects in the AWP may be implemented by agency or tribal personnel or private contractors, as staffing and funding allow. Work that is considered inherently governmental may be awarded to appropriate federal, state, or tribal agency personnel without competing the work. Work that is not inherently governmental will be competed through a request for proposal process unless an exception is warranted due to extenuating circumstances.

Figure 2. Conceptual Annual Work Plan and Budget Development Process



Annual Budget Review

Funding of the Program is essential until the Program's goals are achieved. While it is recognized that the availability of funds from each source will be subject to federal and state legislative action, the participants are responsible for obtaining their portion of the funds needed to achieve the purposes of this Program. The Coordination Committee will annually assess funding requirements and the contributions expected from all sources, including in-kind services, and will recommend whether the net effect of any shortfall in Program funding would make it impossible to effectively carry out this Program.

The Coordination Committee will annually review progress toward recovery, and will recommend adjustments to the operating budget to reflect changing needs and priorities. If the Coordination Committee determines that the financial estimates and contributions from all sources are not sufficient to carry out the Program, the Coordination Committee may recommend how, and from what source, additional revenues may be acquired.

Program Funding

Funding reliability is critical to the success of the Program to ensure that the Program is conducted on a continuous basis and that high priority recovery elements are funded every year. Prior to 2001, funding of the Program was provided by Reclamation, the BIA, and the Service. On January 24, 2000, Congress enacted Public Law 106-392 that authorized and directed Reclamation to fund this Program and the Upper Colorado Program. Public Law 106-392 authorizes the Secretary of the Interior to use Colorado River Storage Project power revenues to fund annual base costs of both programs and to provide a cost-share, to be matched by state cost-shares, towards the costs of implementing capital recovery projects under both recovery programs. The legislation also authorizes federal appropriations to be made to contribute a federal cost-share towards implementation of the capital recovery projects. If the availability of power revenues proves insufficient to meet the annual base funding and capital project needs of the recovery programs, the Western Area Power Administration and Reclamation will request federal appropriations to meet these needs.

The availability of funding from governmental sources is subject to the authorization and appropriation by the federal and state legislative bodies. Nothing herein will be construed as obligating the DOI or any Program participant to expend funds, or as involving the United States in any contract or other obligation for payment of funds in excess of appropriations authorized by law. The Program participants will actively support appropriations needed to implement annual Program activities and any needed capital recovery projects.

Annual Program Base Funding

Public Law 106-392 provides authorization to the Secretary of the Interior to use Colorado River Storage Project power revenues to provide base funding for the operation and maintenance of capital recovery projects, for monitoring and research to evaluate the need for and effectiveness of any recovery actions, and for program management as necessary to carry out both this Program and the Upper Colorado Program, subject to annual appropriations from Congress for this purpose. Base funding also includes any annual federal funding provided under the terms of

the 1992 CA.[6] Nothing in Public Law 106-392 modifies or amends existing agreements among participants regarding base funding and depletion charges for the recovery programs.

Annual base funding from power revenues to carry out the research, monitoring, management, operation, and maintenance components of the Program under Public Law 106-392 is limited to $2.0 million per federal fiscal year, indexed for inflation after 2000. The distribution of the annual budget for the Program will be developed as part of the LRP and updated annually through the AWP development process.

Capital Project Funding

P.L. 106-392, as amended, authorizes federal appropriations through 2023 identified by the Program as necessary to provide for conservation and recovery of the Colorado pikeminnow and razorback sucker. The federal cost ceiling for this effort is $30 million indexed for inflation. The expenditure of $17 million of Colorado River Storage Project power revenues and $17 million of state funds (Colorado, New Mexico, Utah, and Wyoming) are also authorized for capital recovery projects for this Program and the Upper Colorado Program. Of the original $18 million total capital project cost authorized for this Program, up to $10.35 million would be provided from federal appropriations, $3.825 million would be provided from Colorado River Storage Project power revenues, and $3.825 million would be contributed as cost-share from the states of Colorado and New Mexico, all subject to congressional and legislative appropriations for this purpose. The states of Colorado and New Mexico have agreed on an allocation of the state cost-share: $1.081 million for the Colorado and $2.744 million for New Mexico. Actual expenditures for capital projects during any period of two consecutive years are to be distributed among federal appropriations, power revenues, and state cost-shares in the proportions indicated by the amounts given. Public Law 111-11 authorizes an additional $12 million of federal appropriations for capital projects. Capital projects consist of planning, design, permitting or other compliance, pre-construction activities, construction, construction management, and replacement of facilities, and the acquisition of interests in land or water, as necessary to carry out the Program. The total capital cost allowed and federal cost-share is indexed for inflation.

In-Kind Services for Program Participation

Each participant will provide in-kind services to participate in the committees and subcommittees of the Program. Each participant will be responsible for payment of salaries, benefits, travel, per diem, telephone and other costs that may be related to its representatives participating in activities of Program committees, including meetings. No participant representative or member of committees may receive reimbursement from the Program for costs incurred to prepare for, attend and participate in meetings, telephone calls, document reviews, etc., as a member of a Program committee.

The Service will provide cash and in-kind services to the Program, up to $200,000, to fund the salaries, benefits, travel, and related costs for the Program Coordinator and support staff to

[6] Public Law 106-392, Section 3(d), Base Funding.

participate in the activities of the Program and to perform their responsibilities for Program management, administration, and coordination described in this document.

Funding may be required for expanded research efforts to add to anticipated data requirements for ongoing or planned ESA section 7 consultations, or for management or recovery actions identified during the progress of the Program. Funding for delineated management or recovery actions or for expanded research may be provided by a participant on an individual action basis or in general support of the annual combined Program effort. Funding levels will be requested in sufficient time to accommodate budgetary planning and execution by the participants. Identified but unfunded recovery actions, if considered integral to the analysis of sufficient progress, may also be addressed in ESA section 7 consultation activities for funding, if applicable.

Administration of Program and Recovery Funds

All funds will be used in accordance with the priorities established under the Program pursuant to AWPs prepared by the Program Coordinator, in consultation with the technical committees, and approved by the Coordination Committee. The Coordination Committee will oversee and approve the allocation of all Program funds to ensure priorities are being addressed and accomplished in a timely manner.

Annual Program funding will be available from Reclamation at the beginning of each federal fiscal year (October 1), unless otherwise agreed to. An annual accounting of funds allocated in the preceding fiscal year will be provided to the Coordination Committee at the beginning of each fiscal year, identifying funds to be earmarked by each funding source for Program activities for the upcoming year. Annual and capital funds will be administered directly by Reclamation to accomplish the approved AWP and budget according to its administrative regulations and procedures. The Program Coordinator and Reclamation will be responsible for reviewing project proposals, developing requests for proposals, as needed, and developing and facilitating the technical committee proposal evaluation process. The Program Coordinator and Reclamation will be responsible for maintaining records showing distribution and expenditures of all annual and capital funds expended under the AWPs by each funding source. An accounting of funds expended during the preceding year will be provided at the end of each fiscal year.

State funds to be contributed for capital recovery projects identified by the Program will be provided and administered in accordance with any agreements entered into by the states and Reclamation. Currently, such contributions are placed in interest-bearing accounts administered by the National Fish and Wildlife Foundation until such time as the funds are withdrawn by Reclamation for a capital project approved by the Coordination Committee. Interest accruing to the accounts will be credited towards the state cost-shares, and unexpended funds will be returned to the states pursuant to their cooperative agreements. Nothing in this Program Document shall be construed to prevent a state from changing the terms and procedures as to how it provides its cost-share contributions for capital recovery projects, or to bind a state legislature to appropriate funds for this purpose.

Program Modifications

Modifications to this Program Document may be recommended by any member of the Coordination Committee and will become effective upon approval by the Coordination

Committee. (Note: This section replaces Section 5.4 of the original Implementation Program as referenced in the original CA.)

COOPERATIVE AGREEMENT

for the

SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM

COOPERATIVE AGREEMENT

This Cooperative Agreement is entered into by the United States of America, represented by the Department of the Interior (Department); the State of Colorado; the State of Utah; the State of New Mexico; the Navajo Nation; the Southern Ute Indian Tribe; the Ute Mountain Ute Indian Tribe; and the Jicarilla Apache Indian Tribe.

I. PURPOSE

On October 24, 1991, a Memorandum of Understanding was executed by the Department, the States of Colorado, Utah, and New Mexico, the Ute Mountain Ute Indian Tribe, the Southern Ute Indian Tribe, and the Jicarilla Apache Indian Tribe, to set forth certain agreements and to establish the foundation for a long-term program to recover the endangered fish species of the San Juan River Basin. This Cooperative Agreement adopts the attached San Juan River Basin Recovery Implementation Program (Implementation Program). The signatories to this Cooperative Agreement agree to participate in and support the Implementation Program including the committees established by the Implementation Program.

II. AUTHORITIES AND RESPONSIBILITIES

A. Federal Cooperation with States. Section 2(c)(2) of the Endangered Species Act, states that "the policy of Congress is that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species." Under section 6 of the Act, the Secretary of the Interior is directed to cooperate to the maximum extent practicable with the States in carrying out the program authorized by the Act and to consult with affected States before acquiring any land and water, or interest therein, for the purpose of conserving endangered species. Under section 6 of the Act, an executive agency should enter a cooperative agreement when anything of value will be transferred to a State or local government to carry out a public purpose authorized by Federal statute.

B. Recovery Plans and Teams. Under section 4(f) of the Endangered Species Act, the Secretary is directed to develop and implement plans for the conservation of endangered species and may procure the services of public and private agencies and institutions in developing and implementing such recovery plans.

C. Consultation and Coordination Among Federal Agencies. Under section 7 of the Endangered Species Act, Federal agencies shall utilize their programs and authorities in furtherance of the purposes of the Act and ensure that their actions are not likely to jeopardize listed species. The Department has the authority to enter into this Cooperative Agreement under section 1 of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et sec.). Under

section 2 of the Fish and Wildlife Coordination Act, Federal agencies must consult with the Fish and Wildlife Service and with State wildlife agencies on the fish and wildlife impacts of Federal or federally licensed or permitted water projects.

D. Applicable State Law. Pursuant to the applicable State laws and interstate compacts, Colorado, Utah, and New Mexico administer water rights, including water for instream uses, and oversee development of water resources, allocated and apportioned to them in perpetuity by interstate compacts. Each of these States also has certain statutory authority and responsibility to protect and manage its fish and wildlife resources.

E. Applicable Tribal Law. Pursuant to the applicable Tribal laws, and inherent Tribal sovereignty, the Navajo Nation, the Southern Ute Indian Tribe, the Ute Mountain Ute Indian Tribe, and the Jicarilla Apache Indian Tribe have the authority to administer water rights, to oversee the development of water resources, and to protect and manage fish and wildlife resources within the boundaries of their reservations.

F. Statement of Authorities. The signatories hereby state that they have legal authority to enter into this Cooperative Agreement, and have legal authority to carry out all the provisions of the Implementation Program.

III. TERMS AND CONDITIONS

A. Effective Date and Duration. This Cooperative Agreement shall be effective as of November 1, 1992, and shall remain in effect for a period of 15 years, however, the protection of the reservoir releases as per the Biological Opinion for the Animas-LaPlata Project (Project) shall survive the termination of this agreement and last for the life of the Project.

B. Amendment. This Cooperative Agreement may be extended, amended, or terminated by agreement of the signatories, or any signatory may withdraw from this Cooperative Agreement upon written notice to the other signatories.

C. No Delegation or Abrogation. All signatories to this Cooperative Agreement recognize that they each have statutory responsibilities that cannot be delegated, and that this Cooperative Agreement does not and is not intended to abrogate any of their statutory responsibilities.

D. Consistency with Applicable Law. This Cooperative Agreement is subject to and is intended to be consistent with all applicable Federal, State, and Tribal laws and interstate compacts.

E. Legislative Approval. All funding commitments made under the Implementation Program and this Cooperative Agreement are subject to approval by the appropriate State, Tribal, and Federal legislative bodies.

F. Implementation Program Modifications. Modifications to the Implementation Program may be made pursuant to section 5.4 of the attached Implementation Program without requiring modification to this Cooperative Agreement or the additional written consent of the signatories to this agreement.

IN WITNESS WHEREOF each party has caused this Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

by Manuel Lujan Jr. Date October 28, 1992
Manuel Lujan, Secretary of the Interior

STATE OF COLORADO

by_____ Date_____
Roy Romer, Governor

STATE OF NEW MEXICO

by_____ Date_____
Bruce King, Governor

STATE OF UTAH

by_____ Date_____
Norman H. Bangerter, Governor

NAVAJO NATION

by_____ Date_____
Peterson Zah, President

SOUTHERN UTE INDIAN TRIBE

by_____ Date_____
Leonard Burch, Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

by_____ Date_____
Judy Knight-Frank, Chairman

JICARILLA APACHE INDIAN TRIBE

by_____ Date_____
Leonard Atole, President

IN WITNESS WHEREOF each party has caused this Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

by_____ Date_____
Manuel Lujan, Secretary of the Interior

STATE OF COLORADO

by_____ Date 10-30-92
Roy Romer, Governor

STATE OF NEW MEXICO

by_____ Date_____
Bruce King, Governor

STATE OF UTAH

by_____ Date_____
Norman H. Bangerter, Governor

NAVAJO NATION

by_____ Date_____
Peterson Zah, President

SOUTHERN UTE INDIAN TRIBE

by_____ Date_____
Leonard Burch, Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

by_____ Date_____
Judy Knight-Frank, Chairman

JICARILLA APACHE INDIAN TRIBE

by_____ Date_____
Leonard Atole, President

IN WITNESS WHEREOF each party has caused this Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

by_____ Date_____
Manuel Lujan, Secretary of the Interior

STATE OF COLORADO

by_____ Date_____
Roy Romer, Governor

STATE OF NEW MEXICO

by_____ Date 11/6/92
Bruce King, Governor

STATE OF UTAH

by_____ Date_____
Norman H. Bangerter, Governor

NAVAJO NATION

by_____ Date_____
Peterson Zah, President

SOUTHERN UTE INDIAN TRIBE

by_____ Date_____
Leonard Burch, Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

by_____ Date_____
Judy Knight-Frank, Chairman

JICARILLA APACHE INDIAN TRIBE

by_____ Date_____
Leonard Atole, President

IN WITNESS WHEREOF each party has caused this Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

by_____ Date_____
Manuel Lujan, Secretary of the Interior

STATE OF COLORADO

by_____ Date_____
Roy Romer, Governor

STATE OF NEW MEXICO

by_____ Date_____
Bruce King, Governor

STATE OF UTAH

by_____ Date_____
Norman H. Bangerter, Governor

NAVAJO NATION

by_____ Date_____
Peterson Zah, President

SOUTHERN UTE INDIAN TRIBE

by Leonard Burch Date Nov. 3, 1992
Leonard Burch, Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

by_____ Date_____
Judy Knight-Frank, Chairman

JICARILLA APACHE INDIAN TRIBE

by_____ Date_____
Leonard Atole, President

APPENDIX A

IN WITNESS WHEREOF each party has caused this Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

by _____ Date October 28, 1992
Manuel Lujan, Secretary of the Interior

STATE OF COLORADO

by _____ Date _____
Roy Romer, Governor

STATE OF NEW MEXICO

by _____ Date _____
Bruce King, Governor

STATE OF UTAH

by _____ Date _____
Norman H. Bangerter, Governor

NAVAJO NATION

by _____ Date _____
Peterson Zah, President

SOUTHERN UTE INDIAN TRIBE

by _____ Date _____
Leonard Burch, Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

by _____ Date _____
Judy Knight-Frank, Chairman

JICARILLA APACHE INDIAN TRIBE

by _____ Date _____
Leonard Atole, President

IN WITNESS WHEREOF each party has caused this Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

by_____ Date_____
Manuel Lujan, Secretary of the Interior

STATE OF COLORADO

by_____ Date_____
Roy Romer, Governor

STATE OF NEW MEXICO

by_____ Date_____
Bruce King, Governor

STATE OF UTAH

by_____ Date_____
Norman H. Bangerter, Governor

NAVAJO NATION

by_____ Date_____
Peterson Zah, President

SOUTHERN UTE INDIAN TRIBE

by_____ Date_____
Leonard Burch, Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

by_____ Date_____
Judy Knight-Frank, Chairman

JICARILLA APACHE INDIAN TRIBE

by Leonard Atole Date 11-13-92
Leonard Atole, President

EXTENSION
OF THE
COOPERATIVE AGREEMENT
FOR THE SAN JUAN RIVER RECOVERY IMPLEMENTATION PROGRAM

The parties hereto agree to extend the 1992 Cooperative Agreement, which provided for their participation in and implementation of the San Juan River Basin Recovery Implementation Program through September 30, 2023.

IN WITNESS WHEREOF each party has caused this Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

by _____ Date 10-26-06
Dirk Kempthorne, Secretary of the Interior

STATE OF COLORADO

by _____ Date _____
Bill Owens, Governor

STATE OF NEW MEXICO

by _____ Date _____
Bill Richardson, Governor

STATE OF UTAH

by _____ Date _____
Jon Huntsman, Jr., Governor

NAVAJO NATION

by_____ Date_____
Joe Shirley, Jr., President

SOUTHERN UTE INDIAN TRIBE

by_____ Date_____
Howard D. Richards, Sr., Chairperson

UTE MOUNTAIN UTE INDIAN TRIBE

by_____ Date_____
Judy Knight-Frank, Chairperson

JICARILLA APACHE INDIAN TRIBE

by_____ Date_____
Levi Pesata, President

EXTENSION OF THE COOPERATIVE AGREEMENT FOR THE SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM

The parties hereto agree to extend the 1992 Cooperative Agreement for the San Juan River Basin Recovery Implementation Program through September 30, 2023.

In witness whereof, each party has caused this Extension to the Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

By _____ Date _____
Secretary of the Interior

STATE OF COLORADO

By Bill Owens. Date 11/6/06
Governor

STATE OF NEW MEXICO

By _____ Date _____
Governor

STATE OF UTAH

By _____ Date _____
Governor

NAVAJO NATION

By _____ Date _____
President

SOUTHERN UTE INDIAN TRIBE

By _____ Date _____
Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

By _____ Date _____
Chairman

JICARILLA APACHE NATION

By _____ Date _____
President

EXTENSION OF THE COOPERATIVE AGREEMENT
FOR THE
SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM

The parties hereto agree to extend the 1992 Cooperative Agreement for the San Juan River Basin Recovery Implementation Program through September 30, 2023.

In witness whereof, each party has caused this Extension to the Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

By _____ Date _____
Secretary of the Interior

STATE OF COLORADO

By _____ Date _____
Governor

STATE OF NEW MEXICO

By Bill Richardson Date Oct 30, '06
Governor

STATE OF UTAH

By _____ Date _____
Governor

NAVAJO NATION

By _____ Date _____
President

SOUTHERN UTE INDIAN TRIBE

By _____ Date _____
Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

By _____ Date _____
Chairman

JICARILLA APACHE NATION

By _____ Date _____
President

EXTENSION OF THE COOPERATIVE AGREEMENT FOR THE SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM

The parties hereto agree to extend the 1992 Cooperative Agreement for the San Juan River Basin Recovery Implementation Program through September 30, 2023.

In witness whereof, each party has caused this Extension to the Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

By _____ Date _____
Secretary of the Interior

STATE OF COLORADO

By _____ Date _____
Governor

STATE OF NEW MEXICO

By _____ Date _____
Governor

STATE OF UTAH

By _____ Date _____
Governor

NAVAJO NATION

By _____ Date NOV 0 1 2006
President

SOUTHERN UTE INDIAN TRIBE

By _____ Date _____
Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

By _____ Date _____
Chairman

JICARILLA APACHE NATION

By _____ Date _____
President

EXTENSION OF THE COOPERATIVE AGREEMENT FOR THE SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM

The parties hereto agree to extend the 1992 Cooperative Agreement for the San Juan River Basin Recovery Implementation Program through September 30, 2023.

In witness whereof, each party has caused this Extension to the Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

By _____ Date _____
Secretary of the Interior

STATE OF COLORADO

By _____ Date _____
Governor

STATE OF NEW MEXICO

By _____ Date _____
Governor

STATE OF UTAH

By _____ Date _____
Governor

NAVAJO NATION

By _____ Date _____
President

SOUTHERN UTE INDIAN TRIBE

By Clement J. Frost Date 10-18-06
Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

By _____ Date _____
Chairman

JICARILLA APACHE NATION

By _____ Date _____
President

Attachment 2

EXTENSION OF THE COOPERATIVE AGREEMENT FOR THE SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM

The parties hereto agree to extend the 1992 Cooperative Agreement for the San Juan River Basin Recovery Implementation Program through September 30, 2023.

In witness whereof, each party has caused this Extension to the Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

By _____ Date _____
Secretary of the Interior

STATE OF COLORADO

By _____ Date _____
Governor

STATE OF NEW MEXICO

By _____ Date _____
Governor

STATE OF UTAH

By _____ Date _____
Governor

NAVAJO NATION

By _____ Date _____
President

SOUTHERN UTE INDIAN TRIBE

By _____ Date _____
Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

By Manuel Heart Date 8/28/06
Chairman

JICARILLA APACHE NATION

By _____ Date _____
President

EXTENSION OF THE COOPERATIVE AGREEMENT FOR THE SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM

The parties hereto agree to extend the 1992 Cooperative Agreement for the San Juan River Basin Recovery Implementation Program through September 30, 2023.

In witness whereof, each party has caused this Extension to the Cooperative Agreement to be executed by an authorized official on the day and year set forth below by his or her signature.

UNITED STATES OF AMERICA

By _____ Date _____
Secretary of the Interior

STATE OF COLORADO

By _____ Date _____
Governor

STATE OF NEW MEXICO

By _____ Date _____
Governor

STATE OF UTAH

By _____ Date _____
Governor

NAVAJO NATION

By _____ Date _____
President

SOUTHERN UTE INDIAN TRIBE

By _____ Date _____
Chairman

UTE MOUNTAIN UTE INDIAN TRIBE

By _____ Date _____
Chairman

JICARILLA APACHE NATION

By _____ Date 10/26/06
President

Baseline Depletions in the San Juan River Basin (Navajo Reservoir Operations, Colorado River Storage Project, Colorado-New Mexico-Utah, FEIS September 27, 2005)

Depletion Category[2]	Average Annual Depletion[1] (acre-feet/year)	
New Mexico Depletions		
Navajo Lands Irrigation Depletions		
Navajo Indian Irrigation Project (NIIP)	280,600	3
Hogback	12,100	4
Fruitland	7,898	4
Cudei	900	
Chaco River	2,832	5
Whiskey Creek	523	5
Subtotal	304,853	
Non-Navajo Lands Irrigation Depletions		
Above Navajo Dam – private	738	
Above Navajo Dam –Jicarilla	2,195	5
Animas River	36,711	
La Plata River	9,739	
Upper San Juan	9,137	
Hammond area	10,268	
Farmers Mutual Ditch	9,532	
Jewett Valley	3,088	
Westwater	110	
Subtotal	81518	
Total New Mexico Irrigation Depletions	386,371	
Non-Irrigation Depletions		
Navajo Reservoir evaporation	27,428	
BHP-Navajo Coal Company	39,000	
San Juan Generating Station	16,200	6
Industrial diversions near Bloomfield	2,500	
Municipal and industrial uses	8,454	
Scattered rural domestic uses	1,400	5
Scattered stock ponds and livestock uses	2,200	5
Fish and wildlife uses	1,400	5
Total New Mexico Non-Irrigation Depletions	98,582	
San Juan-Chama Project exportation	107,514	
Animas-La Plata Project	13,600	
Jicarilla Apache Nation Navajo River Water Supply Project	6,570	7
Total New Mexico Depletions	612,637	

Colorado Depletions		
Upstream of Navajo Reservoir		
Upper San Juan	10,858	
Navajo-Blanco	7,865	
Piedra	8,098	
Pine River	71,671	
Subtotal	98,492	
Downstream of Navajo Reservoir		
Florida	28,607	
Animas	25,113	
La Plata	13,245	[8, 9]
Long Hollow Reservoir Project	1,336	[9]
Mancos	19,532	
McElmo Basin imports	-11,769	
Subtotal	76,064	
Animas-La Plata Project	43,533	
Total Colorado Depletions	218,089	
Colorado and New Mexico Combined Depletions	835,226	
Utah depletion	9,140	[10]
Arizona depletion	10,010	[5]
Unspecified minor depletions	4,500	[11]
Grand total	854,376	

[1] The State of New Mexico does not agree with the depletions shown in terms of constituting evidence of actual water use, water rights or water availability under the Upper Colorado River Basin Compact. The Program adopted a hydrology model disclaimer that reads in part: "The model data, methodologies and assumptions do not under any circumstances constitute evidence of actual water use, water rights or water availability under compact apportionments and should not be construed as binding on any party."

[2] Full development of the States' compact apportionments and Indian water rights are not included in this table. Only existing projects and projects with Endangered Species Act and National Environmental Policy Act compliance are included in the table.

[3] Includes 10,600 acre-feet per year of deep percolation losses to groundwater storage beneath project lands. After groundwater storage in the future reaches equilibrium and percolation losses return to the river, then the amount of depletion will decline to 270,000 acre-feet per year, on average.

[4] Accounts for 16,420 acre-feet per year "transferred" from the Hogback, including the Hogback Extension, and Fruitland projects to the NIIP. The "transfer" is not a water rights transfer, but an agreement of the Navajo Nation to limit uses on the Hogback and Fruitland projects as may be necessary to provide a reasonable and prudent alternative for completion of the NIIP.

[5] Off-stream depletion accounted for in calculated natural gains.

[6] Water contract with the Jicarilla Apache Nation for depletions at the San Juan Generating Station.

[7] The Jicarilla Apache Nation Navajo River Project Biological Opinion lists this depletion as 6,654 acre-feet per year, but the model configuration includes a depletion of 6,570 acre-feet per year, on average. The model configuration is shown.

[8] Includes Red Mesa depletions in the amount of 997 acre-feet per year, on average.

[9] The Long Hollow Reservoir Project Biological Opinion lists this depletion as 1,535 acre-feet per year. The model

configuration shows the project depletion as 1,338 acre-feet per year, and an additional 197 acre-feet per year of depletion is included in the La Plata category.

[10] Includes 1,705 acre-feet per year of San Juan River depletion and 7,435 acre-feet per year of off-stream depletion accounted for in calculated natural gains..

[11] Includes 1,500 acre-feet per year of depletion from minor depletions approved by the Program in 1992 plus an additional 3,000 acre-feet per year of depletion from the 1999 Intra-Service consultation. The majority of the minor uses included in these depletion amounts occurs in Colorado, with a small portion of the uses being in New Mexico

PRINCIPLES FOR CONDUCTING ENDANGERED SPECIES ACT SECTION 7 CONSULTATIONS ON WATER DEVELOPMENT AND WATER MANAGEMENT ACTIVITIES AFFECTING ENDANGERED FISH SPECIES IN THE SAN JUAN RIVER BASIN*

1.0 Endangered Species Act Compliance

The San Juan River Basin Recovery Implementation Program (Program) was established in 1991. The goals of the Program are:

1. To conserve populations of Colorado pikeminnow and razorback sucker in the Basin consistent with the recovery goals established under the Endangered Species Act.

2. To proceed with water development in the Basin in compliance with federal and state laws, interstate compacts, Supreme Court decrees, and federal trust responsibilities to the Southern Ute Indian Tribe, Ute Mountain Ute Tribe, Jicarilla Apache Tribe, and the Navajo Nation.

The Program is intended to provide measures for compliance with the Endangered Species Act (16 U.S.C. 1531 et seq) (ESA) for water development and water management activities in the Basin.

These principles for conducting ESA section 7 consultations have been adopted by the Program's Coordination Committee. The principles have been reviewed by the U.S. Fish and Wildlife Service (Service) and found to be consistent with the ESA and its implementing regulations (50 CFR Part 402). These principles will be used as a guide to define how Program actions will be used to provide ESA compliance for impacts to listed fish species in the Basin from water development and water management activities.

2.0 Indian Trust Responsibilities

On June 5, 1997, the Secretaries of Commerce and the Interior signed Secretarial Order 3206. That Secretarial Order directed both Departments to carry out their responsibilities under the ESA in a manner that harmonizes the federal trust responsibility to the tribes, tribal sovereignty, and statutory missions of the Departments, and that strives to ensure that Indian tribes do not bear a disproportionate burden for the conservation of listed species, so as to avoid or minimize the potential for conflict and confrontation. In recognition of the vital role of the sovereign tribes in both water development and water management activities and endangered species conservation in the Basin, the Coordination Committee supports the Service in its commitment to notify the tribes when it receives any request for consultation that might affect tribal assets. Additionally the

* Adopted by the Coordination Committee, San Juan River Basin Recovery Implementation Program, June 19, 2001.

Coordination Committee urges the Service, consistent with the applicable regulations and policies, to address the section 7 consultation needs of the tribes. Moreover, the Coordination Committee recognizes that the Department of the Interior intends to use its authority to the fullest extent possible to preserve and protect the water resources of the tribes in the Basin.

3.0 Long Range Plan

The Program's initial Long Range Plan (LRP) was necessarily focused on the approximate seven-year research period as defined in the Service's October 25, 1991 Animas-La Plata biological opinion issued to the Bureau of Reclamation. The LRP defined the principal Program actions scheduled for completion through 1997. The efforts during the research period did not include implementation of specific, on-the-ground recovery actions that would directly benefit endangered fish or their habitat. Now that the initial research period has concluded, the Program=s Biology Committee is in the process of identifying and prioritizing all foreseeable actions determined to be necessary to achieve recovery of endangered fish and their habitats in the Basin, including projects requiring capital construction funds, and is developing an updated LRP. The Coordination Committee will review the recommendations of the Biology Committee and adopt an updated LRP, incorporating capital, monitoring, and research projects as appropriate. The LRP, as amended and updated annually, will be the basis for formulating annual budgets, making funding requests to Congress and state legislatures for the Program, and provision of funding by Western Area Power Administration from power revenues pursuant to P.L. 106-392. The LRP will be reviewed annually by the Program and modified as needed to reflect new information and actions needed to achieve recovery while continuing with water development. Additionally, amendments to the LRP will reflect available funding and changes in priorities for implementation of recovery actions. Any actions proposed in the LRP will be in compliance with the ESA.

4.0 Incidental Take

Section 9 of the ESA and federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened fish and wildlife species, without a special exemption. Take of listed fish and wildlife species is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to these species by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to these species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to breeding, feeding or sheltering. Incidental take is defined as take that results from, but is not the purpose of, carrying out an otherwise lawful activity.

Incidental take statements contained in biological opinions exempt federal action agencies and sponsors of water development and water management activities (project sponsors) from the ESA's section 9 prohibitions so long as they are in compliance with any reasonable and prudent measures and implementing terms and conditions that minimize take. The Service will include incidental take statements in all biological opinions for activities in the Basin, even when no take is anticipated. As stated in 50 CFR 402.14(i)(2) "reasonable and prudent measures along with the terms and conditions

that implement them, cannot alter the basic design, location, scope, duration, or timing of the action and may involve only minor changes."

The reasonable and prudent measures provided in an incidental take statement are nondiscretionary, and must be undertaken so that they become binding conditions of any federal discretionary activity, for the exemption in section 7(o)(2) to apply. The federal agency has a continuing duty to regulate the activity covered by an incidental take statement included in a biological opinion. If the federal agency (1) fails to assume and implement the terms and conditions or (2) fails to retain oversight to ensure compliance with the terms and conditions, the protective coverage of section 7(o)(2) may lapse.

5.0 Section 7 Consultations

The Program is intended to identify and implement actions that assist in the recovery of the species and provide compliance with sections 7 and 9 of the ESA for water development and water management activities in the Basin. It is recognized that federal agencies and/or project sponsors may wish to carry out actions that provide ESA compliance for their activities independently of the Program, and not rely on the Program to provide actions for ESA compliance. In addition, federal agencies and/or project sponsors may modify their activities to eliminate or minimize adverse effects, avoid jeopardy, and/or avoid adverse modification of critical habitat, and by so doing, remove the need for actions by the Program to provide ESA compliance.

5.1 Consultations on New and Existing Water Development and Water Management Activities in the Basin

A. For the purposes of the Program and section 7 consultations, it is assumed that: (1) the Program will produce a list of actions defined in the LRP that can be implemented to assist in the recovery of the species, (2) the funding will be available to implement the LRP, (3) participants will take appropriate steps to implement those actions, and (4) actions will be implemented in accordance with the schedule in the LRP, as periodically amended.

B. Actions and accomplishments under the Program, as defined in the LRP, are intended to assist in the recovery of the species and provide the reasonable and prudent alternatives that avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat from water development and water management activities in the Basin. Program actions are also intended to provide the reasonable and prudent measures needed to minimize take of listed fish.

C. When Section 7 consultation is initiated, the Service will determine if progress toward recovery has been sufficient for the Program to serve as a reasonable and prudent alternative or measure. The Service will also consider whether the probable success of the Program is compromised as a result of a specific water depletion or the cumulative effect of depletions. The Service will consider Program and non-Program actions throughout the Basin in evaluating the sufficiency of the Program to serve as a reasonable and prudent alternative or measure. The Service will make its assessment based on the best available scientific and commercial data as required by the ESA. The Service will assess the sufficiency of Program actions in proportion to the potential impacts of a proposed federal action. That is, the smaller the impact of a federal action, the lower the

level of actions by the Program or others needed to avoid jeopardy and/or destruction or adverse modification of critical habitat.

The Service will determine whether progress by the Program is sufficient to provide a reasonable and prudent alternative or measure based on the following factors:

4. Actions that will result in a measurable positive population response, a measurable improvement in habitat for the fishes, legal protection of flows needed for recovery, or a reduction in the threat of immediate extinction.

5. Status of fish populations.

6. Adequacy of flows.

7. Magnitude of the impact of the activity (including, but not limited to, contaminant and fish migration impacts).

D. If the Service finds during a Section 7 consultation that Program and non-Program accomplishments are sufficient as defined under C above, the biological opinion will identify the actions and accomplishments of the Program that support the Program serving as a reasonable and prudent alternative or measure.

E. If the Service finds that progress of the Program is not sufficient at the time of the consultation, biological opinions in the Basin will be written to identify which action(s) in the LRP must be completed to provide the reasonable and prudent alternative or minimize take.

1. For existing activities, these actions will serve as the reasonable and prudent alternative or measure if they are completed according to the schedule identified in the LRP, as amended.

2. For new activities, these actions will serve as a reasonable and prudent alternative or measure so long as they are completed before the impact from the activity occurs.

F. The Service may conclude that some action not listed in the LRP is necessary to serve as a reasonable and prudent alternative or to minimize take for an activity under consultation. If this occurs, the Service will notify the Coordination Committee in writing, identify the additional action needed, and provide Committee members an opportunity to review the action, and incorporate the action into the LRP. Coordination with the Coordination Committee will not alter the time frame for consultation. Incorporation of new actions into the LRP under this paragraph is expected to be a rare event. If the reasonable and prudent alternative or measure is not incorporated into the LRP by the Coordination Committee, the Service will work with the federal agency and sponsor to ensure compliance with section 7.

G. The Service will work with the federal action agency(ies) and project sponsors during consultation to attempt to identify mutually agreeable opportunities to minimize impacts. It is also recognized that: (1) it is the responsibility of the federal action agency(ies) to make the final determination of the definition of the activity brought to consultation, and (2) it is the Service's

responsibility to make the determination as to whether jeopardy to any species and/or destruction or adverse modification of critical habitat will occur and to identify reasonable and prudent alternatives and measures for the activity.

H. The Service has ultimate authority and responsibility for determining whether the Program has provided or can provide a reasonable and prudent alternative or measure. Final authority over what constitutes a reasonable and prudent alternative lies with Service. It is recognized that the Service retains the authority for determining section 7 compliance under the ESA.

I. Section 7(a)(1) of the ESA directs federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of listed species. Conservation recommendations provided by the Service in a biological opinion are discretionary agency activities to further minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Program may be used to fulfill conservation recommendations provided by the Service to a federal action agency. However, compliance with section 7(a)(1) is the responsibility of federal agencies.

J. The Program will be responsible for monitoring implementation of all Program actions, including those Program actions identified as reasonable and prudent alternatives and measures in biological opinions, and reporting results to the Service on an annual basis.

5.2 Service Review and Assessment of Program

Revisions to the LRP, including insertion of actions needed to achieve recovery, will normally occur in the annual review and update of the LRP, and all parties to the Program, including the Service, will make recommendations to update the LRP. If the Service concludes, at any time and independent of any consultation, that the Program is not implementing actions on schedule, and that this may impact the ability of the Program to provide reasonable and prudent alternatives or measures, the Service will provide a written assessment to the Coordination Committee. The assessment will include the Service's recommendations for corrective actions. The Coordination Committee, in cooperation with the Biology Committee, will have an opportunity to modify timing, funding, and/or priorities in the LRP to ensure that the Service can rely on the Program to provide reasonable and prudent alternatives and measures.

6.0 Minor Depletion Allowance

In 1992, the Service instituted a minor depletions account. Between March, 1992 and December, 1998, the Service consulted individually on approximately 58 proposed minor depletions that ranged in quantity from 0.02 acre-feet/year (AF/yr) to 500 AF/yr, lasting from a few weeks to perpetuity. No biological opinions were issued under this initial minor depletion account after December, 1998, and the account is now closed to new depletions. On September 21, 1999, the Service issued an Intra-Service Section 7 Consultation for Minor Depletions of 100 Acre-feet or less from the San Juan River Basin. This opinion provides for a cumulative total of 3,000 AF/yr of new minor depletions in the Basin. The minor depletion allowance increases the efficiency of and streamlines the section 7

process, benefiting water development and water management activities included in the biological opinions on minor depletions, while protecting the endangered and native fish community.

The following guidelines will be used by the Service in conducting section 7 consultation on new minor depletions under the September 21, 1999 biological opinion:

11. A minor depletion is defined as a depletion of 100 AF/yr or less. However, the Service may use its discretion to allow larger depletions to be included in the minor depletion account based on impacts to listed species and critical habitat.

12. In rendering biological opinions on federal actions resulting in minor depletions, the Service will consider all new information concerning impacts and the status of the listed species and their habitats, and good faith implementation of the Program in determining if the Program can avoid the likelihood of jeopardy and/or destruction or adverse modification or minimize impacts of any incidental take.

13. The Service will maintain a minor depletions account wherein the aggregate of all new minor depletions allowed by the Service through section 7 consultation and under the September 21, 1999 opinion may result in a total annual depletion of not more than 3,000 AF/yr.

14. The Service will review each proposed federal action for consideration under the September 21, 1999 biological opinion and utilize that biological opinion to facilitate consultation so long as a proposed depletion fits within the 3,000 AF/yr ceiling and does not compromise the purposes for which the minor depletion opinion was issued.

15. Once the 3,000 AF/yr limit is reached for new depletions under the September 21, 1999 biological opinion, the Service will assess the effects of further minor depletions on listed species and issue an opinion to cover further minor depletions, if appropriate.

16. Depletions that were in existence as of October 25, 1991, the date of the Animas-La Plata Project biological opinion, are included in the environmental baseline for that opinion and will not be counted against any minor depletions account. The minor depletion accounts are only for new depletions. ESA consultation may still be required for historic depletions occurring prior to October 25, 1991, if those depletions have a federal nexus.

7.0 Reinitiation of Consultation

A. This section describes the process of reinitiation of consultation on water development and water management activities for which the Program is providing the reasonable and prudent alternative or measure.

B. As provided in 50 CFR 402.16, reinitiation of consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and one of the following occur:

1. The amount or extent of taking specified in the incidental take statement is exceeded.

2. New information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered.

3. The identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion.

4. A new species is listed or critical habitat designated that may be affected by the identified action.

C. If it is determined that reinitiation of consultation may be necessary, the Service will provide such information to the Coordination Committee. Program participants will attempt to identify actions that can be implemented to ensure that, in the reinitiated consultation, the Program continues to serve as the reasonable and prudent alternative and measure. If the Program cannot implement actions to serve as the reasonable and prudent alternative and measure, the federal action agency(ies) and/or project sponsor will work with the Service independently of the Program to resolve ESA issues. Compliance with the ESA is ultimately the responsibility of the federal action agency(ies).

D. If reinitiation is necessary, the following courses of action will be taken, so long as they do not slow or delay reinitiation of consultation:

1. <u>If the amount or extent of taking specified in the incidental take statement is exceeded</u>. The assessment and determination of whether incidental take has been exceeded is a matter of review and discussion between the action agency(ies) and the Service. If additional reasonable and prudent alternatives or measures are needed, the Service will identify the actions needed, and provide the Program with the opportunity to incorporate those actions into the LRP and implement those actions.

2. <u>If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered</u>. In certain situations, recovery actions in the LRP that were utilized as a reasonable and prudent alternative or measure may no longer be effective or appropriate. These situations may include, but are not limited to:

   a. critical deadlines for specified recovery actions are missed;
   b. specified recovery actions are determined to be infeasible; and/or
   c. significant new information about the needs or population status of the fishes becomes available.

   The Service will notify the Coordination Committee when such a situation is foreseeable or actually occurs. If the Coordination Committee becomes aware of such a situation before the Service, they will notify the Service. The Coordination Committee will work with the Service to evaluate the situation and develop the most appropriate response to restore the Program as a reasonable and prudent alternative or measure, such as adjusting the LRP so the action can be achieved, developing a supplemental recovery action for incorporation into the LRP, shortening the time frame on other recovery actions, etc. The determination of the

amount and extent of impact to a species and/or critical habitat is strictly a Service responsibility.

If the Program can no longer serve as a reasonable and prudent alternative or measure, the Service will develop a reasonable and prudent alternative or measure, if available, with the federal action agency(ies) and the project sponsor. In this situation, the reasonable and prudent alternative or measure will be consistent with the intended purpose of the action, within the federal agency's legal authority and jurisdiction to implement, and will be economically and technologically feasible.

3. If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion. If an activity is modified in such a manner so as to require reinitiation of consultation, the Service will identify additional or different action items from the LRP to serve as reasonable and prudent alternatives or measures for the activity where possible.

4. If a new species is listed or critical habitat designated that may be affected by the identified action. The Service will make recommendations to the Coordination Committee for amendments to the Program and LRP to avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat, or to minimize take for any new fish species listed as threatened or endangered. The Program participants will then decide whether to make the amendments. If the amendments are made, the Service will use the amended LRP action items as reasonable and prudent alternatives or measures. If the Program cannot be amended, then consultation will be reinitiated and reasonable and prudent alternatives or measures will be developed with the federal action agency(ies) and project sponsors.

E. All biological opinions issued will contain language requesting the applicable federal agency(ies) to retain discretion to reinitiate consultation should reinitiation become necessary.

8.0 Modification of Principles

These principles have been adopted by the Coordination Committee. The principles have been reviewed by the Service and found to be consistent with the ESA and applicable regulations and policies. Experience may dictate a need to modify these principles in the future.

A review of these principles may be initiated by any voting member of the Coordination Committee. These principles may be modified or amended by vote of the Program participants, pursuant to normal voting procedures as defined in the San Juan River Basin Recovery Implementation Program (Service, 1992), as amended. However, modifications to the principles will be subject to review by the Service to assure continued compliance with the ESA and applicable regulations in conducting section 7 consultations on water development and water management activities in the Basin. Should the Service find that proposed modifications or modifications to these principles are inconsistent with the ESA or applicable regulations or policies, the Service will notify the Coordination Committee in writing, with recommendations for bringing the principles into compliance with the ESA.