

PART I

**ARIZONA WILLOW
CONSERVATION AGREEMENT**

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I. INTRODUCTION

Arizona willow (*Salix arizonica* Dorn) is a small, often distinctive shrub willow that occurs within high elevation riparian ecosystems of the Southwest. A proposal to list Arizona willow under the Endangered Species Act (ESA) as endangered with critical habitat was published in the Federal Register notice of November 20, 1992 (57 FR 54747) (Appendix E). At that time the species was known only from high elevation streams and wet meadows in the Mount Baldy vicinity of Apache County, Arizona, located primarily on the Apache-Sitgreaves National Forests and Fort Apache Indian Reservation. The high elevation riparian ecosystems upon which Arizona willow depends are fragile and additionally support habitat for other rare species of plants and animals (Appendix F). These habitats have been subjected to numerous uses during the past century, and in many cases have been degraded. Threats identified in the proposed rule include livestock and wildlife impacts, water impoundments and diversions, roads, recreational use, development and maintenance of ski resort facilities, disease, alteration of natural hydrologic regimes, and changes in the riparian community species composition and structure, including invasion of nonnative vegetation (especially Kentucky bluegrass), brought about by historic and current livestock use.

In June of 1993, the U.S. Fish and Wildlife Service (FWS) was notified of a previously misidentified herbarium specimen of Arizona willow collected in 1913 from the then named "Sevier Forest" in southern Utah (Franklin pers. comm. 1993). Preliminary surveys in Utah during the summer of 1993 by FWS (England pers. comm. 1994) did not locate Arizona willow. Surveys initiated by the USDA Forest Service (FS) resulted in "rediscovery" of Arizona willow in Utah on June 30, 1994. Subsequent FS surveys documented Arizona willow on the Dixie and Fishlake National Forests, Cedar Breaks National Monument, and adjacent private land (Figure 1). The extent of some individual populations and the stature of Arizona willow plants in Utah far exceeded all populations in Arizona (Palmer pers. comm. 1994).

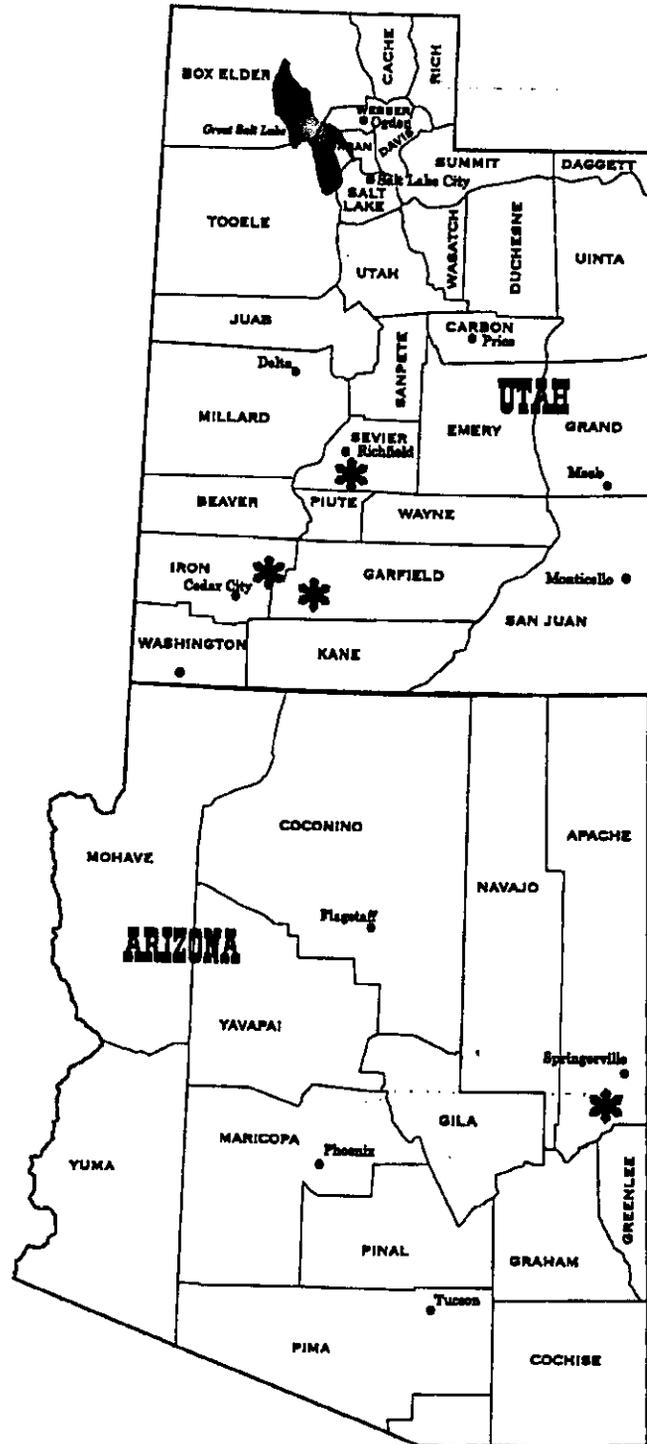


Figure 1. The known distribution of Arizona willow (*Salix arizonica*).

On May 31, 1994, the Southwest Center for Biological Diversity filed a Summons and Complaint based on the FWS failure to meet statutory deadlines to take final action on the proposed rule to list Arizona willow. The FWS, in negotiation with the plaintiffs, reached an agreement to take final action on the proposed rule (Federal Register publication of the final rule or a rule withdrawal) by April 30, 1995.

The discovery of significant Arizona willow populations in Utah presented new biological information which required a re-assessment of the range-wide threats to the species, and also provided an opportunity to pursue new management options. On September 6, 1994, the Regional Foresters of the Southwestern and Intermountain Regions of the FS, and the Regional Director of the FWS Southwest Region, made a joint decision to develop a conservation agreement for Arizona willow on federal lands to ensure the long-term conservation of the species throughout its range within its natural ecosystem. This will be accomplished through the implementation of actions to immediately reduce site-specific threats, provide long-term commitments to protect and improve habitats, and carry out proactive conservation actions. A FS policy statement (Part IV, A), jointly issued by the Regional Foresters of the Southwestern and Intermountain Regions on December 19, 1994, initiated many of these actions on the National Forests (NF), including designation of FS representation on the Arizona Willow Interagency Technical Team. The Arizona Willow Interagency Technical Team was formed to develop and implement the Arizona Willow Conservation Agreement and Strategy.

Concurrent with the development of a conservation strategy for Arizona willow on federal lands, the White Mountain Apache Tribe (Tribe) has developed the "Arizona Willow Management Plan: An Interim Approach to High-Elevation Riparian and Cienega Ecosystem Management on the Fort Apache Indian Reservation." The Tribe manages Arizona willow habitat on the Reservation within the Black and White Rivers watersheds of Mount Baldy. The management and conservation strategies in the Tribal management plan for habitats which include Arizona willow, are consistent with, and complementary to, the strategies and intent set forth in the Arizona Willow Conservation Agreement and Strategy.

II. PURPOSE

The purpose of this Conservation Agreement is to attain the goal of long-term conservation of Arizona willow throughout its range through proactive management of the willow and its ecosystems. The conservation of Arizona willow will require removal of threats, improving degraded habitat conditions, maintaining and/or expanding populations, and restoring many of the natural functions of associated riparian systems. These habitat protection efforts will also benefit many other threatened, endangered, and sensitive plants and animals which share these ecosystems (Appendix F). Ensuring Arizona willow population viability and stability throughout its range may require several decades of intensive efforts. A variety of research projects and studies on the population biology and ecology of Arizona willow will need to be undertaken to fully understand the implications of land management actions. Such studies will help determine appropriate management practices and identify potential areas for expanding and augmenting depauperate populations.

This agreement, and the following conservation assessment and strategy, identifies specific actions that are necessary to reduce threats and provide for the long-term conservation of Arizona willow, and so, listing under the ESA by FWS would not be warranted. The short-term actions are to stabilize populations of Arizona willow by reducing immediate threats that inhibit growth, reproduction, and seedling establishment, and contribute to mortality. The accomplishment of many long-term actions will require further National Environmental Policy Act (NEPA) analysis prior to full implementation.

III. CONSERVATION STANDARDS AND CRITERIA

The conservation of Arizona willow will require preservation of abiotic, biotic, and genetic diversity at population, community, and ecosystem levels. To achieve these objectives and to effectively direct management actions, eight watershed-based "conservation units" are designated as the recovery analysis areas. The following "Conservation Standards and Criteria" define those essential components needed to understand the species' biology, viability, restoration, and management needs, as well as those specific administrative elements necessary to ensure long-

term management continuity and commitment. These will be used, in part, to measure whether the conservation objectives have been accomplished.

- A. Scientific data indicate that each conservation unit sustains populations that are viable or that are on a significant upward trend towards viability that is maintained for at least ten years.
 - 1. Collect and analyze biological and ecological data throughout Arizona willow's natural range to determine reproductive biology, genetic makeup, habitat requirements, ecological relationships, and responses to competition, disease, and predation.
 - 2. Conduct surveys and inventories to determine the overall distribution and status of Arizona willow, define potential habitat, and quantify density and abundance.
 - 3. Provide survey data and results of research activities in a timely manner to all interested parties through the Arizona Game and Fish Department (AGFD) and Utah Division of Wildlife Resources (UDWR) Heritage Program databases as the central repository of site-specific information. Tribal information will be managed by the Tribe pursuant to the "Statement of the Relationship between the White Mountain Apache Tribe and the U.S. Fish and Wildlife Service" (December 6, 1994).

- B. Unfragmented and high-quality habitat sufficient to ensure long-term survival and recovery is protected within each conservation unit.
 - 1. Enforce existing laws and regulations for the protection of Arizona willow populations.
 - 2. Identify and implement actions required to reduce existing and potential threats from known populations of Arizona willow.

3. Ensure that viable populations and genetic diversity are maintained throughout the species' range.
4. Retain federal lands containing Arizona willow in federal ownership. Acquisition of significant habitats in private ownership with Arizona willow should be pursued when feasible.
5. Designate special management areas such as Botanical Areas, Research Natural Areas, and essential habitat, where appropriate, for the protection and conservation of Arizona willow within each conservation unit.
6. Implement, through administrative procedures, the Arizona Willow Conservation Agreement and Strategy and incorporate provisions of this strategy into agency planning documents and budgets to ensure consistent implementation.
7. Provide mechanisms to oversee implementation of the Arizona Willow Conservation Agreement and Strategy and to evaluate the success of these conservation actions through the Arizona Willow Interagency Technical Team.
8. Increase public awareness, appreciation, and support for the conservation of Arizona willow.

III. AUTHORITY

A. Involved Parties:

1. U.S. Department of Agriculture, Forest Service (FS)
2. U.S. Department of The Interior, National Park Service (NPS)
3. U.S. Department of The Interior, Fish and Wildlife Service (FWS)

B. Authorities:

Endangered Species Act of 1973, as amended, Section 2, establishes the Act's purpose to, "...provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved..." Section 5 directs the Secretaries of The Department of Agriculture and Department of The Interior to "...establish and implement a program to conserve fish, wildlife, and plants..."

National Forest Management Act (1976) directs Forests to maintain viable populations of all native and desired nonnative wildlife, fish, and plant species in habitat distributed throughout their geographic range on National Forest System lands.

U.S. Forest Service Manual (FSM 2670) on endangered, threatened, and sensitive species directs the agency to "Develop and implement management practices to ensure that [sensitive] species do not become threatened or endangered because of FS actions."

The national interagency Memorandum of Understanding for the conservation of species tending towards federal listing issued on January 25, 1994 (94-SMU-058) provides the general framework for cooperation and participation among cooperators in the conservation of species.

IV. STATEMENT OF MUTUAL BENEFIT

It is mutually beneficial for the parties involved to secure populations of Arizona willow from habitat loss and degradation. Participating agencies and Arizona willow will benefit from implementing conservation measures that provide the widest possible improvement in the abundance, diversity, and distribution of Arizona willow. Arizona willow and other species will benefit from the proposed conservation actions that maintain and improve healthy riparian ecosystem functions and processes.

V. RESPONSIBILITIES

A. U.S. Forest Service Shall:

1. Have primary responsibility for implementation of specific conservation actions to protect and restore Arizona willow habitat and ensure that viable populations are maintained throughout its natural range on National Forest System lands.
2. Retain Arizona willow on the Regional Forester's sensitive species list to ensure that Biological Evaluations are conducted to determine effects of planned projects within existing populations of Arizona willow or potential habitat.
3. Designate "essential habitat" for Arizona willow, where appropriate, to ensure these habitats receive special protection to maintain healthy, viable populations throughout the species natural range.
4. Seek opportunities to establish special management areas such as Botanical Areas and Research Natural Areas.
5. Seek opportunities for conservation easements and land acquisition of important private inholdings of Arizona willow populations.
6. Conduct a workload analysis to determine the budgetary and botanical staffing needs for implementing actions for Arizona willow and associated threatened, endangered, and sensitive species in their ecosystems.
7. Support the funding of studies and other scientific research developed to better understand the biology and ecology of Arizona willow.
8. Ensure NEPA analysis is completed for proposed projects in potential Arizona willow habitat that is consistent with protection and maintenance of viable

Arizona willow populations. Fully involve FWS and appropriate State agencies as cooperators or partners throughout the NEPA process for all projects likely to affect Arizona willow or its habitat.

9. In Arizona, coordinate with the AGFD in the monitoring and evaluation of ungulate grazing effects on Arizona willow, and the implementation of wildlife management strategies within Arizona willow habitat. Facilitate AGFD participation as Technical Contributors to the Arizona Willow Interagency Technical Team.
10. In Utah, coordinate with the UDWR in the monitoring and evaluation of ungulate grazing effects on Arizona willow, and the implementation of wildlife management strategies within Arizona willow habitat. Facilitate UDWR participation as Technical Contributors to the Arizona Willow Interagency Technical Team.
11. Fully implement the December 19, 1994 Regional Foresters Policy statement regarding Arizona willow conservation (Part IV, A).

B. National Park Service Shall:

1. Have primary responsibility for implementation of specific conservation actions to protect and restore Arizona willow habitat and ensure that viable populations are maintained on National Park Service lands.
2. Ensure NEPA analysis is completed on proposed projects in potential Arizona willow habitat that is consistent with protection and maintenance of viable Arizona willow populations. Fully involve FWS and appropriate State agencies as cooperators or partners throughout the NEPA process for all projects likely to affect Arizona willow or its habitat.

3. Investigate opportunities to designate a Research Natural Area or other special designation for the "CCC Camp" population in Cedar Breaks National Monument.

C. U.S. Fish and Wildlife Service Shall:

1. Provide technical assistance in the implementation of this Conservation Agreement and Strategy and ensure adequate protection and management is occurring.
2. Serve as lead agency by chairing the Arizona Willow Interagency Technical Team in scheduling coordination meetings, reviews, and development of monitoring protocol.
3. Work with State agencies with Endangered Species Act Section 6 agreements to develop studies and research projects that further the implementation of this Conservation Agreement and Strategy.
4. Pursue opportunities with private landowners to secure conservation easements to assist in protection of Arizona willow habitat on private lands.
5. Provide the U.S. Army Corps of Engineers with written documentation of Arizona willow locations and habitats on private property to ensure that Clean Water Act Section 404 permits, issued for proposed projects altering wetlands, have appropriate protective measures.
6. Coordinate with the Tribe to assist in protection and management of their Arizona willow populations.
7. In Arizona, coordinate with the AGFD for the implementation of wildlife management strategies within Arizona willow habitat. Facilitate AGFD

participation as Technical Contributors to the Arizona Willow Interagency Technical Team.

8. In Utah, coordinate with the UDWR for the implementation of wildlife management strategies within Arizona willow habitat. Facilitate UDWR participation as Technical Contributors to the Arizona Willow Interagency Technical Team.
9. Re-evaluate the need to list Arizona willow under the Endangered Species Act if agency implementation is not occurring or is inadequate to protect the species or its habitat.

D. Interagency Cooperators Shall:

1. Work together to implement this Conservation Agreement and Strategy, and manage, protect, and restore the riparian ecosystem upon which Arizona willow and other species depend. Coordinate joint studies and cooperate in shared funding opportunities.
2. Ensure, within the limits of agency authorities, outyear budgets and staffing are programmed to facilitate implementation of the actions identified for the respective agencies.
3. Prepare an annual summary report of actions scheduled for accomplishment, and any proposed amendments to the Conservation Agreement and Strategy. This information will be provided to affected parties by March of each year.
4. Provide representation on the Arizona Willow Interagency Technical Team from each management unit to monitor implementation, develop monitoring protocol, hold annual coordination meetings, conduct field reviews, provide annual reports, and make recommendations to the Regional Foresters and

Regional Directors on any proposed amendments to the Conservation Agreement and Strategy.

5. Keep all signatories and other affected parties informed of the status of the implementation or modification of the agreement.
6. Fully involve the FWS and appropriate State agencies as cooperators or partners throughout the NEPA process for all projects likely to affect Arizona willow or its habitat.
7. Implement their portions of the Arizona willow conservation actions identified below.

Conservation Actions:

Various types of actions are required to implement the Arizona Willow Conservation Agreement and Strategy. Many actions are designed to eliminate, reduce, or mitigate adverse effects, and others to conserve Arizona willow ecosystems. Priority actions to remove immediate threats and stabilize populations include fencing, exclosures, cages, application of riparian management objectives, and rested pastures. Other actions consist of baseline data collection, population trend monitoring, inventories for new populations, research, and special management area designation. Each agency also has administrative responsibilities to oversee the implementation of the Arizona Willow Conservation Agreement and Strategy. The following actions are intended to remove immediate threats or establish baseline data to assess other limiting factors. It should be noted that any combination of resources may be used to complete these conservation actions.

1. Fences (Barbed or Electric)

Four populations in Arizona and three populations in Utah have protection fences to protect Arizona willow ecosystems from negative impacts due to grazing by domestic livestock. Specific details for these populations are found in Table 1, and in Part III, Conservation Strategy, Outline of Conservation Actions.

2. Exclosures

The Stinky Creek population in Arizona and four populations in Utah will have exclosures. These exclosures consist of fenced areas to study the effects of wildlife use, livestock use, and combined use compared to areas excluded from all use by large herbivores. Details for these populations are found in Table 2, and in Part III, Conservation Strategy, Outline of Conservation Actions.

3. Cages

Cages are an interim protection action to exclude direct impacts from ungulates. Cages will enclose individual plants, or groups of plant units, and will generally be approximately eight feet square, though this may vary from site to site. Cages will be used on a temporary basis while land management planning processes, including revisions of allotment management plans, are completed, or as part of research efforts. Cages will be used within eight of the 15 populations on the Apache-Sitgreaves NFs, and within three populations in Utah. Details for these populations are found in Table 3, and in Part III, Conservation Strategy, Outline of Conservation Actions.

4. Riparian Management

Special attention will be given to assessing potential impacts from recreation, livestock management, wildlife, riparian improvement projects, and other proposed actions, and the implementation of riparian area standards and guidelines established in the Southwestern and Intermountain Forest Plans. Details for these populations are found in Table 4, and in Part III, Conservation Strategy, Outline of Conservation Actions.

5. Rested Pastures

Seven of the 15 populations on the Apache-Sitgreaves NFs are located in pastures which will be rested from livestock use until the Greer and Voigt Allotment Management Plans (AMPs) are revised within the provisions established by this Conservation Agreement and Strategy. The need for continued rest will be re-evaluated as part of the AMP development process. The Greer and Voigt AMPs are targeted for completion in October 1996 if the decision is made to stock the allotment. Detailed actions for these populations are found in Table 5, and in Part III, Conservation Strategy, Outline of Conservation Actions.

6. Baseline Data Collection and Population Trend Monitoring

Detailed actions for data collection and population monitoring actions are found in Part III, Conservation Strategy, Outline of Conservation Actions.

Standardized monitoring protocol will be developed in cooperation with all affected parties before annual monitoring begins in the 1995 field season.

Arizona: All 15 populations on the Apache-Sitgreaves NFs will be monitored on a short- and long-term basis (see Part III). All small populations will be monitored at 100 percent. The number of plants monitored within larger populations will depend on the size of the population. Monitoring activities are estimated to cost \$3,500 per year. Intensive monitoring will be done on all Forest populations every ten years to assess trends, at an estimated cost of \$8,000. Results will be reviewed to revise management actions (e.g. modification of annual operating plan) and long-term monitoring protocols, if necessary.

Utah: All 20 populations in Utah will receive short- and long-term monitoring (see Part III). Short-term monitoring will consist of baseline data collection through the year 1997. Short-term monitoring will be conducted annually through 1997. To complete this short-term monitoring it is estimated to cost a minimum of \$22,700 in 1995, \$14,400 in 1996, \$16,200 in 1997, \$7,900 in 1998, and \$7,900 in 1999. Long-term monitoring will begin in the year 2000 and is estimated to cost \$18,800. Prior to initiating long-term monitoring, results from short-term monitoring will be reviewed and new monitoring protocols, implementation schedules, and budgets developed, if necessary.

7. Inventory for New Populations

Virtually all potential habitat for Arizona willow on the Apache-Sitgreaves NFs has been surveyed based on an assessment of current habitat conditions. At five year intervals, additional surveys should be undertaken to see if Arizona willow has expanded into previously unoccupied habitat. The willow was rediscovered in Utah in 1994, and additional potential habitat occurs on the Dixie and Fishlake NFs. It is planned that during the next three years high priority habitat on these two Forests will be surveyed. To complete these surveys and data analysis, the Dixie and Fishlake NFs will each need approximately

\$30,000 per year to survey all high priority areas within the 3-year period. Baseline data will be gathered for any new populations found. Negative survey results also provide valuable information and will be filed at the District and Forest level. All positive and negative results will be submitted to state Natural Heritage Programs for inclusion into these databases.

Surveys for new Arizona willow populations need to be conducted beyond the boundaries of the three Forests. If Arizona willow is discovered on other Forests, thorough inventories will be undertaken. Potential habitat may occur on the San Francisco Peaks on the Coconino NF, and on National Forests in New Mexico, western Colorado, and southern Utah (Figure 2).

8. Studies/Research

Little is known about the biology and ecology of Arizona willow. Specific research is needed in the following areas: life history studies, ecology, the relationships to plant community succession and soil development, utilization by animals, diseases and insects, population dynamics, and DNA analysis to determine which populations are most appropriate for essential habitat designation. To conduct a DNA analysis for populations in Arizona and Utah, a minimum of \$25,000 will be required in 1995.

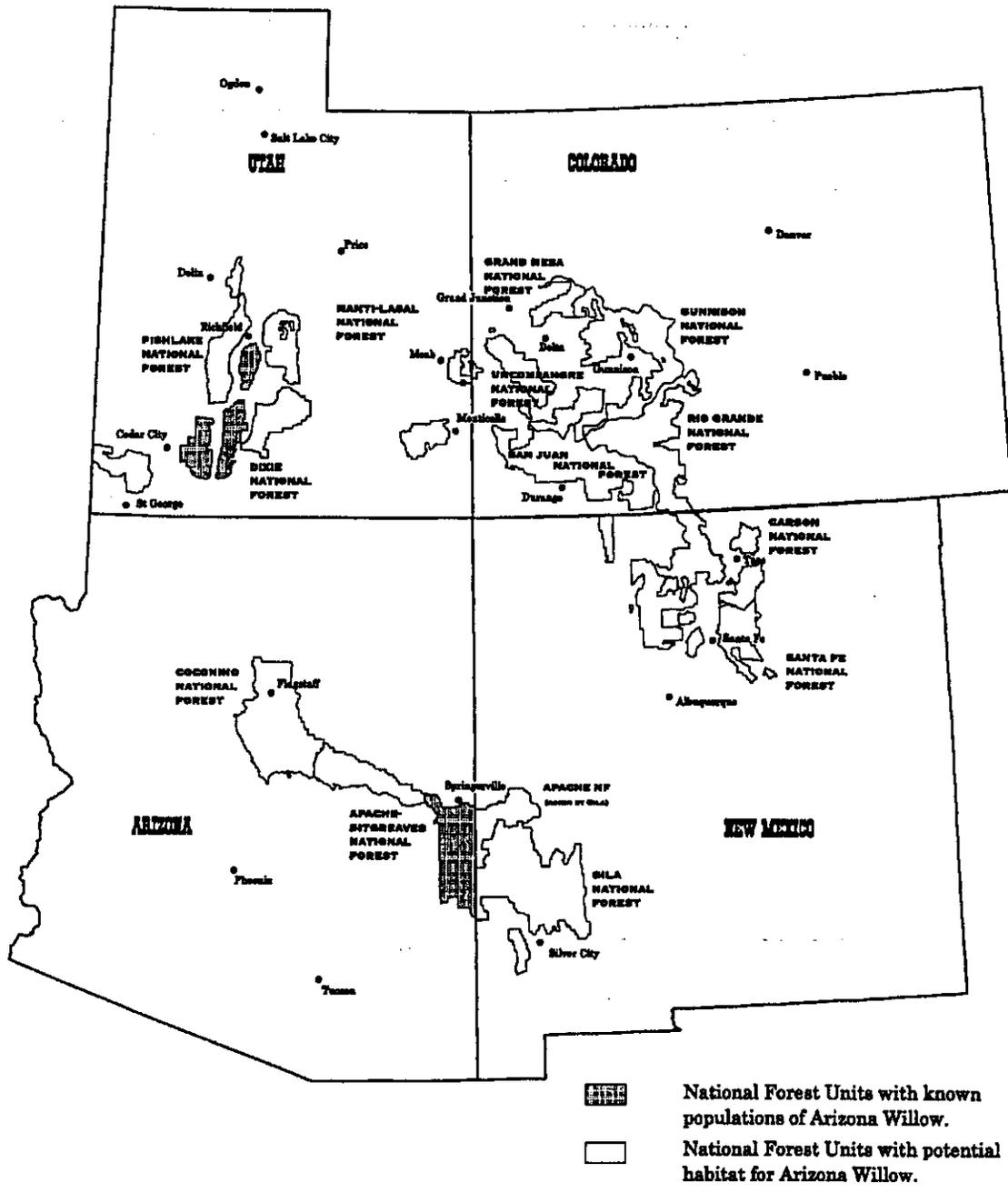


Figure 2. National Forest administrative units with known or potential habitat for Arizona willow (*Salix arizonica*).

9. Administration

The implementation of the Arizona Willow Conservation Agreement and Strategy requires staff time from various agency administrative units for participation on the Arizona Willow Interagency Technical Team. Also included are aspects of technical supervision, review and evaluation, programming of budgets, and project administration for Arizona willow. The estimated costs for administrative functions are reflected in Tables 6 and 7, which also provide a summary of other fiscal commitments by year, through fiscal year 2000. These costs are summarized and include costs incurred by: FS Regional Offices, National Forest Supervisors Offices, Ranger District Offices; Fish and Wildlife Service Regional Offices and Ecological Services State Offices; and National Park Service Cedar Breaks National Monument.

Table 1. Summary of Conservation Actions -- Fences.

(*) Little Colorado Ecosystem Unit; primary cost of AMP attributed to Arizona willow.

Location	Effectiveness Monitoring	Responsibility	Action/Duration	Estimated Cost
ARIZONA Lee Valley Reservoir to Colter Reservoir	1. Annual monitoring of fence effectiveness and maintenance. 2. Monitoring plants continues.	Apache-Sitgreaves NFs	Monitor annually. AMP revision targeted for Oct 1996	New fencing \$800 FY1995 Monitor \$200/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996
Phelps	1. Annual monitoring of fence effectiveness and maintenance. 2. Monitoring plants continues.	Apache-Sitgreaves NFs	Monitor annually. AMP revised by 10/96	Fencing maintenance \$500/year. Monitor \$200/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996
Thompson Ranch	1. Annual monitoring of fence effectiveness and maintenance. 2. Monitoring plants continues.	Apache-Sitgreaves NFs	Monitor annually.	Fencing \$6000 FY1995 Monitor \$200/yr to FY2000
Below Thompson	1. Annual monitoring of fence effectiveness and maintenance. 2. Monitoring plants continues.	Apache-Sitgreaves NFs	Monitor annually.	Fencing \$12,650 FY1995 Monitor \$200/yr to FY2000
UTAH Sidney Valley	1. Annual monitoring of electric fence effectiveness 2. Establish photo monitoring plots.	Dixie NF	Monitor annually through 2000, then re-evaluate.	\$100/yr FY1995-2000
		Dixie NF	Baseline data collection in 1995. Take photos through 1997, then again in year 2000, then re-evaluate.	\$2000 in FY1995 \$500 in FY1996 \$500 in FY1997 \$1000 in FY2000
Crystal Springs	1. Monitor effectiveness of pole fence surrounding spring. 2. Monitor effectiveness of pole fence.	Dixie NF	Reconstruction of fence in 1995.	\$500 in FY1995
		Dixie NF	Re-evaluate in 1996.	\$200 in FY1996
Seven Mile Creek	1. Construct let down fence. Annually monitor effectiveness of let down fence. 2. Establish photo monitoring plots.	Fishlake NF	Completion of fence in 1995 Monitor annually 1996-2000 Baseline data collection 1995; Take photos through 1997, again in 2000, then re-evaluate.	\$20,000 in FY1995 \$500/yr FY1996-2000 \$2500 in FY1995 \$1500 in FY1996 \$1500 in FY1997 \$2000 in FY2000

Table 2. Summary of Conservation Actions -- Exclosures.

Location	Effectiveness Monitoring	Responsibility	Action/Duration	Estimated Cost
ARIZONA Stinky Creek	<ol style="list-style-type: none"> Annual monitoring of exclosure fence effectiveness and maintenance needs. Photo points, C&T Transects. 	Apache-Sitgreaves NFs	Monitor annually.	Fence \$5000 in FY1995 to install 3-way exclosure. Monitor \$500/yr to FY2000
UTAH Lowder Pond	<ol style="list-style-type: none"> Annual monitoring of exclosure effectiveness. Baseline data collection. 	Dixie NF	Monitor annually through 2000, then re-evaluate.	\$500/yr FY1995-1999 \$1000 in FY2000
Sheep Herder	<ol style="list-style-type: none"> Annual monitoring of exclosure effectiveness. Baseline data collection. 	Dixie NF	Annually through 1997, then again in year 2000, then re-evaluate.	\$2500 in FY1995 \$1500 in FY1996 \$1500 in FY1997 \$2000 in FY2000
East Fork of Sevier River	<ol style="list-style-type: none"> Annual monitoring of exclosure effectiveness. Baseline data collection. 	Dixie NF	Monitor annually through 2000, then re-evaluate.	\$500/yr FY1995-1999 \$1000 in FY2000
Seven Mile Creek	<ol style="list-style-type: none"> Annual monitoring of exclosure effectiveness. Baseline data collection. 	Dixie NF	Annually through 1997, then again in year 2000, then re-evaluate.	\$2500 in FY1995 \$1500 in FY1996 \$1500 in FY1997 \$2000 in FY2000
	<ol style="list-style-type: none"> Annual monitoring of exclosure effectiveness. 	Fishlake NF	Monitor annually through 1997, then re-evaluate.	\$500/yr FY1995-1999 \$1000 in FY2000
	<ol style="list-style-type: none"> Annual monitoring of exclosure effectiveness. 	Dixie NF	Annually through 1997, then again in year 2000, then re-evaluate.	\$2500 in FY1995 \$1500 in FY1996 \$1500 in FY1997 \$2000 in FY2000
	<ol style="list-style-type: none"> Annual monitoring of exclosure effectiveness. 	Fishlake NF	Construct in 1995. Monitor 1996-1999.	\$7000 in FY1995 \$1000 in FY1996
	<ol style="list-style-type: none"> Baseline data collection. 	Fishlake NF	Re-evaluate in 2000. Annually through 1997, then again in year 2000, then re-evaluate.	\$500/yr FY1997-1999 \$1500 in FY2000 \$3000 in FY1995 \$2000 in FY1996 \$2000 in FY1997 \$2500 in FY2000

Table 3. Summary of Conservation Actions – Cages.

(*) Little Colorado Ecosystem Unit; primary cost of AMP attributed to Arizona willow.

Location	Effectiveness Monitoring	Responsibility	Action/Duration	Estimated Cost
ARIZONA Reservation Boundary	Annual monitoring of cage effectiveness.	Apache-Sitgreaves NFs	Annual inspection. AMP revised by 10/96.	New cages \$350 in FY1995 LCEU(*) AMP \$500/yr FY1995/FY1996
Sheeps Crossing	Annual monitoring of cage effectiveness.	Apache-Sitgreaves NFs	Annual inspection. AMP revised by 10/96.	New cages \$400 in FY1995 Monitor 200/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996
Lee Valley Reservoir to Colter Reservoir	Annual monitoring of cage effectiveness.	Apache-Sitgreaves NFs	Annual inspection. AMP revised by 10/96.	New cages \$500 in FY1995
Voigt Cabin	Annual monitoring of cage effectiveness.	Apache-Sitgreaves NFs	Annual inspection. AMP revised by 10/96.	New cages \$450 in FY1995 Monitor \$200/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996
East Fork LCR below Phelps to Colter Reservoir	Annual monitoring of cage effectiveness.	Apache-Sitgreaves NFs	Annual inspection. AMP revised by 10/96.	New cages \$3600 in FY1995 LCEU(*) AMP \$500/yr FY1995/FY1996
East Fork LCR below Colter Reservoir	Annual monitoring of cage effectiveness.	Apache-Sitgreaves NFs	Annual inspection. AMP revised by 10/96.	New cages \$500 in FY1995 Monitor \$200/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996
Thompson Ranch	Annual monitoring of cage effectiveness.	Apache-Sitgreaves NFs	Annual inspection.	New cages \$1000 in FY1995
Below Thompson Ranch	Annual monitoring of cage effectiveness.	Apache-Sitgreaves NFs	Annual inspection.	New cages \$1000 in FY1995

Table 3. Continued -- Cages.

Location	Effectiveness Monitoring	Responsibility	Action/Duration	Estimated Cost
UTAH CCC Camp (Dixie NF portion)	1. Annual monitoring of effectiveness of caged plants. 2. Establish photo monitoring plots.	Dixie NF Dixie NF	Monitor annually through 2000, then re-evaluate. Baseline data collection in 1995. Take photos through 1997, then again in year 2000, then re-evaluate.	\$500/yr FY1995-1999 \$800 in FY2000 \$1500 in FY1995 \$500 in FY1996 \$500 in FY1997 \$1000 in FY2000
(NPS portion)	Establish photo monitoring plots.	Cedar Breaks National Monument	Baseline data collection in 1995. Take photos through 1997, then again in year 2000, then re-evaluate.	\$500/yr FY1995-1999 \$300 in FY2000

Table 4. Summary of Conservation Actions -- Riparian Management.

Listed are locations where vegetation management projects and other scheduled activities may occur within the next 5 years.

Location	Effectiveness Monitoring	Responsibility	Action/Duration	Estimated Cost
ARIZONA Sheeps Crossing	1. Monitor effectiveness of Forest Standards and Guidelines	Apache-Sitgreaves NFs	ADOT road realignment, bridged crossing, parking area.	\$1000-5000
West Fork LCR in Wilderness	1. Monitor effectiveness of Forest Standards and Guidelines	Apache-Sitgreaves NFs	Trail realignment.	\$500-1000 (partially completed)
Stinky Creek	1. Monitor effectiveness of Forest Standards and Guidelines	Apache-Sitgreaves NFs	Timber harvest.	\$0-5000
East Fork LCR below Phelps	1. Monitor effectiveness of Forest Standards and Guidelines	Apache-Sitgreaves NFs	Relocation of campground and horse corral facilities.	\$1000-5000
Livestock allotments in potential Arizona willow habitat	1. Monitor effectiveness of Forest Plan standards and guidelines.	Apache-Sitgreaves NFs	Monitor utilization standards.	As part of normal range administration activities.
Recreation activities in potential Arizona willow habitat.	1. Monitor effectiveness of Forest Plan standards and guidelines.	Apache-Sitgreaves NFs	Monitor associated impacts.	As part of normal program administration activities.
Riparian improvement projects in potential Az willow habitat.	1. Monitor effectiveness of Forest Plan standards and guidelines.	Apache-Sitgreaves NFs	Monitor associated impacts.	As part of normal program administration activities.
UTAH Bunker Creek	1. Monitor layout and design of 100' riparian buffer. 2. Monitor effectiveness of 100' riparian buffer.	Dixie NF Dixie NF	Timber harvest.	\$1000-4000 \$2000-5000
Castle Creek	1. Monitor layout and design of 100' riparian buffer. 2. Monitor effectiveness of 100' riparian buffer.	Dixie NF Dixie NF	Timber harvest.	\$2000-5000 \$3000-5000
East Fork of Sevier River	1. Monitor layout and design of 100' riparian buffer. 2. Monitor effectiveness of 100' riparian buffer.	Dixie NF Dixie NF	Timber harvest.	\$1000-4000 \$2000-4000

Table 4. Continued -- Riparian Management.

Location	Effectiveness Monitoring	Responsibility	Action/Duration	Estimated Cost
Hancock Peak	<ol style="list-style-type: none"> 1. Monitor layout and design of 100' riparian buffer. 2. Monitor effectiveness of 100' riparian buffer. 	Dixie NF	Timber harvest.	\$2000-4000
Lowder Creek	<ol style="list-style-type: none"> 1. Monitor layout and design of 100' riparian buffer. 2. Monitor effectiveness of 100' riparian buffer. 	Dixie NF	Timber harvest.	\$3000-4000
Midway Face	<ol style="list-style-type: none"> 1. Monitor layout and design of 100' riparian buffer. 2. Monitor effectiveness of 100' riparian buffer. 	Dixie NF	Timber harvest.	\$2000-3000
Rainbow Meadows	<ol style="list-style-type: none"> 1. Monitor layout and design of 100' riparian buffer. 2. Monitor effectiveness of 100' riparian buffer. 	Dixie NF	Timber harvest.	\$1000-1500
Sidney Valley	<ol style="list-style-type: none"> 1. Monitor layout and design of 100' riparian buffer. 2. Monitor effectiveness of 100' riparian buffer. 	Dixie NF	Timber harvest.	\$2000-3000
Seven Mile Creek	<ol style="list-style-type: none"> 1. Monitor special riparian management areas as described in Fishlake LRMP IV-33-35:91 	Fishlake NF	Road realignment.	\$1500
Livestock allotments in potential Arizona willow habitat.	<ol style="list-style-type: none"> 1. Monitor effectiveness of Forest. Plan standards and guidelines. 	Dixie NF/Fishlake NF	Monitor utilization standards.	As part of normal range administration activities.
Recreation activities in potential Arizona willow habitat.	<ol style="list-style-type: none"> 1. Monitor effectiveness of Forest. Plan standards and guidelines. 	Dixie NF/Fishlake NF	Monitor associated impacts.	As part of normal program administration activities.
Riparian improvement projects in potential Az willow habitat.	<ol style="list-style-type: none"> 1. Monitor effectiveness of Forest. Plan standards and guidelines. 	Dixie NF/Fishlake NF	Monitor associated impacts.	As part of normal program administration activities.

Table 5. Summary of Conservation Actions Schedule -- Rested pastures. (*) Little Colorado Ecosystem Unit; primary cost of AMP attributed to Arizona willow.

Location	Effectiveness Monitoring	Responsibility	Action/Duration	Estimated Cost
ARIZONA Reservation Boundary	Annual monitoring of pasture resting effects, special needs.	Apache-Sitgreaves NFs	Annually until AMPs done by 10/96, then re-evaluate	Monitor \$200/yr to FY2000
Hall Creek	Annual monitoring of pasture resting effects, special needs.	Apache-Sitgreaves NFs	Annually until AMPs done by 10/96, then re-evaluate	Monitor \$200/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996
West Fork LCR in Wilderness	Annual monitoring of pasture resting effects, special needs.	Apache-Sitgreaves NFs	Annually until AMPs done by 10/96, then re-evaluate	Monitor \$400/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996
Above Lee Valley Reservoir	Annual monitoring of pasture resting effects, special needs.	Apache-Sitgreaves NFs	Annually until AMPs done by 10/96, then re-evaluate	Monitor \$200/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996
South Tributary of East Fork LCR above Phelps	Annual monitoring of pasture resting effects, special needs.	Apache-Sitgreaves NFs	Annually until AMPs done by 10/96, then re-evaluate	Monitor \$200/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996
East Fork LCR above Phelps	Annual monitoring of pasture resting effects, special needs.	Apache-Sitgreaves NFs	Annually until AMPs done by 10/96, then re-evaluate	Monitor \$200/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996
East Fork LCR below Phelps to Colter Reservoir	Annual monitoring of pasture resting effects, special needs.	Apache-Sitgreaves NFs	Annually until AMPs done by 10/96, then re-evaluate	Monitor 200/yr to FY2000 LCEU(*) AMP \$500/yr FY1995/FY1996

Table 6. Summary of projected Forest Service fiscal needs (in \$1,000s) for Arizona willow conservation actions.

Action	Apache-Sitgreaves NFs					Dixie NF					Fishlake NF							
	FY95	FY96	FY97	FY98	FY99	FY00	FY95	FY96	FY97	FY98	FY99	FY00	FY95	FY96	FY97	FY98	FY99	FY00
Fences	21	1.5	0.5	0.5	0.5	0.5	2.6	0.8	0.6	0.1	0.1	1.1	22.5	2	2	0.5	0.5	2.5
Exclosures	5						9	6	6	1.5	1.5	9	10	3	2.5	0.5	0.5	4
Cages	10.3	2.5					2	1	1	0.5	0.5	1.8						
Rested Pastures	3																	
Data Collection Pop. Monitoring	3.5	3.5	3.5	3.5	3.5	3.5	22.2	13.9	15.7	6.9	6.9	15.3	0.5	0.5	0.5	1	1	3.5
Inventory							30	30	15				30	30	15			
Studies/ Research	7						6						2					
Administration	10	6	4	3	3	3	12	8	6	3	3	6	10	6	3	2	2	4
Totals	59.8	13.5	8	7	7	7	83.8	59.7	44.3	12	12	32.2	75	41.5	23	4	4	14

Table 7. Summary of projected National Park Service and Fish and Wildlife Service fiscal needs (in \$1,000s) for Arizona willow conservation actions.

Action	NPS Cedar Breaks National Monument					FWS Southwest Region					FWS Prairie-Mountain Region							
	FY95	FY96	FY97	FY98	FY99	FY00	FY95	FY96	FY97	FY98	FY99	FY00	FY95	FY96	FY97	FY98	FY99	FY00
Fences																		
Exclosures																		
Cages	0.5	0.5	0.5	0.5	0.5	0.3												
Rested Pastures																		
Data Collection Pop. Monitoring																		
Inventory																		
Studies/ Research							22	16	16									
Administration	0.2	0.2	0.2	0.2	0.2	0.2	14	10	6	6	6	8	6	3	2	2	2	3
Totals	0.7	0.7	0.7	0.7	0.7	0.5	36	26	22	6	6	8	6	3	2	2	2	3

VI. AGREEMENT TERM:

This agreement shall remain in force for a period of ten years. The Arizona Willow Conservation Agreement and Strategy will be reviewed and amended as needed.

VII. SPECIAL PROVISIONS:

- A. This Agreement may be modified or amended as necessary upon review of the proposed amendments by the Arizona Willow Interagency Technical Team and written consent of all parties. This agreement may be terminated by any party with a 60 day written notice to all other parties.
- B. This Agreement is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds among the parties of this agreement will be handled in accordance with applicable laws, regulations, and procedures.
- C. Principal contacts for this Agreement are the members of the Arizona Willow Interagency Technical Team.

VIII. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) AND NATIONAL FOREST MANAGEMENT ACT (NFMA) COMPLIANCE

Prior to completion of the proposed Arizona Willow Conservation Agreement and Strategy, the respective environmental planners for the Intermountain and Southwestern Regions of the FS and the three participating Forests reviewed the draft content of the Arizona Willow Conservation Agreement and Strategy for NEPA and NFMA compliance.

Current Forest Land and Resource Management Plans (LRMP) and amendments were reviewed for program management direction, and standards and guidelines that would be applicable to the protection, conservation, and management of Arizona willow populations located on National Forest System lands. Many standards and guidelines contained in the Forest LRMPs establish

direction and authority to ensure the long-term conservation of Arizona willow (Appendix A, B, and C). Short-term actions to remove immediate threats to Arizona willow met NEPA and NFMA compliance standards and were within the management authority of Federal officials to implement immediately. Long-term actions may need additional NEPA analysis and review, and will be incorporated into LRMP amendments as necessary.

To reinforce a proactive and comprehensive approach for immediate conservation action in known Arizona willow habitats, a joint policy statement was issued on December 19, 1994 by the FS Regional Foresters of the Intermountain and Southwestern Regions. The Arizona willow policy statement outlines the following: Forest LRMP standards and guidelines implementation, special resource protections, public information, future public and agency participation in the NEPA process, and designation of FS representatives on the Arizona Willow Interagency Technical Team.

IX. FEDERAL ADVISORY COMMITTEE ACT (FACA) COMPLIANCE

Membership on the Arizona Willow Interagency Technical Team is restricted to employees of the U.S. Forest Service, U.S. Fish and Wildlife Service, and National Park Service. Expertise was widely sought for inclusion from Technical Contributors as special needs were identified. Appropriate line officer authority for decision documents, resource allocation, personnel, and budgetary management has been retained by the responsible federal officials.

In Witness Whereof, the parties have caused this Arizona Willow Conservation Agreement to be executed as of the date of last signature below:

APPROVED:

Dale N. Bosworth
Mr. Dale N. Bosworth, Regional Forester
USDA Forest Service, Intermountain Region
Ogden, Utah

Date: 4/5/95

Charles W. Cartwright
Mr. Charles W. Cartwright, Regional Forester
USDA Forest Service, Southwestern Region
Albuquerque, New Mexico

Date: 4/7/95

for Robert H. Reynolds
Mr. John E. Cook, Regional Director
USDI National Park Service, Rocky Mountain Region
Denver, Colorado

Date: 4/6/95

for Terry Terrell
Mr. Ralph O. Morgenweck, Regional Director
USDI Fish and Wildlife Service, Mountain-Prairie Region
Denver, Colorado

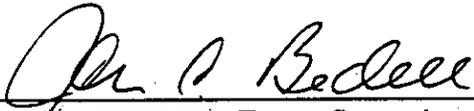
Date: 4/6/95

for John B. Staines
Dr. John G. Rogers, Regional Director
USDI Fish and Wildlife Service, Southwest Region
Albuquerque, New Mexico

Date: 4/7/95

Arizona Willow Conservation Agreement and Strategy

REVIEWED:



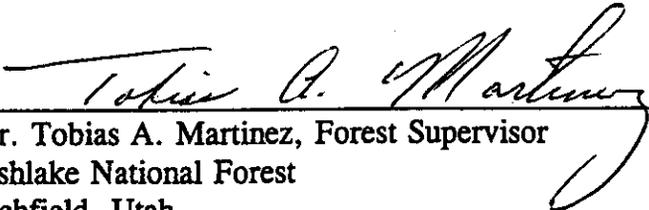
Mr. John C. Bedell, Forest Supervisor
Apache-Sitgreaves National Forests
Springerville, Arizona

Date: 4/3/95



Mr. Hugh C. Thompson, Forest Supervisor
Dixie National Forest
Cedar City, Utah

Date: 4/4/95



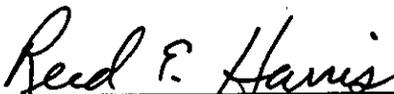
Mr. Tobias A. Martinez, Forest Supervisor
Fishlake National Forest
Richfield, Utah

Date: 4/4/95



Mr. Thomas E. Henry, Superintendent
Cedar Breaks National Monument
Cedar City, Utah

Date: 4/4/95



Mr. Reed E. Harris, Field Supervisor
Utah Ecological Service Field Office
Salt Lake City, Utah

Date: 4/4/95



Mr. Sam F. Spiller, State Supervisor
Arizona Ecological Service State Office
Phoenix, Arizona

Date: 4/7/95