Arizona Water Protection Fund
FY 2009 Grant Application Review

Application # WPF0376 **Applicant:** NATURAL CHANNEL DESIGN, INC.

Title of Project: TAVASCI MARSH WETLAND RESTORATION PROJECT

Additional materials were submitted with this application that could not be reproduced and distributed for review. These materials may be reviewed in person at the Arizona Water Protection Fund offices at (3550 N. Central Avenue, 4th Floor, Phoenix). The additional materials available are the following:

_____ **Maps**
_____ **Photographs**
__✓__ **Disk** – SCOPE OF WORK; DETAILED BUDGET
__✓__ **Other**

• WASO / REGION REVIEW
DRAFT GENERAL MANAGEMENT PLAN / ENVIROMENTAL ASSESSMEN

Tavasci Marsh - Wetland Restoration Project

Tuzigoot National Monument,
Tavasci Marsh Unit

AWPF Application Package

Submitted by:
Natural Channel Design, Inc.
206 S. Elden St
Flagstaff, Az. 86001

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Arizona Water Protection Fund Application Cover Page
FY 2009

WPF03760

Title of Project: Tavasci Marsh Wetland Restoration Project

Type of Project:
- ☒ Capital or Other
- ☐ Water Conservation
- ☐ Research

Stream Type:
- ☒ Perennial
- ☐ Intermittent
- ☐ Ephemeral

Your level of commitment to maintenance of project benefits and capital improvements:

☐ < 5 years ☐ 5-10 years ☐ 11-15 years ☒ 16-20 years

Applicant Information:
Name/Organization: Natural Channel Design, Inc.
Address 1:
Address 2:
City:
State:
ZIP Code:
Phone:
Fax:
Tax ID No.:

Inside an AMA: Yes ☐ No ☒

If yes, which AMA:
- ☐ Phoenix
- ☐ Tucson
- ☐ Prescott
- ☐ Pinal
- ☐ Santa Cruz

Type of Application:
- ☒ New
- ☐ Continuation

Contact Person:
Name: Kendra Kordes
Title: Technical Project Manager
Phone: Same as above
Fax: Same as above
e-mail:

Any Previous AWPF Grants:
☒Yes ☐No

If yes, please provide Grant #(s):

08-161WPF

Arizona Water Protection Fund Grant Amount Requested:

$374,838
If the application is funded, will the Grantee intend to request an advance:
☒**Yes** ☐**No**

Matching Funds Obtained and Secured:

Applicant/Agency/Organization:	Amount ($):
1. National Park Service	
2.	
3.	
Total:	$77,945

Has your legal counsel or contracting authority reviewed and accepted the Grant Award Contract General Provisions?
☒Yes ☐No ☐N/A

Signature of the undersigned certifies understanding and compliance with all terms, conditions and specifications in the attached application. Additionally, signature certifies that all information provided by the applicant is true and accurate. The undersigned acknowledges that intentional presentation of any false or fraudulent information, or knowingly concealing a material fact regarding this application is subject to criminal penalties as provided in A.R.S. Title 13. The Arizona Water Protection Fund Commission may approve Grant Awards with modifications to scope items, methodology, schedule, final products and/or budget.

Kendra Kordes **Typed Name of Applicant or Applicant's Authorized Representative**	Riparian Specialist **Title and Telephone Number**
Kendra Kordes Signature	6/10/08 Date Signed

RECEIVED
JUN 11 2008
ARIZONA WATER PROTECTION FUND
Flagstaff, AZ

EXECUTIVE SUMMARY

The Tavasci Marsh Wetland Restoration Project is a joint effort between the National Park Service (NPS) and Natural Channel Design, Inc (NCD). As landowner and manager, the NPS will provide the overall guidance to the project, participate in all facets of planning and implementation, and assume long-term operation and management. NCD will serve as grantee providing project management and technical assistance. The team has worked successfully in past projects and feels confident the complimenting strengths will be an asset on this project.

The goals of the project are to restore and protect wetland marsh vegetation and wildlife habitat; enhance hydrologic conditions and marsh function; and to decrease the negative impacts of monotypic and invasive vegetation on 9 acres of Tavasci Marsh. This project also provides a preliminary restoration design for the remaining 101 acres of marsh and stream within National Park Service boundaries. Accomplishing these goals will create diverse, high quality wildlife habitat for several species. The project will act as a pilot project to jumpstart additional restoration efforts at Tavasci Marsh.

Tavasci Marsh is a natural wetland located in a prehistoric meander of the Verde River near Clarkdale, Arizona. It was named for a pioneer family who leased land from the mining company for a dairy operation. The marsh was drained to provide more land for grazing and farming. Waters have since been returned to the marsh. The National Park Service (NPS) recently acquired ownership of the 110 acre Tavasci Marsh from Phelps Dodge and has been managed through Tuzigoot National Monument. The NPS is interested in modifying the existing monotypic stand of cattails and bulrush to create high quality wildlife habitat by increasing plant diversity and reintroducing native marsh plant communities. A planning document will be created for 110 acres of NPS land, including the marsh and 'outlet ditch' or stream running from the marsh to the Verde River. A pilot wetland restoration project will be implemented on 9 acres of the marsh near the visitor observation platform.

Wetland systems are composed of 4 hydrologic regimes: areas of short inundation, areas of long-term inundation, the draw down zone, and the permanently flooded areas (Hoag, Melvin, & Tilley 2007). Each regime or zone supports a characteristic plant community and provides essential habitats and function to the wetland system. As a result of past conversion to agricultural lands, Tavasci Marsh is dominated by a dense monotypic community of cattails in the permanently flooded areas. This monotypic system provides little species or structural diversity and limits the number and diversity of associated wildlife communities.

The project will enhance and create a variety of other hydrologic regimes and the native habitats associated with the marsh by modifying the local micro-topography and managing water levels. More gentle slopes and varying water levels will create "draw down" areas that will support sedge/rush "shoreline" habitats. The gently sloping topography will also provide "long-term inundation areas" of shrubby willow "fringe" habitat adjacent to a more robust cottonwood/willow canopy in the "short-term saturation zone". Permanent water zones will remain to support cattails communities as well as open water areas. Where appropriate drier areas "grassland" habitats will be created between cottonwood/willow and existing mesquite habitats. Water control structures near the outlet of the marsh will be repaired and/or enhanced to allow water levels within the marsh to be managed to create and maintain important habitat. Native riparian vegetation will be planted throughout the project area to create a gradual habitat transition from open water to upland mesquite bosque. The result will be an improvement in the quality and quantity of habitats and improved wetland function.

PROJECT OVERVIEW

Background

Freshwater marshes act to purify waters, as well as provide important habitat for a variety of plant and animal species. Marshes are heavily influenced by the surrounding environment, and are a function of the type and deposition rate of sediment, supply of nutrients, and movement of water. These characteristics determine plant composition, species richness, and overall health and productivity of the marsh. Typical plant communities associated with freshwater marshes include deep open water, wetted sedge/rush shoreline, cattail/bulrush, cottonwood/willow, willow fringe, grasslands, and mesquite bosques. These communities types gradually transition from one to the next as elevation rises away from the center of the marsh. The zone between each ecosystem type is a transition zone (or ecotone). Ecotones include characteristics of each zone to create a unique ecosystem that is vital to many wildlife species.

Tavasci Marsh is a natural wetland occupying a pre-historic meander of the Verde River directly downstream of Pecks Lake in Clarkdale, Arizona. It was named for a pioneer family who leased land from the mining company for a dairy operation. The marsh was drained in the 1920's (??) to provide more land for grazing and farming. With abandonment of farming, waters have since been returned to the marsh. Until recently, the marsh was owned by Phelps Dodge, and managed by Arizona Game and Fish Department. In December 2005, the National Parks Service obtained eighty-three acres of Tavasci Marsh as part of a larger parcel acquired from Phelps Dodge and it is currently being managed as part of Tuzigoot National Monument.

Thousands of years ago Tavasci Marsh and Pecks Lake were directly connected to the Verde River, but the river slowly changed course, and abandoned the meander that connected the river to the marsh and lake. Water is supplied to the marsh by consistent flows from Shea Springs located along the north edge of the marsh. The flows are estimated to be 1.2 to 1.6 cubic feet per second (cfs). Water rights to these springs are owned by the National Park Service and flows dedicated to maintaining the marsh. Prior to its failure in a January 2008 flood, a diversion from the Verde River supplied water to Pecks Lake, with excess flows from the lake routed through the marsh and back to the Verde River. These excess flows can be beneficial to the marsh, but are not considered essential and frequently created difficulties in conveying different volumes of water through the marsh.

Wetland plant communities are characterized by a set of distinct hydrologic regimes: short-term saturation, long-term saturation, draw down, permanently flooded (Hoag et al 2007a). These regimes in turn support plant communities that provide species and structural diversity to native wildlife. The "short-term saturation" zone is typically dry but may receive short periods of inundation. Plants in this zone must tolerate both infrequent flooding and periods of drought. This zone is also common along stream floodplains and low terraces and colonized by riparian shrubs and trees. The "long-term saturation" zone lies above the most common water surface elevation but is periodically flooded. The soils are moistened through capillary action. The zone can be occasionally flooded for extended periods and be exposed to high energies from flow or wave action. In general supple woody species such as Coyote willow or well-rooted sedge/rush species are well suited for this zone. The "draw down" zone lies between high water levels during runoff or rainy seasons and low water levels of summer or drought periods. Water levels can change daily in response to evapo-transpiration rates varying day and night. The zone is often sparsely vegetated with wetland obligate species but the dynamic water levels provide abundant food sources for wading shorebirds. As the name implies, the "permanently inundated" zone lies under water the majority of the time. Shallower parts of this zone support water loving sedges, rushes, and cattails. Deeper sections (>4 feet) support only floating plants and provide open water habitats for waterfowl. In addition to the riparian/wetland communities described above the drier

upland areas around wetlands provide additional habitats. The value of each of these communities in increased by diversity provided by their proximity to other communities and habitats.

While Tavasci Marsh currently provides valuable habitats, the species and structural diversity of the vegetation are limited by historic management practices. Today, the marsh is dominated almost exclusively by common cattail (*Typhus spp*) with small open water habitat (permanently flooded zone). With the exception of some cottonwood/willow communities (short-term saturation zone) located along the eastern marsh edge, the marsh is surrounded by mesquite bosque upland habitats. The change from cattail marsh to mesquite bosque is abrupt with little transition. These missing transition zones or ecotones include wetted sedge/rush shoreline (draw down zone), shrubby willow fringe (short-term saturation zone), and dry grassland habitats. These communities have the potential to provide additional valuable habitats for a variety of animals.

The lack of diversity of plant communities at Tavasci is primarily the result of the existing hydrology and micro-topography of the marsh system. The historic conversion to agricultural fields removed natural variations in the topography of the marsh. Stable outlet elevations result in little change in water surfaces throughout the year. The results are relatively stable, constant water depths that favor cattail and abrupt transitions to the dry mesquite bosque.

In the early 1990's, an Arizona Game and Fish (AZGF) project created a small area of open water habitat in the downstream section of the marsh. The open water is utilized by many waterfowl and has supplied diversity to an otherwise monotypic marsh. Game and Fish also recognized the need to manage water levels in order to keep the newly made open water open. Unfortunately, beaver dams downstream limited the effectiveness of the control structures.

The project will enhance existing and create new wetland and riparian habitats in Tavasci Marsh by modifying the micro-topography and managing water levels in the 9-acre demonstration project. The existing open water, cattail, and mesquite communities will remain but be reduced and several unrepresented or absent communities will be created (Hoag & Tilley 2007b). Shallow marsh fringes and fluctuating water levels will allow the creation of sedge/rush "shoreline" habitats available for wading shore birds. The more gradual topography will provide an area suitable for shrubby willow "fringe" habitats adjacent to taller and more permanent cottonwood and Goodding willow overstory. Where appropriate narrow "grassland" habitats dominated by Alkalai sacaton and other native grasses will be created. The mosaic will greatly increase the diversity of plant species within the project area as well as the structural diversity of habitats.

To the greatest extent possible, additional water management will be designed into the marsh by modifying existing and/or installing new berms and water control structures. Water control structures will be designed to be low maintenance and easy to manipulate (NRCS 1997). The management of water surface elevations in conjunction with the enhanced topography will optimize plant species diversity and help restore dynamics to the system.

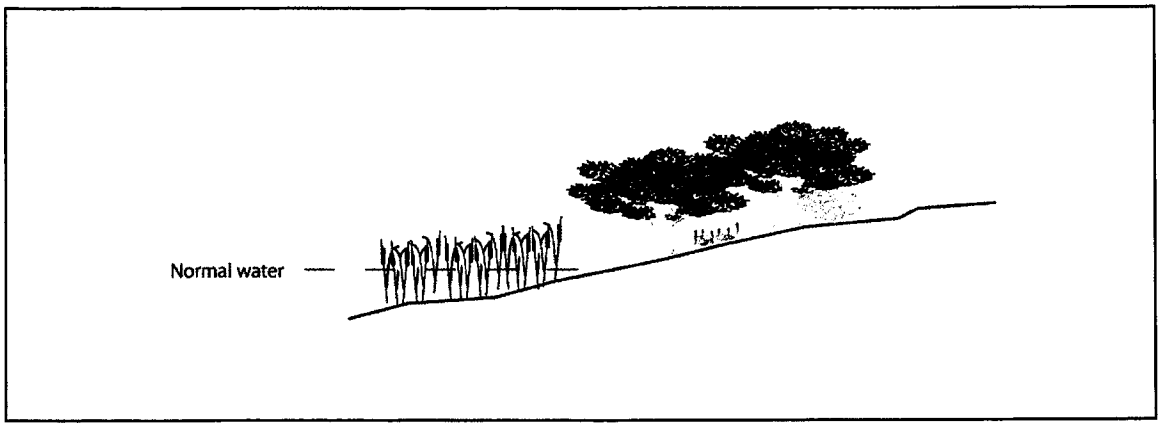


Figure 1. Existing marsh cross-section

Lack of micro-topography and uniform water levels create large expanses of cattail and bulrush with surrounding mesquite bosques. (NOT TO SCALE)

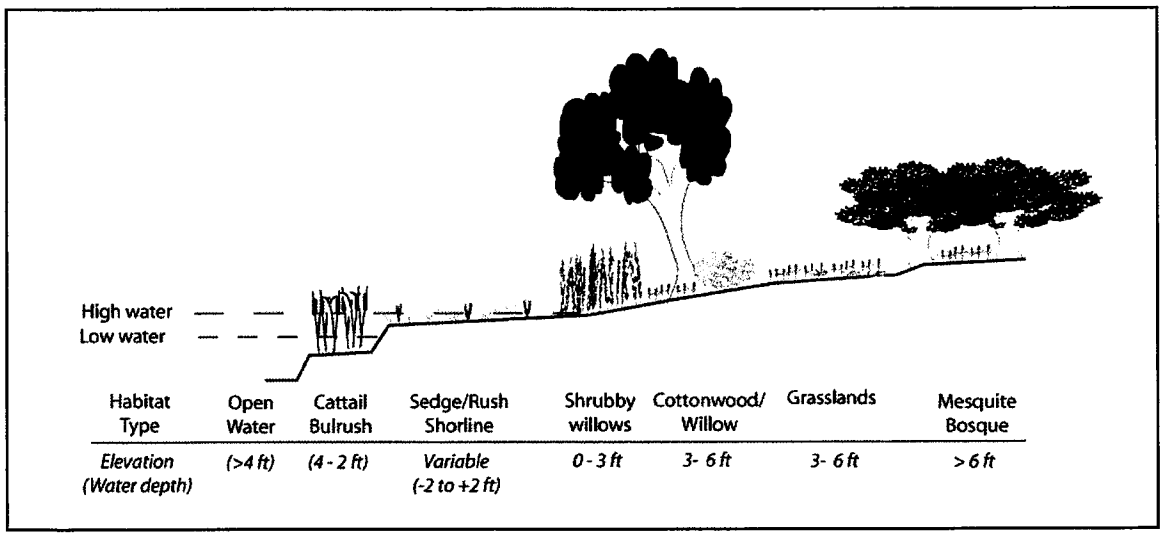


Figure 2 Design marsh cross-section

Project design includes the modification of micro-topography and managing water levels to create greater species and structural diversity. New habitats include sedge/rush "shoreline" habitat, shrubby willow "fringe" habitat, alkalai sacaton "grassland" habitats, and an expanded cottonwood/willow habitat. (NOT TO SCALE)

The project has the potential to benefit a large number of fish, bird, mammal, reptile, and amphibian species. The native species include both common as well as Endangered/Threatened species. The following federally listed species have been identified in the area of Tavasci marsh during previous NPS inventories.

Table 1. Federally listed species at Tavasci Marsh

Yellow clapper rail (*scientific name*)
Yellow billed cuckoo (*scientific name*)
Southwest willow flycatcher (*scientific name*)
Lowland leopard frog (*scientific name*)
Narrowhead garter snake (*scientific name*)
Mexican garter snake (*scientific name*)
Sonoran mud turtle (*scientific name*)

The project assessment and design will address more than the demonstration area. This project will conduct an evaluation of the remaining 101 acres of Tavasci Marsh. The evaluation will include hydrology, existing plant communities, water needs, ground water depths, existing topography, and reference conditions. Based on this evaluation, a preliminary design will be prepared for the entire marsh area. A more detailed design will be prepared and implemented for the 9-acre demonstration portion of the marsh. This demonstration project will enhance existing habitats and test the effectiveness of design components. The preliminary design along with lessons learned from the demonstration project will provide guidance for NPS in the enhancement of the remaining marsh.

Associated in-kind work tasks currently planned and funded by NPS will support and augment the project. Ongoing wildlife monitoring will augment AWPF funded monitoring. Planned invasive species management around Tavasci will be integrated with project efforts. Finally, planned repair of the ditch the conveys flows to the marsh from upstream Peck's Lake will allow these flows to be added to the marsh or diverted around in support of management of the marsh wildlife habitats.

Goals

The purpose of the project is to restore and enhance native wetland and riparian plant communities and thus the diverse high quality wildlife habitat that is associated with this freshwater marsh ecosystems. In addition the National Park Service would like to provide educational opportunities for visitors regarding the importance of wetland vegetation and the wildlife habitats associated with them.

Objectives

The objectives of this project are to:

1) Restore and enhance native wetland plant communities
2) Manage invasive plant species through water level management and other methods
3) Create diverse high quality wildlife habitat that is associated with freshwater marsh ecosystems
4) Provide educational opportunities for visitors regarding the importance of wetland plant communities and the wildlife habitats associated with them
5) Develop plans for future restoration work in the remaining marsh and water outlet channel to the Verde River.

Statement of Problems/Causes

The marsh was drained and topography likely altered in order for farming and grazing activities to occur. When waters were returned to the marsh, a monotypic stand of cattails dominated the landscape because of the flat and shallow topography of farm fields. The monotypic cattail and mesquite stands replaced important vegetative communities, including cottonwood/willow, sedge/rush, and grassland communities. Deep-water habitats likely disappeared when the marsh was originally drained and filled for propagation and grazing. Monotypic plant communities generally reduce wildlife diversity by providing food and shelter for a limited number of wildlife species ultimately reducing the overall wildlife diversity of the area. Although the area is currently open to the public, the lack of diversity in native plant and wildlife species limits the potential for education and interpretive opportunities. The large marsh and riparian area does not currently have a plan that outlines the steps to restore wetland/riparian function and habitat diversity.

Statement of Solutions

Re-shaping existing topography in the marsh and re-vegetating with many wetland and riparian species will increase vegetative diversity. After plant diversity and a mosaic of habitats are created, wildlife species will respond and diversity will increase. It will be necessary to manage water levels in order to maintain specific habitat types. Existing water control structures will be repaired and/or upgraded with additional structures added if necessary. Education about marsh habitats and the importance of these systems will take place through interpretive signage and visual impact from the existing observation platform.

Statement of Project Years of Benefit

The project area, its high quality habitats, and educational opportunities will become an important and integral part of the Tuzigoot National Monument,. The project will provide benefits for a period greater than 20 years. One of the primary objectives of NPS is the protection of native ecosystems and the education of visitors. Tavasci Marsh will be part of the Verde Valley far into the future, will become increasingly visited, and will remain protected as the regional population rises. After project implementation has been completed, long-term operation and maintenance will be transferred to Tuzigoot National Monument.

References

Apfelbaum, Steven I. *Cattail (Typha spp.) Management.* Applied Ecological Services, Brodhead, Wisconsin.

Gateway to Sedona, 2008 "Tavasci Marsh" www.gatewaysedona.com/artice/id/891/page/1. Visited: April 9, 2008

Hoag, J. Chris 1995. *Use of Greenhouse Propagated Wetland Plants versus Live Transplants to Vegetate Constructed or Created Wetlands.* Riparian/Wetland Project Information Series No.7, Natural Resources Conservation Service, Plant Material Center, Aberdeen ID.

Hoag, J. Chris 1998. *Guidelines for Planting, Establishment, and Maintenance of Constructed Wetland Systems.* Riparian/Wetland Project Information Series No.12, Natural Resources Conservation Service, Plant Material Center, Aberdeen ID.

Hoag, J. Chris, & Derek J. Tilley 2007a. *How to Manipulate Water in a New, Restored, or Enhanced Wetland to Encourage Wetland Plant Establishment.* Riparian/Wetland Project Information Series No.22, Natural Resources Conservation Service, Plant Material Center, Aberdeen ID.

Hoag, J. Chris, Norman Melvin, & Derek J. Tilley 2007b. *Wetland Plants: Their Function, Adaptation and Relationship to Water Levels.* Riparian/Wetland Project Information Series No.21, Natural Resources Conservation Service, Plant Material Center, Aberdeen ID.

Park Service, July, 2006. "Wetlands and Marshes" www.nps.gov/tuzi/naturescience/wetlands-and-marshes.htm. visisted: April 9, 2008

USDA NRCS 1997. Chapter 13. *Wetland Restoration, Enhancement, or Creation.* Part 650 Engineering Field Handbook, USDA Natural Resources Conservation Service, Washington DC.

USDA NRCS 2003. *Wetland Restoration, Enhancement, and Management.* Technical Note No. 190-72, USDA Natural Resources Conservation Service Wetland Science Institute, Harrisburg, Pennsylvania.

USDA NRCS 2007. *Noxious, Invasive, and Alien Plant Species: A Challenge in Wetland Restoration and Enhancement.* Technical Note No. 190-72, USDA Natural Resources Conservation Service, Washington DC.

USDI National Park Service, July, 2006. "Wetlands and Marshes" www.nps.gov/tuzi/naturescience/wetlands-and-marshes.htm. visited: April 9, 2008

PROJECT LOCATION & ENVIRONMENTAL CONTAMINANT INFORMATION

FY 2009

Project Location Information

1. County: Yavapai	2. Section: 22	3. Township: 16N	4. Range: 3E

5. Watershed: Verde River
6. Name of USGS Topographic Map where project area is located: Clarkdale
7. State Legislative District: 1

(Information available at http://156.42.40.10/mapping/default2.asp?tname=Interim.2004.Legislative.Map)

8. Land ownership of project area: National Park Service
9. Current land use of project area: Tuzigoot National Monument, Habitat
10. Size of project area (in acres): 9 acres pilot project, 101 acres concept planning
11. Stream Name: Shea Spring
12. Length of stream through project area: n/a
13. Miles of stream benefited: n/a miles
14. Acres of riparian habitat: 8 acres will be:

☒ Enhanced
☐ Maintained
☒ Restored
☐ Created

15. Provide directions to the project site from the nearest city or town. List any special access requirements:
I17 North to exit 287 for AZ-260 toward Cottonwood/Payson. Turn left at AZ-260/AZ-279. Turn left at South Main Street. Turn Right at North 10th Street. Slight left toward Tuzigoot Road. Turn left toward Tuzigoot National Monument. Stay on Tuzigoot Road.

Environmental Contaminant Location Information

1. Does your project site contain known environmental contaminants? ☐ **YES** ☒ **NO** If yes, please identify the contaminant(s) and enclose data about the location and levels of contaminants:
   •
2. Are there known environmental contaminants in the project vicinity? ☐ **YES** ☒ **NO** If yes, please identify the contaminant(s) and enclose data about the location and levels of contaminants:
   •
3. Are you asking for Arizona Water Protection Fund monies to identify whether or not environmental contaminants are present? ☐ **YES** ☒ **NO**

ARIZONA WATERSHED MAP

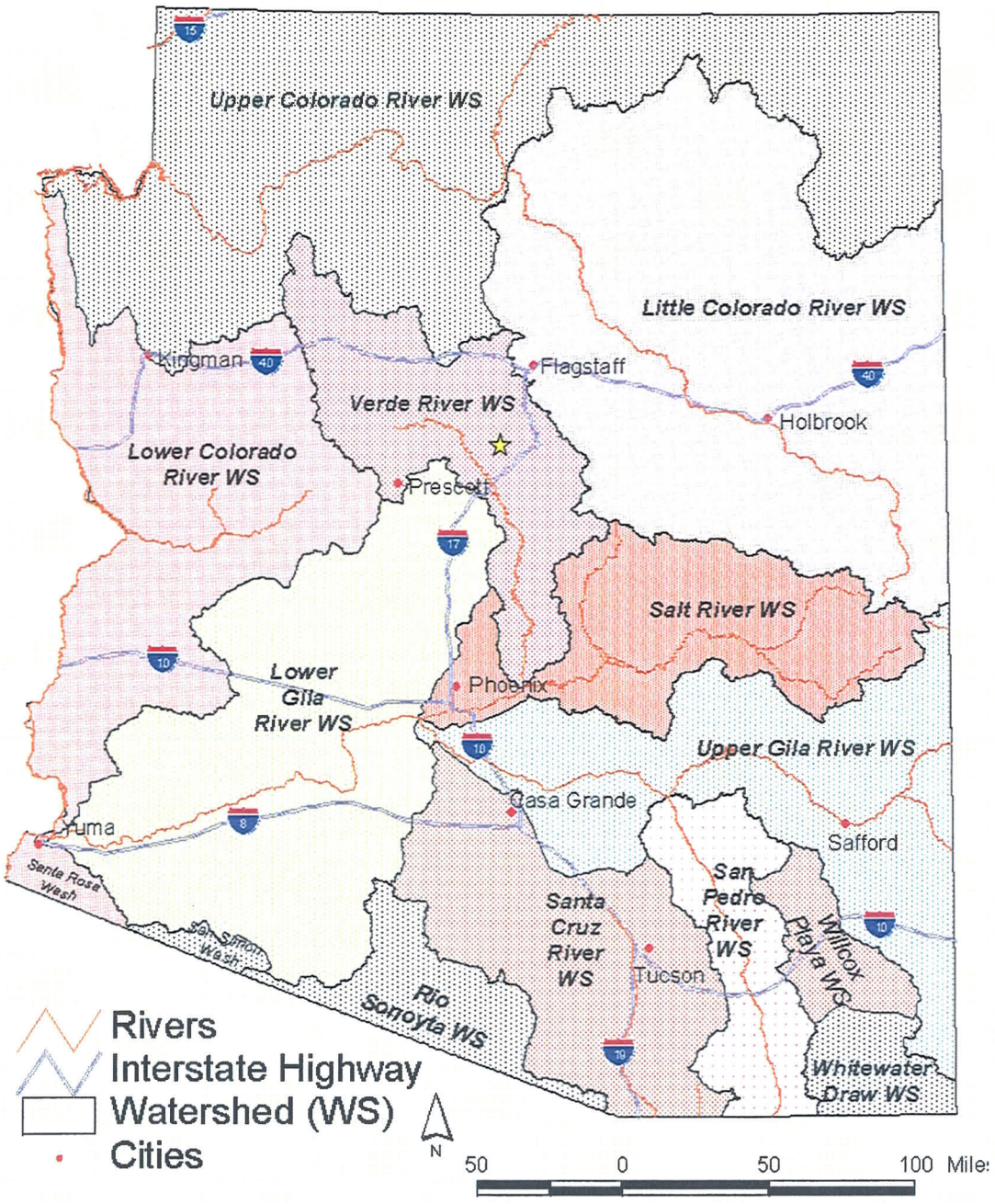


Figure 3. Title of Project: **Tavasci Marsh-Wetland Restoration Project**

PROJECT LOCATION/OWNERSHIP MAP

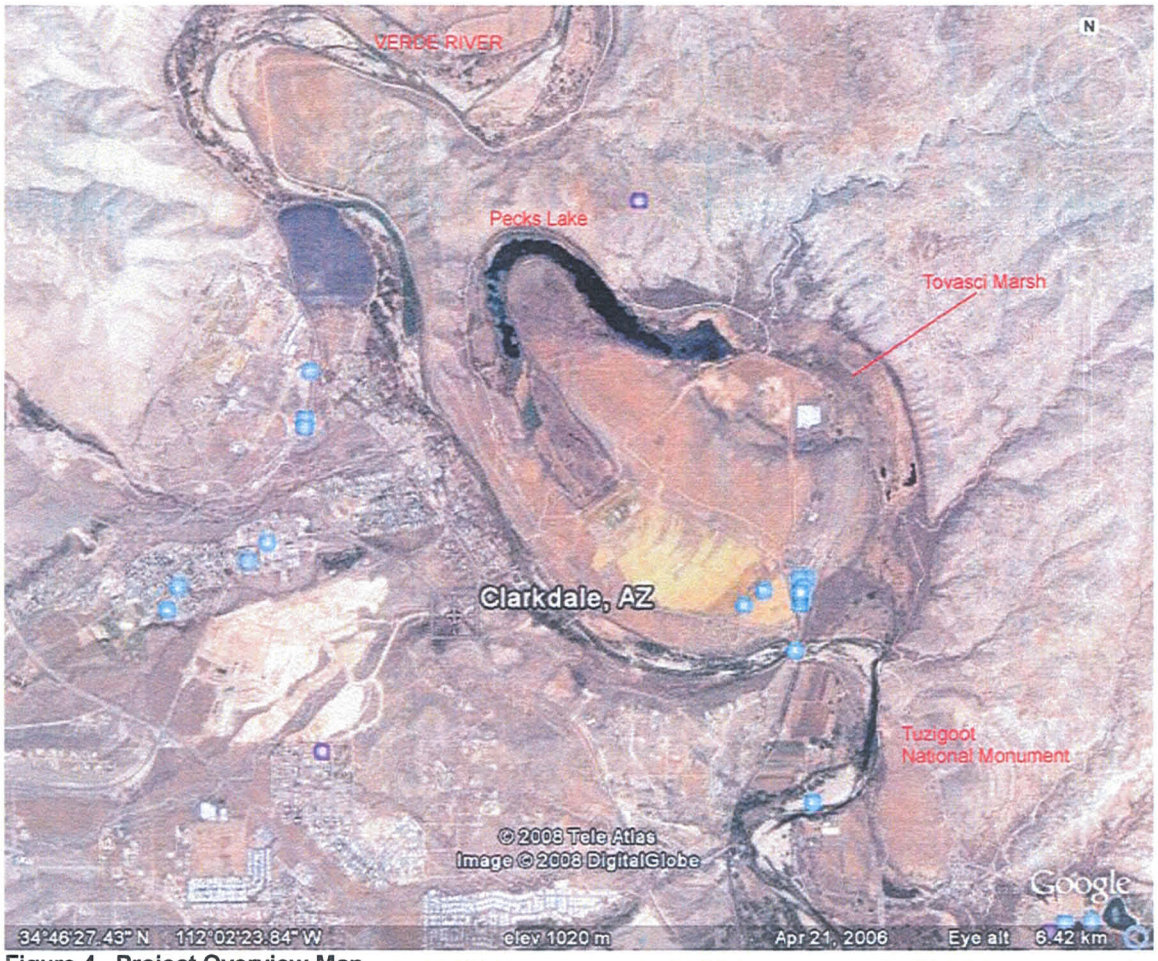


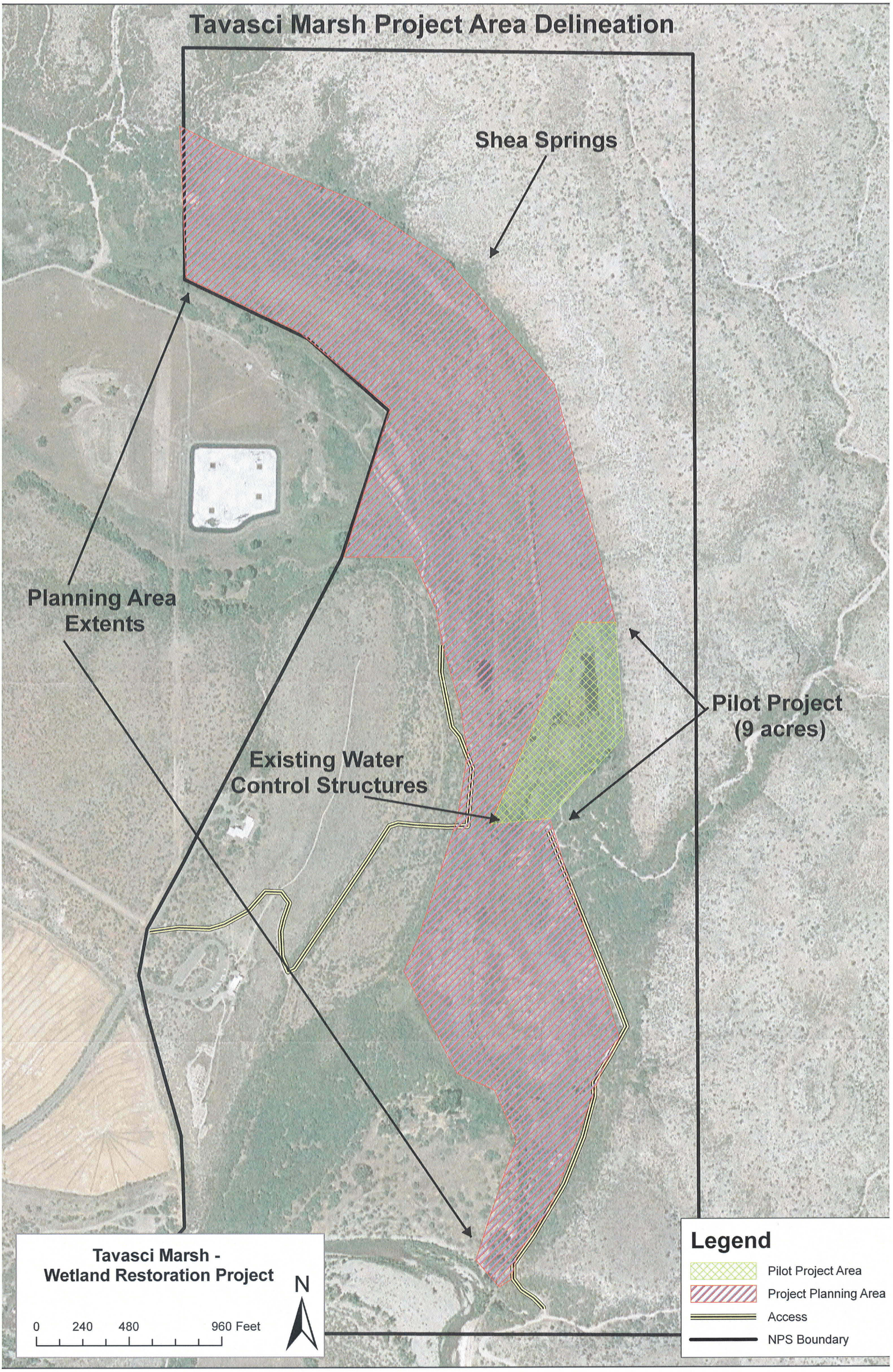
Figure 4. Project Overview Map

(Figure 4. 11x17 on following page)

Figure 5. Tavasci Marsh project area delineation and NPS property boundary.

Total Planning Area = 101 acres *Pilot Wetland Restoration Area = 9 acres*

All Planning and Implementation Areas are within National Park Service property boundaries


Tavasci Marsh Project Area Delineation
Shea Springs
Planning Area Extents
Pilot Project (9 acres)
Existing Water Control Structures
Tavasci Marsh - Wetland Restoration Project
0 240 480 960 Feet
N
Legend
Pilot Project Area
Project Planning Area
Access
NPS Boundary

PROJECT SCHEMATICS

Figure 6. Vegetation zones to be created through the Tavasci Marsh – Wetland Restoration Project

SCOPE OF WORK

Task #1: Permits, Authorizations, Clearances and Agreements

The Grantee shall obtain all permits, authorizations, clearances and agreements necessary to conduct the work described in the Scope of Work, including but not limited to:

- Environmental Protection Agency clearance through NEPA evaluation and an environmental assessment (EA).
- ADEQ Stormwater Pollution Prevention Permit 401
- ACOE 404 permit
- Copies of all subcontractor agreements
- Cultural resource clearance (SHPO)
- Landowner agreements, if necessary
- NPS agreements
- Operations and Maintenance agreement
- Fire use permits
- Herbicide use permits
- Pollution Prevention Plan
- Water Rights agreement/ statement

Because the project area is within a National Monument an EA will be completed by the NPS.

All necessary permits, including access agreements or other documentation allowing all sub-contractors or other project personnel access to all portions of the project site shall be obtained and submitted prior to applicable ground disturbing work. The sub-contractor agreements shall describe all activities to be performed and delineate responsible of parties for each activity.

Task Purpose: To comply with all local, state, and federal permit requirements, environmental laws and obtain legal access to the project area.

Deliverable Description: Copies of all necessary permits, clearances, authorizations and agreements to implement this Scope of Work, including but not limited to:

Deliverable Due Dates:

Prior to initiation of sub-contracted work and to any applicable ground disturbing activities.

Reimbursable Cost:

$17,081

Task #2: Prepare and Implement Site Assessment Plan

Site Assessment Plan

The Grantee shall develop a Site Assessment Plan that describes in detail, the proposed site assessment methodologies and activities for 110 acres of Tavasci Marsh, including how: 1) the hydrology, hydraulics, and morphology of the marsh and the outlet back to the river shall be evaluated; 2) the existing vegetation shall be evaluated; 3) the local reference conditions for the resources described in 1 and 2 shall be assessed. The Plan shall be designed to provide the grantee with critical design parameters. The Plan shall include all methodologies, equipment needed, data to be collected and rationale for collecting the data.

The assessment will include, at a minimum, an evaluation of the condition of:

- Existing Vegetation
- Existing Wildlife Habitat
- Outlet channel and marsh geomorphology
- Channel stability
- Sediment loads, deposition, and transport
- Topography
- Edge habitat and wildlife needs

The site assessment shall also include a description of equipment needed, data to be collected, rationale for collecting the data and a description of how the plan will direct cattail management, revegetation, habitat creation, and monitoring activities. A map shall be included that shows the location of all Project components.

Site Assessment Implementation

The Grantee will conduct the Site Assessment activities as described in the approved Site Assessment Plan. A field inventory will be completed for the entire 110 acres of the Tavasci Marsh – Wetland Enhancement Project area, including indentifying and mapping existing vegetation and completing a topographic map (showing marsh topography to one foot accuracy). The findings from the assessment will be evaluated and used for the development of Final Design Plans (Task #4) for the 9 acre pilot project and the development Preliminary Design Plan (Task #9) for the remaining 101 acres of the project area. The findings from the Site Assessment will be presented in the in Design Plans (Task #4 & #9). The findings presented will include, at a minimum:

- Narrative summarizing assessment activities
- Summary of physical, vegetative, and water conveyance
- Summary of inventory and evaluation conclusions

Task Purpose: To provide strategy and outline steps needed to accomplish site assessment, project area inventory, and other project goals in a timely and efficient manner. To implement the approved Site Assessment Plan.

Deliverable Description:

1) Site Assessment Plan
2) Memo stating the completion of Site Assessment Implementation

Deliverable Due Date:

1) July 31, 2009
2) September 30, 2009

Reimbursement Cost:

$25, 596

Task #3: Develop Monitoring and Public Outreach Plans

Monitoring Plan

The Monitoring Plan shall contain a description of a set of protocols to measure the success or failures of project components in meeting project objectives. Monitoring components shall include:

- Wildlife Monitoring (to be done through NPS Matching Funds)
- Vegetative plant community moinitoring
- Constructed structure monitoring
- Photopoint monitoring

The Monitoring Plan shall include a discussion of the monitoring objectives, strategy for establishing baseline/control conditions, specific attribute(s) to be monitored, specific sites, sample data sheets, and the expectations for measuring success.

Each quantitative monitoring protocol shall include:

- Monitoring methods and parameters
- Equipment needed
- Rational for choosing sampling sites
- Data collection protocols
- Monitoring duration/period
- Data analysis protocols

Public Outreach Plan

The Public Outreach Plan shall describe activities to be performed for the duration of the Project to inform and educate the public; including all infrastructure and signage to be placed on the property for education, public access, and resource protection. The outreach program will be designed to inform the public and visitors about the natural approach to wetland restoration and habitat creation. Project implementation and completion will encourage educational opportunities for visitors on riparian restoration, watershed importance, and impacts of human activity on watershed components.

Outreach components may include:

- Description of proposed workshop or other activity
- Each activity's target audience
- A description of each event and informational material to be produced
- Activity schedule
- Local paper press release

Task Purpose: To provide strategy and outline steps needed to accomplish project monitoring and outreach.

Deliverable Description:

1) Monitoring Plan
2) Public Outreach Plan

Deliverable Due Dates:

1) January 31, 2010
2) February 28, 2010

Reimbursable Cost:

$5,660

Task #4: Development of Final Design Plans

The Grantee will prepare a Final Design Plan developed from the finalized Site Assessment. The design will include drawings and construction specifications for the 9 acres of the pilot project. Habitat type and vegetation zone for the pilot project area will be explicitly developed in the Final Design Plan. The plan will include maintenance activities and schedules for the pilot project area. In addition, this report will describe the rationale for the design plan based on all parameters evaluated from the site assessment.

The Final Design Plan shall include, at a minimum:

- Design report
- Final design drawings, including design parameters
- Construction specifications
- Invasive Plants Management Plan
- Revegetation Plan/Habitat Enhancement Plan
- Engineers cost estimate

The Final Design Plan shall be submitted to the AWPF Project Manager for review and approval prior to implementation. The Grantee may request a modification to the plan by submitting a written request to the Project Manager. The request shall describe the modification, explain the reason for the change, and address the effect of the modification on achieving the objectives described in the plan. The Grantee shall obtain written approval from the AWPF Project Manager prior to implementation of any modification of the approved plan.

Task Purpose: To ensure sound, effective restoration practices are used during plan implementation, to determine material quantities, to provide engineers cost estimate, to illuminate and design weakness before implementation, and to incorporate public comments into the final design plan.

Deliverable Description:

The Final Design Plan shall include a report and design that will provide a foundation for implementing earthwork, structures, and revegetation/habitat enhancement activities. The Final Design Plan will be reviewed and signed/stamped by a Professional Engineer licensed in the State of Arizona.

Deliverable Due Dates:

March 31, 2010

Reimbursement Cost:

$32,723

Task #5: Implementation: Earthwork and Structures

The Grantee will perform all earthwork and other construction activities deemed necessary from the project site assessment, and as described in the approved Design Report. The task is expected to begin in the winter months of the first year and be completed in the early spring of the following year to minimize disturbance to wildlife species and during the dormant period for vegetation. The construction will take place under the supervision of the design engineer or designated representative.

Final Construction will take place in the fall of Year 2. Activities are expected to be limited to repair and/or additional activities described in the Site Assessment and Design Report. The work will take place under the supervision of the design engineer designated representative.
An Initial and Final Construction Report will describe the construction including a daily log of the construction and photographs of the tasks.

An Initial and Final Construction Report will describe the construction including a daily log of the construction and photographs of the tasks.

Task Purpose: To implement the project design for earthwork and structural activities and to document the construction. Activities to restore hydrology include earthwork micro/macrotopography and structures.

Deliverable Description:

1. Initial Construction Report
2. Final Construction Report

Deliverable Due Dates:

1. November 30, 2010
2. November 30, 2011

Reimbursement Cost:

$109,542

Task #6: Implementation: Revegetation/Habitat Enhancement

The Grantee will perform all revegetation activities as described in the approved Final Design Report (Task #3) to replace the monotypic stand of cattails with native transitional vegetation. The task is expected to be implemented in the late fall to minimize disturbance to aquatic species and during the beginning of the dormant period for the riparian vegetation. After initial revegetation and in subsequent years, the Grantee will assess the success of the initial revegetation efforts and identify additional practices necessary to promote project success. There may be unforeseen damage by high flows, failure of some revegetation areas, or the need for installation of additional vegetation.

Revegetation Progress Reports will be prepared and submitted to the AWPF Program Manager at the conclusion of each work period. This report will describe project activities and include photographs and "as-built" drawings of the project area.

Grantee will perform wildlife improvement plan as described in the Final Design Plan (Task #3) to enhance wildlife habitat.

Task Purpose: To implement the Vegetation Plan and document work completed. To establish quality wildlife habitat and to create and opportunity for native vegetation to outcompete the monotypic nature of cattails. A very comprehensive approach to re-vegetation is planned. Re-vegetation work includes: 1) seeding and planting of grassland vegetation; 2) seeding and planting of Cottonwood/Willow vegetation; 3) seeding and planting of sedge/rush habitat.

Deliverable Description:

1. Vegetation Progress Reports (3)
2. Summary of all work completed and final results in Final Report (Task #10)

Deliverable Due Dates:

1. November 30, 2010
   November 30, 2011
   November 30, 2012
2. January 31, 2014 (Part of Final Report, Task #10)

Reimbursement Cost:

$83,072

Task #7: Conduct Annual Monitoring

The approved Monitoring Plan (Task #3) will be conducted under this task. Baseline (pre-construction) monitoring will take place in the fall of 2009. Annual monitoring will take place in subsequent years as described in the Monitoring Plan. Physical monitoring of earthwork and installed structures will occur after initial construction has taken place to immediately intercept any problems. It is expected that monitoring of revegetation and cattail management efforts will take place in the early fall of each year. Changes observed during monitoring will be recorded and documented through a series of photo points and permanent sampling plot establishment. Wildlife surveys will be conducted as necessary.

Annual monitoring reports will be submitted to the AWPF Program Manager. A summary of monitoring data and analyses will be included in the Final Report (Task #10).

Task Purpose: To monitor the success of the restoration and enhancement efforts and their effectiveness at meeting AWPF and project goals. This task includes monitoring the project annually post-construction: baseline, year 1, year 2, year 3, and year 4.

Deliverable Description:

1) Baseline Monitoring Report
2) Year 1 Annual Monitoring Report
3) Year 2 Annual Monitoring Report
4) Year 3 Annual Monitoring Report
5) Summary of monitoring efforts and results in Final Report (Task #10)

Deliverable Due Dates:

1) November 30, 2010
2) November 30, 2011
3) November 30, 2012
4) January 31, 2014

Reimbursement Cost:

$47,837

Task #8: Implementation: Public Outreach Plan

The Grantee will conduct Public Outreach activities as described in the approved Public Outreach Plan. Public Outreach is expected to include a workshop for local landowners and/or school groups, as well as a local paper press release. Any brochures, printings, or interpretive signage used for public outreach will be sent to the Project Manager for approval before distribution.

At the conclusion of this task, a narrative report will be submitted to the AWPF Program Manager that includes all materials prepared for distribution, invitee list, attendance list, photographs, and copies of invoices or receipts. A summary of Public Outreach activities will be included in the Final Report.

Task Purpose: To provide strategy and outline steps needed to accomplish public outreach and education in a timely and efficient manner. To educate the public about marsh habitat restoration, provide a place for visitors to enjoy recreating in the outdoors, and to highlight AWPF funding opportunities. Outreach activities may include workshops, brochures, interpretive signage, and wildlife improvements.

Deliverable Description:

1. Public Outreach Report
2. Public Outreach Report
3. Summary of Public Outreach Activities in Final Report (Task #10)

Deliverable Due Date:

1. November 30, 2012
2. November 30, 2013
3. January 31, 2014

Reimbursement Cost:

$24,822

Task #9: Development of Preliminary Design for Remaining Project Area

The grantee shall develop a preliminary design for the remaining 101 acres surrounding the pilot project. The design will include conceptual drawings and maintenance activities for the project area. In addition, this report will describe the rationale for the design plan based on all parameters evaluated from the site assessment, as well as the results of and lessons learned from the pilot project.

The Preliminary Design shall include, at a minimum:

- Design report
- Conceptual design drawings, including design parameters
- Invasive Plants Management Plan
- Revegetation Plan/Habitat Enhancement Plan
- Engineers cost estimate

Task Purpose: To provide a long term strategy for restoring and enhancing wildlife habitat at Tavasci Marsh. To determine materials needed and quantities, provide engineers cost estimate, illuminate any design weakness, and to incorporate public comments into the design plans.

Deliverable Description:

The Preliminary Design shall include a report and preliminary drawings that will provide a foundation for developing a final design plan in the future. The Preliminary Design will be reviewed and signed by a Professional Engineer licensed in the State of Arizona.

Deliverable Due Date:

November 30, 2013

Reimbursement Cost:

$19,254

Task #10: Final Report

The Grantee shall prepare and submit a comprehensive final report consistent with the Final Report Guidelines in Appendix A of the FY 2008 AWPF Policies and Application Guidelines Manual, including a summary of all methodologies used, outcome of all tasks, analysis of all project and monitoring data, suggestions for any further changes needed in the project, and an evaluation of the projects success measured against the objectives.

Task Purpose: To provide a comprehensive final report for public distribution that gives a detailed description of the project and showcases its benefits to the state of Arizona and the NPS.

Deliverable description:

Final project report will summarize all methodologies used, outcome of all tasks, summarize and analyze project data & monitoring data, suggest any further changes needed in the project and evaluate project success measured against the objective.

Deliverable due date:

January 31, 2014

Fixed Cost:

$9,252

Grant Timeline Summary

Tavasci Marsh - Wetland Restoration Project

Bold characters denote deliverable due dates

YEAR 1; 2009

Task	JAN 1	FEB 2	MAR 3	APR 4	MAY 5	JUNE 6	JULY 7	AUG 8	SEPT 9	OCT 10	NOV 11	DEC 12
1 Permits, Authorizations, Clearance, Agreements				X	X	X						
2 Prepare and Implement Site Assessment Plan					X	X	X	X	X			
3 Develop Monitoring and Public Outreach Plans											X	X
4 Deveopment of Final Design Plans for Pilot Project Area									X	X	X	X
5 Implementaion: Earthwork and Structures												
6 Implementation: Revegetation/Habitat Enhancement												
7 Conduct Annual Monitoring												
8 Implementaion: Public Outreach												
9 Development o Preliminary Design for Remaining Project Area												
10 Final Project Report												

VP Vegetation/Physical monitoring

YEAR 2; 2010

Task	JAN 1	FEB 2	MAR 3	APR 4	MAY 5	JUNE 6	JULY 7	AUG 8	SEPT 9	OCT 10	NOV 11	DEC 12
1 Permits, Authorizations, Clearance, Agreements		X	X	X	X							
2 Prepare and Implement Site Assessment Plan					COMPLETED							
3 Develop Monitoring and Public Outreach Plans	X	X										
4 Deveopment of Final Design Plans for Pilot Project Area	X	X	X									
5 Implementaion: Earthwork and Structures					X	X	X	X			X	
6 Implementation: Revegetation/Habitat Enhancement								X	X	X	X	
7 Conduct Annual Monitoring											VP	
8 Implementaion: Public Outreach												
9 Development o Preliminary Design for Remaining Project Area												
10 Final Project Report												

VP Vegetation/Physical monitoring

YEAR 3: 2011

Task	JAN 1	FEB 2	MAR 3	APR 4	MAY 5	JUNE 6	JULY 7	AUG 8	SEPT 9	OCT 10	NOV 11	DEC 12
1 Permits, Authorizations, Clearance, Agreements					COMPLETED							
2 Prepare and Implement Site Assessment Plan					COMPLETED							
3 Develop Monitoring and Public Outreach Plans					COMPLETED							
4 Deveopment of Final Design Plans for Pilot Project Area					COMPLETED							
5 Implementaion: Earthwork and Structures		X	X								X	
6 Implementation: Revegetation/Habitat Enhancement			X	X	X	X	X	X			X	
7 Conduct Annual Monitoring	X								VP		X	
8 Implementaion: Public Outreach												
9 Development o Preliminary Design for Remaining Project Area												
10 Final Project Report												

VP Vegetation/Physical monitoring

YEAR 4: 2012

Task	JAN 1	FEB 2	MAR 3	APR 4	MAY 5	JUNE 6	JULY 7	AUG 8	SEPT 9	OCT 10	NOV 11	DEC 12
1 Permits, Authorizations, Clearance, Agreements					COMPLETED							
2 Prepare and Implement Site Assessment Plan					COMPLETED							
3 Develop Monitoring and Public Outreach Plans					COMPLETED							
4 Deveopment of Final Design Plans for Pilot Project Area					COMPLETED							
5 Implementaion: Earthwork and Structures					COMPLETED							
6 Implementation: Revegetation/Habitat Enhancement			X	X	X	X	X	X	VP		X	
7 Conduct Annual Monitoring									VP		X	
8 Implementaion: Public Outreach				X	X	X	X	X	X	X	X	
9 Development o Preliminary Design for Remaining Project Area												
10 Final Project Report												

VP Vegetation/Physical monitoring

YEAR 5: 2013

Task	JAN 1	FEB 2	MAR 3	APR 4	MAY 5	JUNE 6	JULY 7	AUG 8	SEPT 9	OCT 10	NOV 11	DEC 12
1 Permits, Authorizations, Clearance, Agreements					COMPLETED							
2 Prepare and Implement Site Assessment Plan					COMPLETED							
3 Develop Monitoring and Public Outreach Plans					COMPLETED							
4 Deveopment of Final Design Plans for Pilot Project Area					COMPLETED							
5 Implementaion: Earthwork and Structures					COMPLETED							
6 Implementation: Revegetation/Habitat Enhancement					COMPLETED							
7 Conduct Annual Monitoring									VP			
8 Implementaion: Public Outreach	X	X	X	X	X	X	X	X	X	X	X	
9 Development o Preliminary Design for Remaining Project Area	X	X	X	X	X	X	X	X	X	X	X	
10 Final Project Report										X	X	X

VP Vegetation/Physical monitoring

YEAR 6: 2014

Task	JAN 1	FEB 2	MAR 3	APR 4	MAY 5	JUNE 6	JULY 7	AUG 8	SEPT 9	OCT 10	NOV 11	DEC 12
1 Permits, Authorizations, Clearance, Agreements					COMPLETED							
2 Prepare and Implement Site Assessment Plan					COMPLETED							
3 Develop Monitoring and Public Outreach Plans					COMPLETED							
4 Deveopment of Final Design Plans for Pilot Project Area					COMPLETED							
5 Implementaion: Earthwork and Structures					COMPLETED							
6 Implementation: Revegetation/Habitat Enhancement					COMPLETED							
7 Conduct Annual Monitoring					COMPLETED							
8 Implementaion: Public Outreach					COMPLETED							
9 Development o Preliminary Design for Remaining Project Area					COMPLETED							
10 Final Project Report	X											

VP Vegetation/Physical monitoring

DETAILED BUDGET BREAKDOWN

Task 1. Permits, Authorizations, Clearances, and Agreements
To comply with all local, state, and federal permit requirements, environmental laws and obtain legal access to the project area.

Direct Labor Costs	Estimated quantity		$/unit	Total Cost	Admin Costs 5%	TOTAL TASK COST	% of Budget
NCD Civil Engineer	40	hrs	$95.00	$3,800			
NCD Engineering Technician	40	hrs	$75.00	$3,000			
NCD Riparian Ecologist	120	hrs	$75.00	$9,000			
			SUBTOTAL	**$15,800**			

Direct Costs: Supplies, Printing, Postage, Travel, etc	Estimated quantity		$/unit	Total Cost
NEPA Documents	200	pages	$0.15	$30
Subcontractor Agreements	50	pages	$0.15	$8
SHPO Clearance	100	pages	$0.15	$15
ADEQ 401 Permit	45	pages	$0.15	$7
ACOE 404 Permit	200	pages	$0.15	$30
ACOE Wetland Delineation	100	pages	$0.15	$15
NPS Right of Entry Permit	25	pages	$0.15	$4
Control and Tenure of Land Documents	25	pages	$0.15	$4
Herbice Use Permit	25	pages	$0.15	$4
Fire Use Permit	25	pages	$0.15	$4
Yavapai County Grading Permit	25	pages	$0.15	$4
Pollution Prevention Plan	50	pages	$0.15	$8
Binders	10	each	$5.00	$50
Postage	10	mailings	$15.00	$150
Mileage	280	miles	$0.49	$137
			SUBTOTAL	**$468**

TOTAL	**$16,268**	**$813**	**$17,081**	**4.6%**

Task #2: Prepare and Implement Site Assessment Plan
To provide strategy and outline steps needed to accomplish site assessment, project area inventory, and other project goals for the enitre 110 acres of the project area in a timely and efficient manner. To conduct the site inventory and topographic map. Deliverables include 1) Site Assessment Plan, 2) Memo stating completion of site assement for the entire project area (110

Direct Labor Costs	Estimated quantity		$/unit	Total Cost	Admin Costs 5%	TOTAL TASK COST	% of Budget
NCD Civil Engineer	80	hrs	$95.00	$7,600			
Wetland Ecologist	20	hrs	$85.00	$1,700			
NCD Engineering Technician	80	hrs	$75.00	$6,000			
NCD Riparian Ecologist	100	hrs	$75.00	$7,500			
			SUBTOTAL	**$22,800.00**			

Direct Costs: Supplies, Printing, Postage, Travel, etc	Estimated quantity		$/unit	Total Cost
Site Assessment Plan	150	pages	$0.15	$23
Inventory Memo	10	pages	$0.15	$2
Binders	2	each	$5.00	$10
Postage	2	mailings	$15.00	$30
Mileage	700	miles	$0.49	$343
Per diem	30	days	$39.00	$1,170
			SUBTOTAL	**$1,577**

TOTAL	**$24,377**	**$1,219**	**$25,596**	**6.8%**

Task 3. Develop Monitoring and Public Outreach Plans
To provide strategy and outline steps needed to accomplish project monitoring and outreach. Deliverables include 1) Monitoring Plan and 2) Public Outreach Plan

Direct Labor Costs	Estimated quantity		$/unit	Total Cost	5%	TASK COST	Budget
NCD Civil Engineer	20	hrs	$75.00	$1,500.00			
NCD Riparian Ecologist	50	hrs	$75.00	$3,750.00			
			SUBTOTAL	**$5,250**			

Direct Costs: Supplies, Printing, Postage, Travel, etc	Estimated quantity		$/unit	Total Cost
Monitoring Plan	200	pages	$0.15	$30
Public Outreach Plan	200	pages	$0.15	$30
Binders	4	each	$5.00	$20
Postage	4	mailings	$15.00	$60
			SUBTOTAL	**$140**

TOTAL	**$5,390**	**$270**	**$5,660**	**1.5%**

Task 4. Development of Final Design Plans for Pilot Project Area

To ensure sound, effective restoration practices are used during plan implementation, to determine material quantities, to provide engineers cost estimate, to illuminate any design weakness *before* implementation, and to incorporate public comments into final design plan for 8 acre pilot project area.

Direct Labor Costs	Estimated quantity		$/unit	Total Cost	Admin Costs 5%	TOTAL TASK COST	% of Budget
NCD Civil Engineer	130	hrs	$95.00	$12,350			
Wetland Ecologist	40	hrs	$85.00	$3,400			
NCD Eng Technician	120	hrs	$75.00	$9,000			
NCD Riparian Ecologist	80	hrs	$75.00	$6,000			
			SUBTOTAL	**$30,750**			

Deliverable	Estimated quantity		$/unit	Total Cost			
Final Design Report	500	pages	$0.15	$75			
Construction Drawings and Specifications	150	pages	$0.50	$75			
Final Cost Estimate	50	pages	$0.15	$8			
Binders	6	each	$5.00	$30			
Postage	6	mailings	$15.00	$90			
Mileage	280	miles	$0.49	$137			
			SUBTOTAL	**$415**			
			TOTAL	**$31,165**	**$1,558**	**$32,723**	**8.7%**

Task 5. Implementation: Earthwork and Structures

To implement the project design for earthwork and structural activities and to document the construction. Activities to restore hydrology include eathwork micro/macrotopography and structures.

Direct Labor Costs	Estimated quantity		$/unit	Total Cost	Admin Costs 5%	TOTAL TASK COST	% of Budget
NCD Civil Engineer	20	hrs	$95.00	$1,900			
NCD Engineering Technician	80	hrs	$75.00	$6,000			
NCD Riparian Ecologist	200	hrs	$75.00	$15,000			
Wetland Ecologist	20	hrs	$85.00	$1,700			
			SUBTOTAL	**$24,600**			

Captital Outlay & Equipment Costs	Estimated quantity		$/unit	Total Cost
Mobilization/Demobilization:				
Excavator/Trackhoe	1	l.s.	$500.00	$500.00
Dozer	1	l.s.	$500.00	$500.00
Front End Loader	1	l.s.	$500.00	$500.00
Dump Truck	1	l.s.	$500.00	$500.00
Earthwork				
Excavation/Fill	9	acres	$7,500.00	$67,500.00
Structures				
Flashboard Risers, Large	1	ea	$3,500.00	$3,500.00
Flashboard Risers, Small	2	ea	$2,000.00	$4,000.00
			SUBTOTAL	**$77,000.00**

Direct Costs: Supplies, Printing, Postage, Travel, etc	Estimated quantity		$/unit	Total Cost
Earthwork-Construction Progress Reports with AS-BUILTS (2 ea)	400	pages	$0.15	$60
Binders	4	each	$5.00	$20
Postage	4	mailings	$15.00	$60
Lodging	16	days	$70.00	$1,120
PerDiem	20	days	$39.00	$780
Mileage	1,400	miles	$0.49	$686
			SUBTOTAL	**$2,726**
			TOTAL	**$104,326**

Admin Costs 5%	TOTAL TASK COST	% of Budget
$5,216	**$109,542**	**29.2%**

Task 6. Implementation: Revegetation/Habitat Enhancement

To implement the Vegetation Plan and document work completed. In order to establish quality wildlife habitat and to outcompete the monotypic nature cattails. A very comprehensive approach to re-vegetation is planned. Re-vegetaion work includes: 1) Seeding and planting of grassland vegetation; 2) Seeding and planting of Cottonwood/Willow vegetation 3) seeding and planting of sedge/rush habitat; 4) Seeding and planting of Mesquite bosque areas.

Direct Labor Costs	Estimated quantity		$/unit	Total Cost	Admin Costs 5%	TOTAL TASK COST	% of Budget
NCD Civil Engineer	40	hrs	$95.00	$3,800			
NCD Riparian Ecologist	160	hrs	$75.00	$12,000			
NCD Engineering Technician	10	hrs	$75.00	$750			
Wetland Ecologist	40	hrs	$85.00	$3,400			
			SUBTOTAL	**$19,950**			

Captital Outlay & Equipment Costs	Estimated quantity		$/unit	Total Cost
Mobilization/Demobilization:				
Mini-Excavator with auger	1	l.s.	$500.00	$500.00
Cottonwood/Willow Habitat Creation	**1.5**	**ac**		
Cottonwood/willow post plantings	100	ea	$15.00	$1,500
Willow Pole Plantings	1,100	ea	$4.50	$4,950
Willow Fringe Habitat Creation	**2.0**	**ac**		
Willow Pole Plantings	5,000	ea	$4.50	$22,500
Sedge/Rush Habitat Creation	**2.0**	**ac**		
Plugs	4,000	ea	$4.00	$16,000
Reseeding Disturbed Areas	**6**	**ac**		
Seeding	3	ac	$300.00	$900
Fabric	20	ea	$60.00	$1,200
Staples/Stakes				
Deergrass Habitat Creation	**2,500**	**ft**		
Containerized Stock	1,250	ea	$4.00	$5,000
Invasive Plant management	7	acres	$500.00	$3,500.00
			SUBTOTAL	**$56,050**

Deliverables	Estimated quantity		$/unit	Total Cost
Vegetation Progress Reports (3 ea)	450	pages	$0.15	$68
Binders	6	each	$5.00	$30
Postage	6	mailings	$15.00	$90
Lodging	16	days	$70.00	$1,120
PerDiem	20	days	$39.00	$780
Mileage	2,100	miles	$0.49	$1,029
			SUBTOTAL	**$3,117**

TOTAL	**$79,117**	**$3,956**	**$83,072**	**22.2%**

Task 7. Conduct Monitoring

To monitor the success of the restoration efforts and their effectiveness at meeting AWPF and project goals. This task includes monitoring the project annually post-construction: baseline, year 1, year 2, year 3, and year 4

Direct Labor Costs	Estimated quantity		$/unit	Total Cost
NCD Civil Engineer	40	hrs	$95.00	$3,800.00
NCD Riparian Ecologist	240	hrs	$75.00	$18,000.00
NCD Engineering Technician	200	hrs	$75.00	$15,000.00
			SUBTOTAL	**$36,800.00**

Captital Outlay & Equipment Costs	Estimated quantity		$/unit	Total Cost
Monitoring Well	5	ea	$500.00	$2,500.00
Flow Measuring Flume	3	ea	$1,500.00	$4,500.00
			SUBTOTAL	**$7,000.00**

Direct Costs: Supplies, Printing, Postage, Travel, etc	Estimated quantity		$/unit	Total Cost
Baseline Monitoring Report	450	pages	$0.15	$67.50
Year 1 Annual Monitoring Report	450	pages	$0.15	$67.50
Year 2 Annual Monitoring Report	450	pages	$0.15	$67.50
Year 3 Annual Monitoring Report	450	pages	$0.15	$67.50
Binders	8	each	$5.00	$40
Postage	8	mailings	$15.00	$120
Mileage	1,120	miles	$0.49	$549
Per Diem	20	days	$39.00	$780
			Subtotal	**$1,759**

	Admin Costs	TOTAL	% of
	5%	TASK COST	Budget
Total	**$45,559**	**$2,278**	**$47,837**	**12.8%**

Task 8. Implementation: Public Outreach Plan

To provide strategy and outline steps needed to accomplish public outreach and education in a timely and efficient manner. To educate the public about marsh habitat restoration, provide a place for visitors to enjoy recreating in the outdoors, and to highlight AWPF funding opportunities. Outreach activities may include workshops, brochures, interpretive signage, and wildlife

Direct Labor Costs	Estimated quantity		$/unit	Total Cost
NCD Civil Engineer	40	hrs	$95.00	$3,800
NCD Riparian Ecologist	20	hrs	$75.00	$1,500
			SUBTOTAL	**$5,300**

Captital Outlay & Equipment Costs	Estimated quantity		$/unit	Total Cost
Interpretive Signage	8	ea	$1,500	$12,000
			SUBTOTAL	**$12,000**

Direct Costs: Supplies, Printing, Postage, Travel, etc	Estimated quantity		$/unit	Total Cost
Workshop Handouts	30	ea	$30.00	$900
Brochures	1,000	ea	$5.00	$5,000
Per Diem	6	days	$39.00	$234
Milage	420	miles	$0.49	$206
			SUBTOTAL	**$6,340**

	Admin	TOTAL	% of
	5%	TASK COST	Budget
TOTAL	**$23,640**	**$1,182**	**$24,822**	**6.6%**

Task 9. Development of Preliminary Design for Remaining Project Area
and quantities, provide engineers cost estimate, illuminate any design weakness, and to incorporate public comments into the desing plans.

Direct Labor Costs	Estimated quantity		$/unit	Total Cost	Admin Costs	TOTOAL Task Cost	%of Budget
NCD Civil Engineer	60	hrs	$95.00	$5,700			
NCD Riparian Ecologist	80	hrs	$75.00	$6,000			
NCD Engineering Technician	40	hrs	$75.00	$3,000			
Wetland Ecologist	40	hrs	$85.00	$3,400			
			SUBTOTAL	**$18,100**			

Postage, Travel, etc	Estimated quantity		$/unit	Total Cost
implementation plans	500	pages	$0.15	$75
Specifications	150	pages	$0.50	$75
Final Cost Estimate	50	pages	$0.15	$8
Binders	4	each	$5.00	$20
Postage	4	mailings	$15.00	$60
Per Diem	6	days	$39.00	$234
Mileage	300	miles	$0.49	$147
			SUBTOTAL	**$238**

Total	**$18,338**	**$917**	**$19,254**	**5.1%**

Task 10. Final Report
To provide a comprehensive final report for public distribution that gives a detailed description of the project and showcases its

Direct Labor Costs	Estimated quantity		$/unit	Total Cost	Admin Costs 5%	TOTAL TASK COST	% of Budget
NCD Civil Engineer	40	hrs	$95.00	$3,800			
NCD Riparian Ecologist	65	hrs	$75.00	$4,875			
			SUBTOTAL	**$8,675**			

Direct Costs: Supplies, Printing, Postage, Travel, etc	Estimated quantity		$/unit	Total Cost
Final Project Report	600	pages	$0.15	$90
Final Project Report	3	CDs	$2.00	$6
Binders	2	each	$5.00	$10
Postage	2	mailings	$15.00	$30
			SUBTOTAL	**$136**

TOTAL	**$8,811**	**$441**	**$9,252**	**2.5%**
TOTAL PROJECT BUDGET	**$356,989**	**$17,849**	**$374,838**	

DETAILED MATCHING FUNDS BREAKDOWN

Direct NPS Salary and Volunteer Contribution Toward the Project

Task 1. Permits, Auth., Clearances, and Agreements

Staff	Hours	Rate	Cost
Superintendent	5	63	315
Chief Resources Mgmt	40	40	1600
Biologist	40	35	1400
Ecologist	80	55	4400
Archeologist	40	35	1400
Water Resources	20	55	1100
			10215

Task 2. Prepare and Implement Site Assessment Plan

Staff	Hours	Rate	Cost
Chief Resources Mgmt	40	40	1600
Biologist	40	35	1400
Ecologist	80	55	4400
Biological Technician	20	25	500
			7900

Task 3. Develop Monitoring and Public Outreach Plans

Staff	Hours	Rate	Cost
Superintendent	20	63	1260
Chief Resources Mgmt	20	40	800
Biologist	20	35	700
Ecologist	20	55	1100
Archeologist	10	35	350
			4210

Task 4. Development of Final Design Plans for Pilot Project Area

Staff	Hours	Rate	Cost
Superintendent	20	63	1260
Chief Resources Mgmt	20	40	800
Biologist	20	35	700
Ecologist	20	55	1100
Archeologist	20	35	700
Water Resources	10	55	550
			5110

Task 5. Implementation: Earthwork and Structures

Staff	Hours	Rate	Cost
Chief Resources Mgmt	20	40	800
Biologist	40	35	1400
Ecologist	20	55	1100
Archeologist	20	35	700
Project Manager	40	35	1400
			5400

Task 6. Implementation: Revegetation/Habitat Enhancement

Staff	Hours	Rate	Cost
Chief Resources Mgmt	40	40	1600
Biologist	160	35	5600
Ecologist	80	55	4400
Biological Technician	80	25	2000
Volunteers	200	15	3000
			16600

Task 7. Conduct Monitoring

Staff	Hours	Rate	Cost
Chief Resources Mgmt	40	40	1600
Biologist	80	35	2800
Ecologist	20	55	1100
Archeologist	10	35	350
Biological Technician	40	25	1000
			6850

Task 8. Implementation: Public Outreach Plan

Staff	Hours	Rate	Cost
Superintendent	20	63	1260
Chief Resources Mgmt	60	40	2400
Biologist	20	35	700
Ecologist	20	55	1100
Archeologist	20	35	700
Interpretative Specialist 1	80	55	4400
Interpretative Specialist 2	80	55	4400
Volunteers	100	15	1500
			16460

Task 9. Development of Preliminary Design for Remaining Project Area

Staff	Hours	Rate	Cost
Chief Resources Mgmt	20	40	800
Biologist	20	35	700
Ecologist	20	55	1100
			2600

Task 10. Final Report

Staff	Hours	Rate	Cost
Chief Resources Mgmt	20	40	800
Biologist	20	35	700
Ecologist	20	55	1100
			2600

NPS contribution:	$73,445
Volunteer contribution:	$4,500
Total Direct contribution:	**$77,945**

Associated Projects That Will Enhance this Project

Control Vector Mosquitoes at Tavasci Marsh PMIS #127619	**2009-$25,363** **2010-$25,363**
Rehabilitate Tavasci Marsh Ditch PMIS #142855	**2009-$30,000** **2010-$34,495**
Replace Footbridge with Utility Vehicle Bridge at Tavasci Marsh PMIS #142602	**2009-$38,125**
Restore Wetland Plant Communities at Tavasci Marsh and Vicinity PMIS#142928	**2011-$20,000** **2012-$19,997**
Total contribution from Associated Projects:	**$157,835**

Other NPS Functions Benefiting the Project

Inventory and Monitoring: Vegetation, Birds, Integrated Aquatics and Unique Waters Monitoring Protocols Existing Research including Shea Spring Chemical investigation, Water Budget that was recently completed, and Audubon Marshbird Monitoring

SUPPLEMENTAL INFORMATION

SHPO

Key Personnel

Project Site Photographs

Description of Monitoring Plan

Description of Re-vegetation/Restoration Plans

Description of Existing Plans/Reports

Letters of Community Support

Evidence of Control and Tenure of Land

Evidence of Physical and Legal Availability of Water

State Historic Preservation Office Review Form

In accordance with the State Historic Preservation Act (SHPO), A.R.S. 41-861 *et seq*, effective July 24, 1982, each State agency must consider the potential of activities or projects to impact significant cultural resources. Also, each State agency is required to consult with the State Historic Preservation Officer with regard to those activities or projects that may impact cultural resources. Therefore, it is understood that **recipients of state funds are required to comply with this law** throughout the project period. All projects that affect the ground-surface that are funded by AWPF require SHPO clearance, **including those on private and federal lands.**

The State Historic Preservation Office (SHPO) must review each grant application recommended for funding in order to determine the effect, if any, a proposed project may have on archaeological or cultural resources. To assist the SHPO in this review, the following information MUST be submitted with each application for funding assistance:

- A completed copy of this form, and
- A United States Geological Survey (USGS) 7.5 minute map
- A copy of the cultural resources survey report if a survey of the property has been conducted, and
- A copy of any comments of the land managing agency/landowner (i.e., state, federal, county, municipal) on potential impacts of the project on historic properties.
  NOTE: If a federal agency is involved, the agency must consult with SHPO pursuant to the National Historic Preservation Act (NHPA); a state agency must consult with SHPO pursuant to the State Historic Preservation Act (SHPA),
  OR
- A copy of SHPO comments if the survey report has already been reviewed by SHPO.

Please answer the following questions:

1. Grant Program: AZ Water Protection Fund
2. Project Title: Tavasci Marsh – Wetland Restoration Project
3. Applicant Name and Address: Natural Channel Design, Inc.
4. Current Land Owner/Manager(s): National Park Service
5. Project Location, including Township, Range, Section: T16N, R3E, S22
6. Total Project Area in Acres (or total miles if trail): 8 acres
7. Does the proposed project have the potential to disturb the surface and/or subsurface of the ground? ☒ YES ☐ NO
8. Please provide a brief description of the proposed project and specifically identify any surface or subsurface impacts that are expected: The project will restore wetland habitat and repair water outlet to manage water levels. Subsurface impacts include excavating soil around water outlet, excavating soil to make open water habitat, and digging holes to plant vegetation.

9. Describe the condition of the current ground surface within the entire project boundary area (for example, is the ground in a natural undisturbed condition, or has it been bladed, paved, graded, etc.). Estimate horizontal and vertical extent of existing disturbance. Also, attach photographs of project area to document condition: The marsh was drained and flattened for agriculture in the past. Since, the marsh has returned, however the natural topography of the previous undisturbed marsh does not exist. Thus, the entire project area has been disturbed.

10. Are there any known prehistoric and/or historic archaeological sites in or near the project area? ☒ YES ☐ NO

11. Has the project area been previously surveyed for cultural resources by a qualified archaeologist? ☒ YES ☐ NO ☐ UNKOWN

    The archeology reports contain sensitive information. These reports have already been submitted directly to SHPO. The title of the reports are:

    1) "Tagg, M.D., 1986. The Tuzigoot Survey and Three Small Verde Valley Projects. Western Archeological and Conservation Center, Publication in Anthropology Number 40, Tucson, Arizona"
    2) "Hartman, Dana, 1976. Tuzigoot, An Archeological Overview. Museum of Northern Arizona, MNA Research Paper 4."

    If YES, submit a copy of the survey report. Please attach any comments on the survey report made by the managing agency and/or SHPO

12. Are there any buildings or structures (including mines, bridges, dams, canals, etc.), which are 50-years or older in or adjacent to the project area? ☐ YES ☒ NO

    If YES, complete an Arizona Historic Property Inventory Form for each building or structure, attach it to this form and submit it with your application.

13. Is your project area within or near a historic district? ☐YES ☒ NO

    If YES, name of the district:

Please sign on the line below certifying all information provided for this application is accurate to the best of your knowledge.

[signature] 6/10/08 Kendra Kordes

Applicant Signature /Date Applicant Printed Name

FOR SHPO USE ONLY
SHPO Finding: ☐ Funding this project will not affect historic properties. ☐ Survey necessary – further GRANTS/SHPO consultation required (*grant funds will not be released until consultation has been completed*) ☐ Cultural resources present – further GRANTS/SHPO consultation required (*grant funds will not be released until consultation has been completed*)
SHPO Comments
For State Historic Preservation Office: Date:

Key Personnel

Project Coordinator/Manager

Dennis Casper of the National Park Service will serve as project contact and coordinator. All contract correspondence should be directed to Mr. Moody. Mr. Moody will submit all billing requests. He will serve as the principal contact for all technical issues regarding the project. Biographic Sketch Below.

Project Technical Manager/Grantee

Tom Moody will serve as project contact and coordinator. All contract correspondence should be directed to Mr. Moody. Mr. Moody will submit all billing requests. He will serve as the principal contact for all technical issues regarding the project. All correspondence regarding project deliverables, tasks, and other technical questions should be directed to Mr. Moody. Project deliverables will be transmitted to the AWPF Project Manager directly by Mr. Moody after review and approval by the Project Coordinator. Biographic sketch below.

Project Partners

Dennis Casper, Biologist, National Park Service
Dennis has a B.S. in Ecology from the University of Illinois and has completed further graduate study at the University of Arizona. He has worked in natural resource management for over six years—most of which was with the National Park Service. He has been working for Montezuma Castle & Tuzigoot National Monuments since October 2005. Dennis is particularly experienced with ecological restoration, invasive plant management, and botany.

Michele M. Girard, Regional Ecologist, Southern Arizona, National Park Service
Michele has a Ph.D. in botany from North Dakota State and a B.S. in animal ecology and plant pathology from Iowa State University. She worked for the US Forest Service for 20 years with the Rocky Mountain Research Station and seven national forests. For the last 3 years she has worked for the National Park Service, Southern Arizona Office providing natural resource expertise to ten national parks and monuments. She has worked in ecology, watershed management, soils, range, wildlife, planning, and botany. Much of her experience is in riparian area classification and management.

Kathy Davis, Superintendent Montezuma Castle and Tuzigoot National Monuments
Kathy has a BS in Forestry (ecology) and MS in Forestry (fire sciences) from the University of Montana. She worked for the US Forest Service in Montana for 3 years then transferred to the National Park Service, where she has worked for 27 years. For the past 5 years, she has been the superintendent. Previously for 16 years she worked in the Southern Arizona Office, providing support for 10 national park units in the areas of compliance and planning; inventory and monitoring; research coordination; management of vegetation, fire, domestic livestock, and water; and integrated pest management. Others assignments were as the plant and fire ecologist for Grand Canyon National Park and Western Region. She has extensive speaking and teaching experience with presentations to general and scientific audiences in local and national courses and conferences.

John Schroeder, Archeologist, National Park Service
John has a B.A. in Anthropology from University of California, Los Angeles and is currently finishing his M.A. in Archaeology from Northern Arizona University. John has worked for the parks for the last three years, both as a student archaeologist and later as the park archaeologist. Prior to working for the parks, John worked for over six years for private Cultural Resources Management firms in California and New Mexico and has been working in specifically Southwest archaeology for the last six years.

Scott Frisch, Maintenance, National Park Service
Scott has been involved in all areas of maintenance for the National Park Service since 1991. Some of the duties and job responsibilities he has undertaken are, but not limited to the following: Care and upkeep of all grounds, equipment, tools and supplies. Care and upkeep of natural and historic structures and documentation thereof. He holds state certifications in structural pest control (weed control applicators
license) and water distribution, both for the state of Arizona.

Technical Team

J. Chris Hoag is a wetland plant ecologist who has worked for the USDA Natural Resources Conservation Service for 16 years as the Project Leader of the Interagency Riparian/Wetland Plant Development Project. He has researched and written multiple professional papers on bioengineering, riparian revegetation and other wetland enhancement techniques. Mr. Hoag also teaches courses in bioengineering and riparian/wetland ecology. Mr. Hoag has more than 35 years of professional experience in Range Conservation, Wildlife Research, and Plant Ecology.

Technical Education and Training: He has a Bachelor of Science in Range Conservation, Biology, and Botany from Idaho State University. Chris also has a Master of Science in Wildlife Biology from Washington State University.

Natural Channel Design, Inc. (NCD) will be subcontracted to provide technical assistance with this project. NCD is a consulting engineering firm specializing in education, research, assessment, and restoration design of natural stream channels in the arid southwest. NCD has extensive experience in stabilization and enhancement of natural stream channels in the arid southwest and has applied that expertise to design and permitting of projects for federal and state agencies, tribal entities, municipalities, and private developers. NCD has professional engineering licenses in Arizona and Utah.

NCD combines the geomorphic approach to channel assessment and design with traditional engineering methods. The geomorphic or natural channel approach is based on 40 years of empirical work by Luna Leopold and others and includes the stream classification and assessment techniques developed by David Rosgen. The approach seeks to assess and restore stream channels by moving them toward their potential stable form. Bioengineering practices utilizing native plant and structural materials are extensively incorporated in restoration design.

Key Technical Personnel

Tom Moody, P.E. Civil Engineer. Mr. Moody will serve as project engineer and technical manager with overall responsibility for review and submittal of all technical project deliverables.

Stephanie Yard, P.E. Civil Engineer. Ms. Yard will as assistant project engineer. Ms. Yard will oversee fieldwork, data assessment, and project design.

Mark Wirtanen, Riparian Ecologist/Engineering Technician. Mr. Wirtanen will serve as assistant to the project engineers. He will assist with field coordination and project design.

Elizabeth J Ruther, Riparian Ecologist. Ms. Ruther will serve as field coordinator and provide assistance in the data collection, report generation, assessment and design tasks.

Allen Haden, Aquatic Ecologist. Mr Haden will assist in data collection, project implementation, survey, and design.

Kendra Kordes, GIS Technician/Riparian Ecologist. Ms. Kordes will assist in data collection, plan and report writing, map creation, and fieldwork.

Tom Moody, P.E. is a licensed civil engineer and principal in Natural Channel Design, Inc. He provides leadership to the firm in project planning and implementation. Tom has performed stream assessments and restoration designs for perennial and ephemeral channels in Nevada, Arizona, Utah, and New Mexico. He has over 15 years of experience in the assessment and design of stream projects for erosion control, riparian enhancement, and channel stability. He has conducted research on stream systems and watershed science in the regions of Arizona and New Mexico including the Navajo Nation. He served as principal investigator on projects to validate the Bank Erodibility Hazard Index, a bank erosion rate model, in New Mexico and the Navajo Nation. He has conducted workshops on the geomorphic approach to natural channel morphology and Bio-engineering for the Natural Resources Conservation Service, USDA Forest Service, AZ Dept. of Environmental Quality, Arizona Water Protection Fund and other agencies.

Technical Education and Training: Mr. Moody has a degree in Civil Engineering with an environmental emphasis from Northern Arizona University and has completed the Level I – IV workshops in the inventory, classification, assessment, and design of natural channels from David Rosgen at Wildland Hydrology. Mr. Moody is a member of the Arizona Riparian Council, Arizona Hydrological Society, American Society of Civil Engineers, and Arizona Floodplain Managers Association. Mr. Moody is a licensed Civil Engineer in the State of Arizona (#34005) and a licensed Professional Engineer in the State of Utah (#4977296).

Stephanie Yard, P.E. is a licensed civil engineer and principal in Natural Channel Design, Inc. She has more than 20 years of professional experience in natural resource planning and project engineering. Stephanie provides leadership to the firm in project planning, design and implementation. She served over 12 years as a civil engineer with the USDA Natural Resources Conservation Service practicing conservation engineering across northern Arizona. She completed a variety of inventories and assessments on riparian systems throughout Arizona and had statewide responsibility for riparian restoration practices. She designed and supervised construction on numerous NRCS-Emergency Watershed Protection projects for stream stabilization and erosion control. She has extensive experience in design and installation of traditional engineering approaches to streambank protection (rock riprap, gabions, jacks, rock masonry) and grade stabilization. She has extensive experience in hydrology, hydraulics, drainage, erosion control, irrigation, streambank stabilization, and riparian and wetland restoration and enhancement in the arid southwest and has applied that expertise to design and permitting of projects for federal and state agencies, tribal entities, municipalities, and private developers.

Technical Education and Training: Ms. Yard has a degree in Civil Engineering from Northern Arizona University and has completed the Level I – IV workshops in the inventory, classification, assessment, and design of natural channels from David Rosgen at Wildland Hydrology. She has received formal NRCS training in wetland restoration, bioengineering, and natural resource planning and application. Ms. Yard is a licensed Civil Engineer in the State of Arizona (#26889).

Mark Wirtanen serves as a field manager of Natural Channel Design, Inc. for riparian and geomorphic studies of the rivers of the arid southwest. He has performed stream assessments and assisted in restoration designs for channels in Arizona, New Mexico and Utah. He has a degree in wildlife biology and a broad knowledge of field methods as well as digital terrain software and CAD systems. Over the past four years he has conducted basic research into natural channels of Arizona, New Mexico, and the Navajo Nation and co-authored a report on regional relationships of bankfull stage on stream channels in New Mexico and the Navajo Nation. He has conducted training workshops utilizing the geomorphic approach to natural channel morphology and assessment.

Technical Education and training: Mr. Wirtanen has a degree in Wildlife Biology from Northern Arizona University and has completed the Level I – III workshops in the inventory, classification, and assessment of natural channels from David Rosgen at Wildland Hydrology.

Elizabeth J. Ruther is a biologist and project associate for Natural Channel Design, Inc. For several years she has been involved in arid ecosystems and human interactions. Her geographical area of expertise includes the Coconino Plateau above the Mogollon Rim. Her interests also include riparian ecosystem policy of the southwest.

Technical Education and Training: Ms. Ruther received a B.S. in Biology and B.A. in Environmental Studies from University of Minnesota-Duluth. Her passion for understanding interdisciplinary environmental issues led her to Northern Arizona University where she studied the human dimensions of wildlife management and completed her M.S. in Environmental Science and Policy in May 2005.

Allen Haden is an aquatic ecologist and project associate for Natural Channel Design. He has been involved in research and management of human impacts on river ecosystems in the southwest for over 15 years. His major interest is the interaction of habitat changes and nonnative species on native aquatic insects and fish. He has a broad understanding of the field of aquatic ecology and its applications to management of ecosystems which house threatened and endangered species. He has expertise in sampling and statistical techniques for monitoring biological and physical aspects of riparian/aquatic habitats, as well as an understanding of life history requirements and threats to southwestern native species. He has direct experience with restoration of physical and biotic components of southwestern streams stemming from long-term involvement in restoration of Fossil Creek, Arizona.

Technical Education and Training: Mr. Haden has an M. S. in aquatic ecology from Northern Arizona University (1997). He earned his B. S. degree from Virginia Tech in 1988. He is a member of the North American Benthological Society and Sigma Xi Research Society. He has authored published and pending manuscripts on the effects of both physical and biotic stressors to aquatic ecosystems in the southwest.

Kendra Kordes is a forester and project associate for Natural Channel Design, Inc. For several years she has been studying ponderosa pine ecosystems and their associated riparian habitats. Her interests include watershed function, fire ecology, and ecosystem restoration and health.

Technical Education and Training
Ms. Kordes received a B.S. in Forestry from Northern Arizona University in the spring of 2007. She has completed courses in Watershed Restoration and Ecological Restoration and is certified in Arizona for application of agricultural pesticide. She is a member of the Society of American Foresters (SAF), the Association for Fire Ecology (AFE), and Xi Sigma Pi National Forestry Honors Society.

Project Site Photographs

Figure 7. The Observation Platform at Tavasci Marsh.

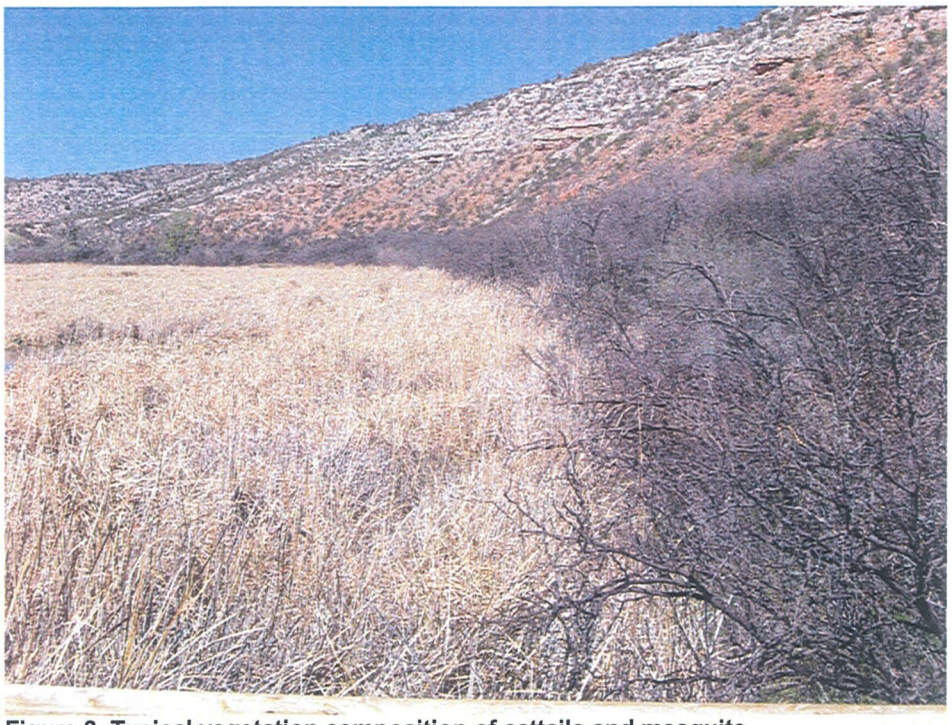


Figure 8. Typical vegetation composition of cattails and mesquite.
Gradual transition through wetland vegetation zones is not present.

Figure 9. Overview of marsh from observation platform.
Cattails are dominant and diversity of habitat is low.

Figure 10. Water outlet to be repaired.
Once repaired this water outlet will provide water level control to manage cattail infestations.

Figure 11. A natural spring at Tavasci Marsh.

Figure 12. Relic cottonwoods along an outer edge of Tavasci Marsh.

Additional cottonwoods will be planted to increase the area of cottonwood gallery habitat.

Figure 13. Open water habitat at the lower end of Tavasci Marsh.

Figure 14. Remnants of an old cottonwood tree amongst the monotypic cattail stand.

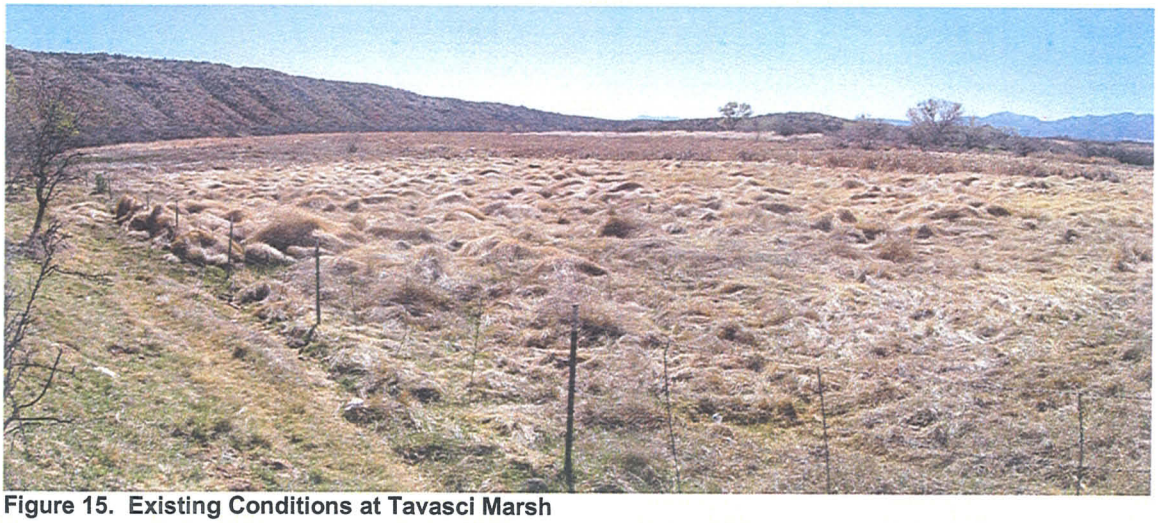


Figure 15. Existing Conditions at Tavasci Marsh

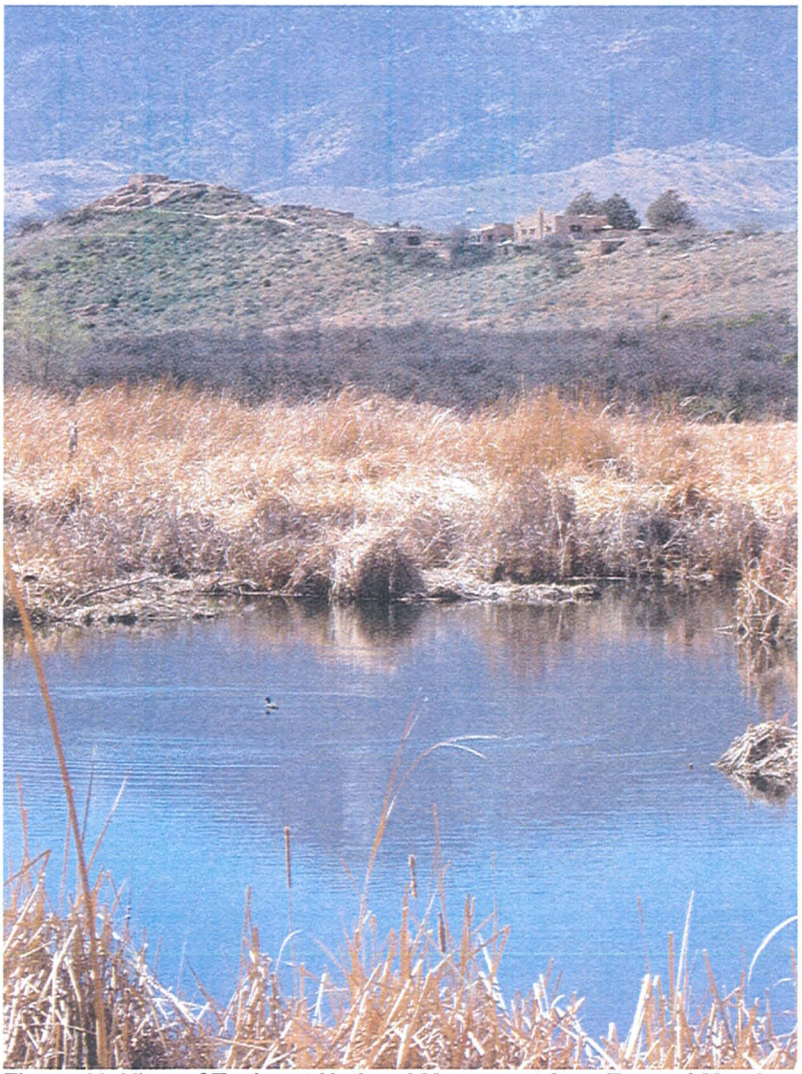


Figure 16. View of Tuzigoot National Monument from Tavasci Marsh.
This is the only existing open water at Tavasci Marsh. This area was created during the Arizona Game and Fish Department Habitat Enhancement Project of the early 1990's.

Description of Monitoring/Sampling Plans

Project assessment and design will use a combination of "analytical" and "reference" approach. This approach combines an extensive literature review with identification of the functioning physical and biological elements of the existing marsh system to develop appropriate design criteria and optimum planting palette. The design condition is compared with existing conditions to identify the tasks necessary to meet project objectives.

Sampling Plan

A site assessment or sampling plan will be prepared to direct the assessment and design processes of the Tavasci Marsh – Wetland Restoration Project. The sampling plan will describe the field methods to characterize the functioning and non-functioning elements of the existing system and the literature review necessary to identify the optimum condition of the marsh. The plan will include descriptions of all resources, field methods, and equipment needed. The plan will also describe the design process to compare existing conditions with reference or design conditions to produce the project design.

Design Plan

The design plan will develop strategies for removing invasive species and return native vegetation to the project area in a self-sustaining manner. The plan will include a description of the inventory/assessment process, hydrology, design criteria, excavation needs, revegetation plan, materials list, equipment needed, construction timeline, and engineer's estimate. A set of drawings will be prepared to guide construction activities and stamped by an engineer licensed in the State of Arizona. Extensive experience in preparing riparian restoration designs has been obtained through prior Arizona Water Protection Fund (AWPF) projects. The approach and practices prescribed in numerous past AWPF projects have proven to be successful for projects throughout the state.

Construction

It is expected that some areas within the project area will need to be excavated and re-contoured by heavy equipment to create deep water and shallow/wetted shoreline habitats. Additionally, the existing water gates may require repaired in order to control flows through the marsh. The construction drawings described above will describe all construction and repair activities. Every effort will be made to minimize the negative impacts of machinery can have on ecosystems during construction.

Invasive Weed Removal

Heavy equipment may be used to excavate or rake/ till invasive vegetation. If necessary, site application of herbicides by a licensed applicator may be used. Every effort will be made to minimize the negative impacts of machinery and herbicides on ecosystems during weed management.

Re-Vegetation

A comprehensive re-vegetation plan will be completed that describes the species, distribution, and planting practices to be utilized in the project. Instructions for plantings will be included in the Final Design Plan. Specific areas for re-vegetation will be identified along with the species to be planted and application rates for all plantings and maintenance.

Monitoring

Monitoring is an essential component to project success. Monitoring can not only evaluate the ultimate success in meeting project objectives but will help guide and improve implementation tasks throughout the project. A monitoring plan will be prepared that incorporates measurements of key components of the project to evaluate the relative success in meeting project objectives

including photo points, transects, and structural inspections. The following components will be included in the monitoring plan:

- Representative cross-sections will be established and resurveyed to evaluate the effectiveness of changes in the micro-topography;
- Revegetation success will be evaluated by making a visual count of vitality of individual plants in the year following planting;
- Non-native and invasive weed management will be monitored using representative plots;
- Water management structures will be monitored annually by visual and functional inspections and;
- Photo points will be used for general project monitoring.

Wildlife and visitor use will be monitoring concurrently through on-going NPS programs. All monitoring protocols will be described along with equipment needs, sampling schedule, expected results, and monitoring frequency. An effective monitoring plan will measure the success or failure in meeting project objectives during the project period.

Description of Revegetation/Restoration Plans

Restoration/revegetation strategy

The primary resource objective of the Tavasci Marsh – Wetland Restoration Project is the establishment of greater species and structural diversity of the native vegetation and enhance high quality wildlife habitat. To achieve this objective will require the following tasks:

1. Remove and manage existing invasive plant community
2. Re-contour micro-topography to create additional habitat types, including deep water, fringe, and wetted shoreline habitats;
3. Repair existing and/or install water gates to control water into and out of the marsh sections;
4. Revegetate project area with a variety of appropriate native wetland and riparian species; and
5. Develop conceptual restoration plans for the remainder of Tavasci Marsh.

Remove/manage invasive plant species

The marsh is currently dominated by a monotypic stand of cattails. Other invasive species have also been observed within the project area. Initially undesirable plant species will be removed mechanically with a blade or disc where populations are not mixed with desirable native species. In mixed areas, invasive species appear to be less dominant and can be removed by hand and/or herbicide will be applied depending on effectiveness. The plant materials removed will be burned or otherwise disposed of in a method that will minimize the potential for spreading. Mechanical removal will be scheduled concurrent with micro-topography excavations and conducted during the dormant season to maximize effectiveness and minimize disturbance to wildlife species. The primary method to manage invasive species will be the aggressive revegetation of the marsh with native species. It is expected that selective hand and/or herbicide treatments will be necessary in subsequent years declining with the success of the native revegetation efforts.

Re-contour topography

The creation of additional, diverse plant communities and habitats will require changes in the existing micro-topography of the marsh. Some areas will be excavated to create deeper, open water areas and the materials relocated to create shallow water, fringe areas and higher areas to

support riparian species. Some excavated material may be used to create berms and separate cells within the marsh. These cells may allow more effective management of water surface levels to meet project objectives. Every effort will be made to balance excavation and fill to minimize disturbance and project costs. Excavation will be scheduled for maximum effectiveness and to minimize adverse impacts to wildlife and visitors.

Repair/install water gates to control marsh flow

Two existing water gates are located at the downstream end of the project area. These gates were installed during the AZGF project, but no longer function properly due to beaver dams built nearby. Methods to make these gates more effective will be evaluated and implemented if practical. If necessary, new water management structures will be designed and installed to meet project objectives. Maintaining a flow of water through the marsh back into the Verde River will ensure maintain a healthy marsh ecosystem.

Revegetate with native species

The pilot project area will be aggressively revegetated with native species adapted to freshwater marsh ecosystems. The conceptual design envisions a variety of communities to provide diversity of habitat. Areas will be dominated by mesquite bosque will remain virtually untouched, cattail habitat will remain in small patches surrounded by a variety of habitat types, grassland habitats will be enhanced through the addition of species diversity, other habitat types (sedge/rush, willow fringe, and cottonwood/willow gallery) will be created through pole plantings, containerized plantings, and seeding . The location and distribution of the communities will be determined during the design process by characterizing high quality reference sites near the project. Plantings will consist of a mixture of containers, seedlings, and seeding. Late fall through early spring is expected to be the optimum planting period to take advantage of the long growing season in the Verde Valley, while minimizing disturbance to migrating wildlife. The bulk of the plantings will take place early in the project with additional plantings to fill holes and create additional diversity. A variety of tree, shrub, forb, and grass species will be used to provide diversity and opportunities to educate the public.

Develop future wetland restoration plans

Project excavation and revegetation will occur within the 9-acre pilot project area of the marsh. The pilot project will enhance a significant area of habitat as well as test the effectiveness of project approaches and practices. However, the NPS eventually plans to extend similar measures to the entire 110 acres of Tavasci Marsh. One task of the project will be to prepare a conceptual design for the remaining marsh area based on project objectives. Much of the assessment required to complete this task will be necessary to develop the pilot project design plan. The conceptual design will provide a foundation planning document for the land manager to use to obtain funding for future phases.

Public outreach and education

The project location on a NPS unit provides a unique opportunity to educate hundreds of thousands of visitors to the values of freshwater marsh ecosystems. To take advantage of this opportunity, project public outreach will include interpretive signs, visitor observation areas and short workshops.

Description of Existing Plans

Hartman, Dana. 1976. Tuzigoot, An Archeological Overview, Museum of Northern Arizona, MNA Research Paper 4.

Mau-Crimmins, S. Studd, M. Mauzy 2005. Exotic Plant Management for Montezuma Castle and Tuzigoot National Monuments. Technical Report NPS/IMR/SODN-001. Sonoran Desert Network, Sonoran Institute, U.S. Department of Interior, NPS, International Region, Denver, CO.

National Parks Service, March 2008. Draft General Management Plan/Environmental Assessment. Montezuma Castle National Monument, Tuzigoot National Monument, Camp Verde, Arizona.

National Parks Service. Invasive Plant Management Plan and Environmental Assessment/Assessment of Effect Draft. Montezuma Castle and Tuzigoot National Monuments, Camp Verde, AZ.

Peck's Lake TMDL, September 2001. Synoptic Report, Peck's Lake TMDL.

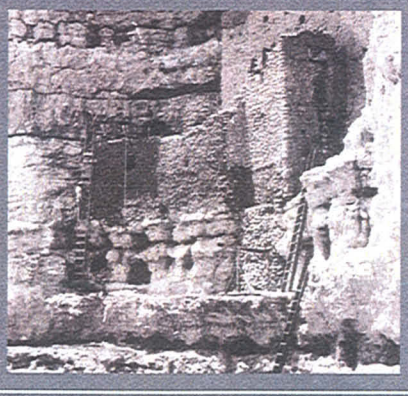
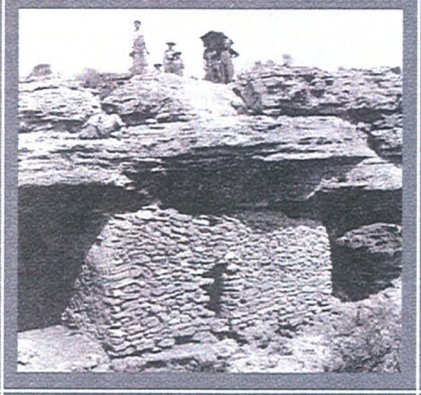
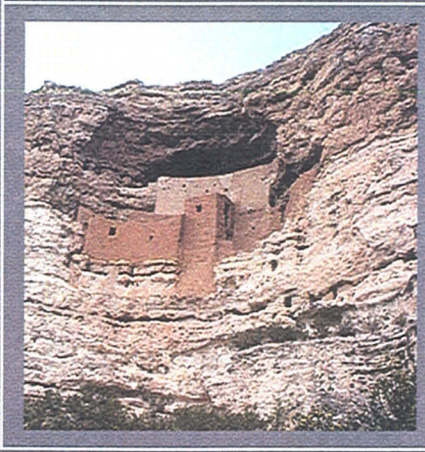
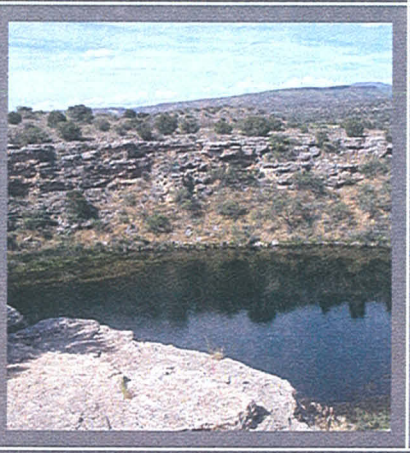
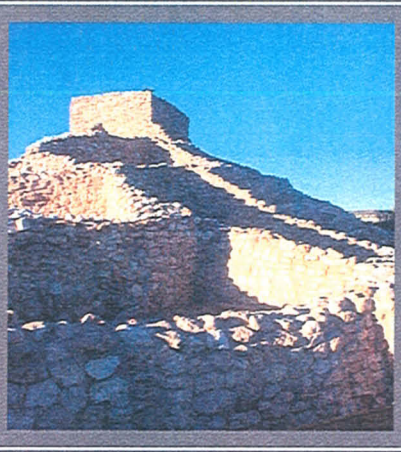
Supplee, Tice. May 2006. Tuzigoot Important Bird Area Avian Conservation Plan. Audubon Arizona and Tucson Audubon Society Arizona Important Bird Area's Program, Tucson, Arizona.

Tagg, M.D., 1986. The Tuzigoot Survey and Three Small Verde Valley Project. Western Archeological and Conservation Center, Publication in Anthropology, Number 40, Tucson, Arizona.

Montezuma Castle National Monument
Tuzigoot National Monument
Arizona

National Park Service
U.S. Department of the Interior

WASO/Region Review

Montezuma Castle	Montezuma Well	Tuzigoot
		
		

Draft General Management Plan /Environmental Assessment

March 2008

EXECUTIVE SUMMARY

Peck's Lake, an oxbow of the Verde River near Clarkdale, Arizona, was placed on the Water Quality Limited List (303d List) in 1998 for violations of the state's dissolved oxygen and pH standards. Verification monitoring was conducted in 1999 and a TMDL analysis was undertaken in the spring of 2000.

The TMDL analysis focused on nutrient loading to Peck's Lake, considering both ambient conditions and projected development. The analysis combined a watershed loading model (Generalized Watershed Loading Function) with a lake receiving water model (BATHTUB) for linkage of nutrient loading to algal and macrophyte productivity. This approach was justified based upon the large biomass of aquatic macrophytes in the lake. Algal and plant productivity were consequently tied to biological oxygen demand, availability of dissolved oxygen and pH.

The results of the TMDL analysis indicated that under current conditions, the largest nutrient load to Peck's Lake is from internal cycling. The second largest nutrient load comes from native vegetation in the immediate watershed. Based upon evaluation of upstream USGS gage data, the nutrient load from the Verde River has not changed significantly within the past several decades and will be considered natural background. Current lake water quality conditions may have been influenced by the presence of a 9-hole golf course adjacent to the lake from the 1920s to 1992 and a dairy just below the lake outlet.

Phelps Dodge Corp. (PD) owns the land around Peck's Lake and has plans to develop approximately 550 acres. The Verde Valley Ranch development will include a new 18-hole golf course, residential housing, and some commercial infrastructure. Future nutrient load projections were calculated based upon the Storm Water Pollution Prevention Plan (SWPPP) provided by PD and their contractor, URS Griner-Woodward Clyde. Modeling results demonstrated the need for implementing and maintaining all proposed best management practices to contain the 2-yr, 24 hr event.

The Margin of Safety for this TMDL consists of several conservative assumptions incorporated into the models:

1. Extreme hydrologic events were included in the watershed loading analyses and indicate the range of watershed nutrient loadings expected

2. Long-term average loading results were used, since lakes respond to nutrient loading slowly

3. BATHTUB predictions do not include the effects of macrophyte shading effects on phytoplankton, therefore eutrophication predictions are conservative

4. If macrophyte growth in the lake was reduced, calculations for nutrients would be conservative, since the actual internal nutrient fluxes from macrophyte decomposition would be reduced

5. The macrophyte densities and turnover rates used in the nutrient budget and dissolved oxygen calculations assumed the higher values from the literature rather than some of the lower estimates provided from the BATHTUB calibrations; and

6. The GWLF loading predictions did not include reductions that would be achieved by the sand filter BMPs because there is no way to directly include them in the model. However, these reductions are included in the SWPPP.

Taking into consideration the Margin of Safety based upon conservative assumptions, TMDL allocations will reflect no net gain in external nutrient loading to Peck's Lake. Internal nutrient loading of both total phosphorus and total nitrogen will be reduced 25% through harvesting of aquatic macrophytes and other methods. Flow through the lake will be maintained under the existing passive system. If passive flow does not prove sufficient over the first 5-yr phase of this TMDL, addition of aeration devices may be necessary. A detailed lake monitoring plan has been added to the SWPPP and will be supplemented with monitoring by ADEQ and the AZ Game & Fish Dept. The nutrient reduction is reflected in the TMDL equation below; the TMDL load expected to meet DO and pH standards is as follows:

LA1 (natural background) + LA2 (development) + LA3 (in-lake) + MOS = TMDL for N

LA1 (8.32 lbs/day + 2.32 lbs/day) + LA2 (4.56 lbs/day) + LA3 (59.20 lbs/day[1],[2]) + MOS = **74.40 lbs/day Total N**

LA1 (natural background) + LA2 (development) + LA3 (in-lake) + MOS = TMDL for P

LA1 (0.84 lbs/day + 0.07 lbs/day) + LA2 (0.53 lbs/day) + LA3 (9.78 lbs/day[1],[2]) + MOS = **11.15 lbs/day Total P**

[1] lake inflow + atmospheric deposition

[2] in-lake load represents a 25% reduction from current conditions

TMDL implementation will include various strategies to minimize input from runoff and reduce internal nutrient cycling in Peck's Lake. Measures include macrophyte harvesting, flushing, and interception and treatment of storm runoff from residential and commercial areas. Runoff from the golf course will be totally contained on-site, with the exception of the lower part around the oxbow, which will have lysimeters installed to monitor shallow groundwater. A comprehensive and detailed monitoring plan has been incorporated in the Storm Water Pollution Prevention Plan for the Verde Valley Ranch development. In addition to monitoring under this permit, ADEQ and AGFD will also participate in ongoing lake monitoring.

May 31, 2006

TUZIGOOT IMPORTANT BIRD AREA AVIAN CONSERVATION PLAN

Audubon Arizona and Tucson Audubon Society
Arizona Important Bird Area's Program

Prepared By: Audubon Arizona
Tice Supplee, Director of Bird Conservation
May 31, 2006

Executive Summary

Vision Statements

"The overall intent is for the Verde River Greenway to become a thriving oasis that will perpetuate its unique natural ecosystem and wildlife habitat; a living outdoor history museum, and a place where people can enjoy either passive or active outdoor activities. In its larger context the Greenway should be a landmark which is linked visually and functionally to neighborhood communities."

"Provide an integrated system of open space and natural resource areas to serve the residents of Clarkdale."

"Cottonwood, the heart of the Verde Valley, is a progressive community with unique natural and historic surroundings that offer a quality lifestyle with many of the amenities of metropolitan areas, yet is a quiet, safe and prosperous place to live and visit."

Tuzigoot Important Bird Area Partners:

Northern Arizona Audubon Society
Arizona State Parks Department
Arizona Game and Fish Department
U.S. National Park Service
Coconino National Forest
Town of Clarkdale
Town of Cottonwood
Sonoran Joint Venture

Biological Need

Riparian habitats in Arizona have decreased by over 95% from the pre-settlement period. Remaining examples of riparian vegetative communities are extremely valuable as sites of biological diversity and for human enjoyment. Arizona riparian communities support a disproportionately high percentage of

bird species both in numbers and densities than other Arizona habitats. Threats to these habitats are high and potential for recovery and management is also high. The Verde River is identified as a Significant Riparian Area in the Arizona Breeding Bird Atlas (Corman and Gervais-Wise, 2005). Threats to the Verde River in stream flow and water quality are high.

Key findings

Three major stresses to the Tuzigoot IBA riparian and marsh systems are identified: 1) Altered surface water flow regimes due to water diversion and development pressures; 2) Habitat losses due to land management changes; 3) Habitat quality and diversity alteration due to invasive non-native vegetation. One lower level stressor identified is: 4) Habitat degradation due to livestock grazing in riparian habitat.

Document Purpose

This plan will be used as the draft avian component to the Arizona State Parks Department Verde River Greenway planning process and the Tuzigoot National Monument planning for Tavasci Marsh. Through both processes the avian plan objectives and strategies will be reviewed and integrated into a larger conservation strategy with diverse partners.

Guidance Documents:

- Arizona Partners in Flight Bird Conservation Plan, 1999
- Arizona Game and Fish Department Comprehensive Wildlife Action Plan, March 2006
- Arizona State Parks Verde River Greenway Management Plan.1991(?)
- Clarkdale General Plan; Chapter 4 Wildlife and Open Space. April 2001
- Cottonwood General Plan 2003-2013; Chapter 9: Open Space and Recreation
- NABCI Partners in Flight North American Landbird Conservation Plan
- Packard Ranch/Tavasci Marsh Management Plan. 1997. Arizona Game and Fish Department

Letters of Community Support

• Verde Valley Land Preservation Institute, Inc.	Bob Rothrock www.verdevalleylpi.org
• Verde River Greenway	Max Castillo 928-639-0312 scastillo@azstateparks.gov
• The Institute of Ecotourism	Diane Dearmore 928-282-2720 www.ioet.org
• Yavapai County Board of Supervisors	A.G. "Chip" Davis 928-639-8110
• Salt River Project	Charles E. Paradzic 602-236-2724
• Town of Camp Verde, Mayor	Tony Gioia
• U.S. Fish and Wildlife Services	Shaula Hedwall 928-226-0614 (x103) Brenda Smith 928-226-0614 (x101) Steven Sangle
• Arizona Archaeological Society	Kenneth J. Zoll 928-284-1228
• Northern Arizona University: Ecological Monitoring & Assessment Program & Foundation	Karan English, Director 928-523-0716 Patty West (Patty.West@nau.edu)
• Sierra Club: Grand Canyon Chapter	Sandy Bahr; Director 602-253-8633
• Arizona State Parks	Dan Shein 602-542-2138 (dans@azstateparks.gov)
• Northern Arizona Audubon	Roger Radd (webmaster@nazas.org)
• Verde Watershed Association	Edward W. Wolfe, Chair 928-776-4754 ewwolfe@commspeed.net
• City of Cottonwood Arizona Council Members:	Diane Jones, Mayor 928-634-5526 Karen Pfeifer, James Chapman Tim Elinski, Diane Kirby Linda Norman, Terence Pratt
• Local Residence	Dexter & Jodi Allen 928-567-3107
• Dead Horse Ranch	Les

Tony Gioia
PO Box 464
Camp Verde AZ
86322

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

May 13th, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

I am Mayor of the Town of Camp Verde, however in my capacity as a citizen of the Verde Valley I would like to express my support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. I understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, I appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

I recognize the investment in this project requested of the Arizona Water Protection Fund and I am enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. I trust the National Park Service and other stakeholders will see this project to completion and will help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Tony Gioia

Tony Gioia

SIERRA CLUB
FOUNDED 1892

Grand Canyon Chapter • 202 E. McDowell Rd, Ste 277 • Phoenix, AZ 85004
Phone: (602) 253-8633 Fax: (602) 258-6533 Email: grand.canyon.chapter@sierraclub.org

May 29, 2008

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

On behalf of the Sierra Club's Grand Canyon (Arizona) Chapter and our 14,000 members in Arizona, I would like to express our strong support for the National Park Service proposal for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument. This project is exactly the kind of project the Arizona Water Protection Fund should support. It includes development of a conceptual design to restore native plant communities and wildlife habitat diversity and to develop and implement a pilot project. We appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping as required by the National Environmental Policy Act to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

The Sierra Club recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me at (602) 253-8633 or at sandy.bahr@sierraclub.org.

Sincerely,

Sandy Bahr
Chapter Director
Sierra Club – Grand Canyon Chapter

Delivering More Than Power™

SALT RIVER PROJECT
Environmental Services
Mail Station PAB352
POST OFFICE BOX 52025
PHOENIX, ARIZONA
85072-2025
(602) 236-2724

Charles E. Paradzick
Senior Ecologist

May 19, 2008

Arizona Water Protection Fund Commission
C/o Rodney Held
500 North 3rd Street
Phoenix, Arizona 85004

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The Salt River Project (SRP) would like to express its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. The purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project at Tavasci marsh. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

SRP appreciates the local and regional benefits the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat, and the public education value concerning the importance of wetland resources in the desert southwest. SRP recently completed Habitat Conservation Plans (HCPs) for operation of Roosevelt Lake on the Salt River and Horseshoe and Bartlett Reservoirs on the Verde River to address threatened and endangered species impacts due to reservoir operations. As part of SRP's obligations under the HCPs cottonwood-willow habitat is being protected in the Camp Verde area, and we are working with state and federal stakeholders to implement native fish, frog, and gartnersnake conservation efforts in the Verde River watershed. This project compliments these efforts, and it would provide additional habitat for sensitive riparian and aquatic species. We urge you to fund this restoration project. If you have any questions about SRP's views on this application, please do not hesitate to call me at (602) 236-2724.

Sincerely,

Charles E. Paradzick

cc: Tom Moody, Natural Channel Design

EC 13558.0508

NORTHERN ARIZONA UNIVERSITY

Ecological Monitoring & Assessment Program & Foundation

Northern Arizona University
PO Box 5845
Flagstaff, AZ 86011-5845

928-523-0716
928-523-0717 fax
www.EMAprogram.c

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

May 29, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

As the Director of the Ecological Monitoring & Assessment (EMA) Program and Vice President of the Arizona State Parks Foundation Board, I would like to express my support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. We appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland. This restoration would improve habitat for native species, and would also provide the human community with an improved resource.

The EMA Program recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future. We are committed to offering student opportunities related to the project, such as student service projects and look forward to assisting with education and outreach for the project

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Karan English

Karan English, Director
Ecological Monitoring & Assessment (EMA) Program
Northern Arizona University
P.O. Box 5845
Flagstaff, Arizona 86011

ECOLOGICAL MONITORING & ASSESSMENT

INSTITUTE OF ECOTOURISM

May 13, 2008

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The Institute of EcoTourism would like to express its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

The Institute of EcoTourism recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide volunteer assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Diane Dearmore
Executive Director

PHONE: 928.282.2720 • FAX: 928.282.5193 • 91 PORTAL LANE • SEDONA, AZ • 86336 • WWW.IOET.ORG

BOARD OF SUPERVISORS DISTRICT 3

A.G. "CHIP" DAVIS
Supervisor, District 3
10 S. Sixth Street
Cottonwood, AZ 86326
(928) 639-8110
chip.davis@co.yavapai.az.us

May 14, 2008

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, AZ 85012

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

We would like to express our support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument. We understand that the purpose of the project is to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which has been lost due to artificial manipulation of the flow of Pecks Lake through the marsh and a hundred years of farming, grazing, burning and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood-willow forests, sedge-rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

We recognize the importance of this project and are enthusiastic to lend our support. If you have any questions or concerns, please do not hesitate to contact my office.

Best regards,

A. G. "Chip" Davis
District 3 Supervisor

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

May 28, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

At a recent meeting, the Board of Directors of the Verde Valley Chapter of the Arizona Archaeological Society expressed its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder in the prehistory and history of the area, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland.

We understand that this restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The educational opportunities, through the establishment of interpretive plots and trails, will be a valuable addition to the area for visitors and residents alike.

We recognize the requested investment in this project from the Arizona Water Protection Fund and are enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

Thank you for your consideration.

Sincerely,

Kenneth J. Zoll
President
P.O. Box 2451
Sedona, AZ 86339
928-284-1228

Verde River Greenway
State Natural Area

2011-B Kestrel Road, Cottonwood, AZ 86326
(928)639-0312 voice, (928)639-0342 Fax

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

May 13, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The Verde River Greenway State Natural Area (VRGSNA) of AZ State Parks would like to express its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder and neighbor, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities. This project will also fit into the overall goal of the VRGSNA to restore and protect the Riparian corridor along the Verde River.

The Verde River Greenway State Natural Area recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

S. Max Castillo, Unit Manager
Verde River Greenway SNA
2011-B Kestrel Road
Cottonwood, AZ 86326
Phone: (928) 639-0312

Arizona State Parks

VERDE VALLEY LAND PRESERVATION INSTITUTE, INC.

"...to preserve and enhance the natural open space setting of the Verde Valley."

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

May 19, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The Verde Valley Land Preservation Institute would like to express its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

VVLPI recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Bob Rothrock

Bob Rothrock
President
Verde Valley Land Preservation Institute

United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

In Reply Refer to:

AESO/SE
22410-2008-TA-0331

May 28, 2008

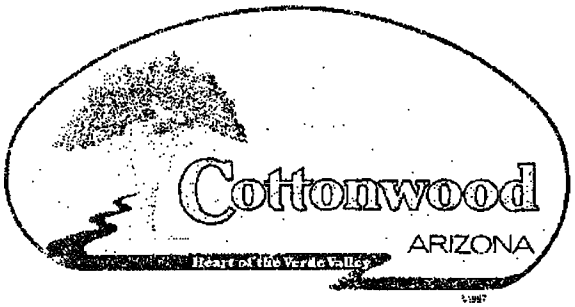
Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 North Central Avenue
Phoenix, Arizona 85012

Dear Arizona Water Protection Fund Commissioners:

The Fish and Wildlife Service is writing in support of the National Park Service's Arizona Water Protection Fund (AWPF) proposal entitled "Tavasci Marsh Wetland Restoration Project" at Tuzigoot National Monument, Yavapai County, Arizona. The goals of the project are to restore and protect native wetland marsh vegetation and restore proper hydrologic condition and function on eight acres of Tavasci Marsh. The tasks outlined in the proposal would strive to improve the riparian area by removing the monotypic stand of cattail to create a diverse, native plant community through aggressive seeding and planting following cattail removal. These improvements should result in improved wildlife habitat diversity.

As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to the past artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching. Over the past decade there has been an increase in cattail communities that have resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native vegetation. In addition, the project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

The Fish and Wildlife Service recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for the Tavasci Marsh Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.



May 14, 2008

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The City of Cottonwood would like to express its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

The City of Cottonwood recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Diane Joens
Mayor

Karen Pfeifer
Councilmember

James Chapman
Councilmember

Tim Elinski
Councilmember

Duane Kirby
Councilmember

Linda Norman
Councilmember

Terence Pratt
Councilmember

3550 N. Central Avenue
Phoenix, Arizona 85012

June 8, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

We, Dexter L., and Jodi Allen, would like to express our support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a resident, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

We recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely, Dexter Allen

Jodi Allen
626 W. Salt River Rd.
Camp Verde, Az. 86322
928-567-3107

INSTITUTE OF ECOTOURISM

May 13, 2008

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The Institute of EcoTourism would like to express its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

The Institute of EcoTourism recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide volunteer assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Diane Dearmore
Executive Director

Dead Horse Ranch State Park

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

June 10, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

Dead Horse Ranch State Park would like to express support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will not only help the National Park Service manage invasive plant species but will also help Dead Horse Ranch and the Verde River Greenway by reintroducing native, non-invasive vegetation. The project will provide educational opportunities for Dead Horse Ranch visitors through the establishment of interpretive plots that will be used by visitors to both Tuzigoot and Dead Horse Ranch.

Dead Horse Ranch State Park recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We look forward to working closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Les Bovee, Manager
Dead Horse Ranch State Park
675 Dead Horse Ranch Road
Cottonwood, AZ 86326

Evidence of Control and Tenure of Land

AND

Evidence of Physical and Legal Availability of Water

First American Title Insurance Company
This is to certify that this is a true and
Exact copy of the original document.
By: Donna Sexton
Date/Time: Sept 15, 2005 1147am
Fee Number: Book 4311 pg 392
County: Yavapai

WHEN RECORDED, RETURN TO:
U.S. Department of the Interior
Bureau of Land Management
Attn: Lands and Minerals Adjudication (AZ933)
222 North Central Avenue
Phoenix, Arizona 85004-2208

GENERAL WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS: that for and in consideration of the exchange of certain lands and interests therein as authorized by Section 206 of the Federal Land Policy and Management Act of 1976, as amended (43 U.S.C. 1716), **PHELPS DODGE CORPORATION**, a New York corporation (hereinafter "Grantor"), does hereby grant, bargain, sell and convey to the **UNITED STATES OF AMERICA** and its assigns (hereinafter "Grantee") the following described real property situated in Yavapai County, Arizona, more specifically described as:

See Attached Exhibit "A"

TOGETHER WITH all those rights, including water rights, appurtenant to the lands.

AFFIDAVIT EXEMPT PER A.R.S. §11-1134.A.3

TO HAVE AND TO HOLD unto the UNITED STATES OF AMERICA and its assigns forever, all right, title, and interest in the above-described real property in fee simple together with all improvements thereon subject to the following matters of record as set forth on Exhibit "B." Grantor covenants and warrants that it is lawfully seized and possessed of the real property aforesaid and has the full right, power, and authority to execute this conveyance and that said real property is free and clear of liens, claims or encumbrances except as previously set forth and that it will forever defend the title to the real property conveyed herein against the lawful claims and demands of all persons whomsoever.

The acquiring federal agency is the Department of the Interior, National Park Service.

IN WITNESS WHEREOF, this Deed is hereby executed by the Grantor this 25th day of August, 2005.

PHELPS DODGE CORPORATION,
a New York corporation

By: _____
S. David Colton, Senior Vice
President and General Counsel
"Grantor"

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

This instrument was acknowledged before me this 25th day of August, 2005 by S. David Colton, the Senior Vice President and General Counsel of PHELPS DODGE CORPORATION, a New York corporation, for and on behalf of said corporation.

My commission expires:
June 14, 2006

Jacqueline Madison, Notary Public

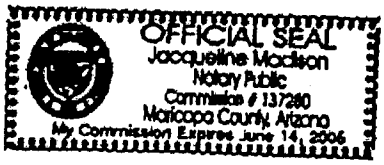


Exhibit "A"

TAVASCI MARSH PROPERTY

T. 16 N., R. 3 E.
That part of the Southwest quarter of Section 15, and that part of the Northwest quarter and the North half of the Southwest quarter Section 22, Township 16 North, Range 3 East of the Gila and Salt River Base and Meridian, Yavapai County, Arizona, more particularly described as follows:

COMMENCING at the Southwest corner of said Section 15, monumented with a 2½" aluminum pipe; thence North 01 degrees, 38 minutes, 17 seconds, West (measured), North 00 degrees, 36 minutes, 26 seconds, East (record), along the West line of the Southwest quarter of said Section 15, as shown on the Boundary Survey of the Proposed Tuzigoot National Monument, recorded in Book 2 of Land Surveys, page 192, Yavapai County Records, a distance of 1,475.00 feet to the TRUE POINT OF BEGINNING.

Thence continuing North 01 degrees, 38 minutes, 17 seconds, West, along said West line of the Southwest quarter of said Section 15, a distance of 1,196.12 feet to the West quarter corner of said Section 15, monumented with a United States Forest Service Aluminum Cap; thence North 88 degrees, 01 minutes, 21 seconds, East, along the East-West mid section line of said Section 15, a distance of 2,609.43 feet to the center quarter corner of said Section 15, monumented with a United States Forest Service Aluminum Cap; thence South 02 degrees, 20 minutes, 25 seconds, East, along the North-South mid section line of said Section 15, a distance of 2,659.29 feet to the South quarter corner of said Section 15, also being the North quarter corner of said Section 22, monumented with a GLO Brass Cap; thence South 03 degrees, 55 minutes, 01 seconds, East, along the North-South mid section line of said Section 22, a distance of 2,657.46 feet to the center quarter corner of said Section 22, monumented with an Aluminum Cap; thence South 03 degrees, 55 minutes, 08 seconds, East, continuing along the North-South mid section line of said Section 22, a distance of 1,323.01 feet to the Southeast corner of the North half of the Southwest quarter of said Section 22, monumented with a National Park Service Aluminum Cap; thence South 87 degrees, 09 minutes, 57 seconds, West, along the South line of said North half of the Southwest quarter of said Section 22, a distance of 2,667.13 feet to the Southwest corner of said North half of the Southwest quarter of said Section 22, monumented with a National Park Service Aluminum Cap in concrete; thence North 03 degrees, 33 minutes, 07 seconds, West, along the West line of the Southwest quarter of said Section 22, a distance of 795.91 feet to the Southwesterly boundary of the existing "Tuzigoot National Monument Boundary", monument with a ½" rebar;

Thence along said existing "Tuzigoot National Monument Boundary", the following courses;

Thence South 16 degrees, 15 minutes, 43 seconds, East, a distance of 169.85 feet to a GLO Brass Cap; thence North 87 degrees, 28 minutes, 58 seconds, East, a distance of 70.00 feet to a GLO Brass Cap; thence North 17 degrees, 32 minutes, 19 seconds, East, a distance of 2,977.54 feet to a GLO Brass Cap; thence North 65 degrees, 28 minutes, 39 seconds, West, a distance of 594.31 feet to a GLO Brass Cap; thence North 24 degrees, 32 minutes, 11 seconds, East, departing said existing "Tuzigoot National Monument Boundary" and along the Northeasterly prolongation of the Northwesterly boundary line of said existing "Tuzigoot National Monument Boundary", a distance of 1,133.00 feet to the beginning of a 2,850.00 foot radius non-tangent curve, whose center bears South 45 degrees, 29 minutes, 58 seconds, West; thence Northwesterly, along said curve, through a central angle of 28 degrees, 12 minutes, 28 seconds, a distance of 1,403.10 feet to the TRUE POINT OF BEGINNING.

The area described comprising 323.749 acres, more or less.

Exhibit "B"

TAVASCI MARSH PROPERTY

Reservations or Exceptions in Patents, or in Acts authorizing the issuance thereof.

Water rights, claims or title to water, whether or not shown by the public records.

The rights or claims of title, if any, by the State of Arizona to any portion of the property described in Exhibit "A" being located in the bed of any river or dry wash.

An easement for electric lines and incidental purposes in the document recorded as Book 348 of Official Records, Page 206 of Official Records.

All matters as set forth in Plat, recorded December 29, 1980 as Book 2 of Land Surveys, Pages 192 and 193.

The terms and provisions contained in the document entitled "Agreement and Amendment of Agreement" recorded May 9, 1990 as Book 2247 of Official Records, Page 709 of Official Records.

The terms and provisions contained in the document entitled "Easement Agreement" recorded June 21, 2000 as Book 3762 of Official Records, Page 247 of Official Records.

United States Department of the Interior

OFFICE OF THE SOLICITOR
Field Office, Southwest Region
P.O. Box 1042
Santa Fe, New Mexico 87504-1042

TAKE PRIDE IN AMERICA

September 4, 2007

L1425(IMLR-S)
TUZI / 01-108

MEMORANDUM

TO: Chief, Land Resources Program Center
Intermountain Region
National Park Service

FROM: Robert C. Eaton, Attorney-Adviser
Southwest Region

SUBJECT: Tuzigoot National Monument- Final Title Opinion for the Acquisition of Tract No. 01-108, Yavapai County, Arizona

FTO Request Dated:	July 27, 2007	
Acreage:	323.75	Consideration: Exchange
Interest Acquired:	Fee Simple	
Vendor(s):	Phelps Dodge Corporation, a New York Corporation	
Deed Dated:	August 25, 2005	Deed Filed: September 15, 2005
Book No.:	4311	Page No.: 392
Title Insurance:	First American Title Insurance Company, Policy No. NCS-178391-PHX-1	

An examination has been made of the title evidence pertaining to the above-numbered tract and interest(s) therein, which have been acquired under the authority of existing law. The land and interest(s) acquired are described more particularly in the deed contained in the file.

The title evidence discloses valid title to be vested in the United States of America, subject to any outstanding rights contained in Schedule B of the title insurance policy and endorsements thereto, and subject further to any reservations contained in the deed to the United States of America, which rights and reservations, if any, are such that the agency has determined will not interfere with the contemplated use of the land.

Robert C. Eaton

Robert C. Eaton

cc:
Assistant Attorney General, Environment and Natural Resources Division, U.S. Department of Justice, Attn: Chief, Land Acquisition Section, P.O. Box 561, Washington, D.C. 20044

F.A. Special
Lack of Signatures

ENDORSEMENT

Attached to Policy No. NCS-178391-PHX1

Issued By

First American Title Insurance Company

The Company hereby assures the Insured that the Company will not deny liability under the policy or any endorsements issued therewith solely on the grounds that the policy and/or endorsement(s) were issued electronically and/or lack signatures in accordance with Paragraph 15 (c) of the Conditions and Stipulations.

This endorsement is made a part of said policy and is subject to all of the terms and provisions thereof and of any prior endorsements thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and any prior endorsements, nor does it extend the effective date of the policy and any prior endorsements, nor does it increase the face amount thereof.

First American Title Insurance Company

BY Curt B. Johnson *PRESIDENT*

ATTEST Timothy Klein *SECRETARY*

Endorsement:

ENDORSEMENT

Attached to Policy No. NCS-178391-PHX1

Issued By

First American Title Insurance Company

The provisions of said Policy are hereby modified and amended as of the date hereof as to the following matters and none other:

Exception 7 of Parcel 12 on the above said Policy is here by deleted.

The total liability of the Company under this policy and any endorsements therein shall not exceed, in the aggregate, the face amount of said policy and costs which the Company is obligated under the Conditions and Stipulations hereof to pay.

This endorsement is made a part of said policy and is subject to the Exclusions from Coverage, Schedules, Conditions and Stipulations therein, except as modified by the provisions thereof.

This endorsement is not to be construed as insuring the title as of any later date than the date of said policy, except as herein expressly provided as to the subject matter hereof.

First American

First American Title Insurance Company
National Commercial Services
4801 East Washington Street
Phoenix, AZ 85034
Phn - (602)685-7000

November 08, 2005

Title Officer:	Dan Figueroa
Phone:	(602)685-7160
Order Number:	NCS-178391-PHX1
Escrow Officer:	Carol Peterson
Phone:	(602)567-8100
Property:	AZ

Attached please find the following item(s):

A Policy of Title Insurance

Thank You for your confidence and support. We at First American Title Insurance Company maintain the fundamental principle:

Customer First!

UNITED STATES OF AMERICA
Policy of Title Insurance

ISSUED BY

First American Title Insurance Company

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS FROM COVERAGE CONTAINED IN SCHEDULE B AND THE CONDITIONS AND STIPULATIONS, FIRST AMERICAN TITLE INSURANCE COMPANY, a California corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the Amount of Insurance stated in Schedule A, sustained or incurred by the insured by reason of:

1. Title to the estate or interest described in Schedule A being vested other than as stated therein;
2. Any defect in or lien or encumbrance on the title;
3. Unmarketability of the title;
4. Lack of a right of access to and from the land.
5. In instances where the insured acquires title to the land by condemnation, failure of the commitment for title insurance, as updated to the date of the filing of the lis pendens notice or the Declaration of Taking, to disclose the parties having an interest in the land as disclosed by the public records.

The Company will also pay the costs, attorneys' fees and expenses incurred in defense of the title, as insured, but only to the extent provided in the Conditions and Stipulations.

First American Title Insurance Company

BY Gary L. Kerndt PRESIDENT

ATTEST Mark A. Arnesen SECRETARY

SCHEDULE A

Type of Coverage: **ALTA Owner's U. S. Policy (9-28-91)**

Amount of Insurance:

Parcel 1	$222,000.00
Parcel 2-4	$29,000.00
Parcel 5	$85,000.00
Parcel 6-7	$416,000.00
Parcel 8	$320,000.00
Parcel 9-11	$960,000.00
Parcel 12	$3,100,000.00
Parcel 13	$624,000.00
Parcel 14-20	$160,000.00
Parcel 21-22	$72,000.00
Parcel 23-24	$264,000.00
	$6,252,000.00

Policy Number: NCS-178391-PHX1

Date of Policy:

September 16, 2005 T.A.I. Fee No. 050935180 (Cochise County)
September 15, 2005 T.A.I. Docket 12640, Page 5129 (Pima County)
September 15, 2005 T.A.I. Book 4311, Page 392 (Yavapai County)
September 16, 2005 T.A.I. 2005-12247 (Santa Cruz County)
September 16, 2005 T.A.I. Fee No. 2005-05318 (Graham County)

1. Name of Insured:

   United States of America

2. The estate or interest in the land which is covered by this policy is:

   Fee Simple

3. Title to the estate or interest in the land is vested in:

   United States of America and its assigns

4. The land referred to in this policy is described as follows:

   Real property in the County of Cochise, Pima, Yavapai, Santa Cruz and Graham, State of Arizona, described as follows:

THE FOLLOWING PARCEL NOS. 1 THROUGH 5 ARE LOCATED IN COCHISE COUNTY, ARIZONA:

PARCEL NO. 1:

THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 9;

THE NORTHEAST QUARTER;

THE EAST HALF OF THE NORTHWEST QUARTER AND THE SOUTH HALF OF SECTION 10;

ALL IN TOWNSHIP 14 SOUTH, RANGE 28 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, COCHISE COUNTY, ARIZONA;

EXCEPT AS TO THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 9; THE SOUTHEAST QUARTER AND THE EAST HALF OF THE NORTHEAST QUARTER OF SECTION 10,
ALL COAL AND MINERALS AS RESERVED IN PATENT FROM UNITED STATES OF AMERICA; AND

EXCEPT 30% OF THE COAL AND OTHER MINERALS AS RESERVED IN DEED RECORDED IN DOCKET 187, PAGE 323, RECORDS OF COCHISE COUNTY, ARIZONA.

PARCEL NO. 2:

THE EAST HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 7, TOWNSHIP 14 SOUTH, RANGE 28 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, COCHISE COUNTY, ARIZONA.

PARCEL NO. 3:

THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 4, TOWNSHIP 14 SOUTH, RANGE 28 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, COCHISE COUNTY, ARIZONA.

EXCEPT ALL COAL AND OTHER MINERALS AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA.

PARCEL NO. 4:

THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 14 SOUTH, RANGE 28 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, COCHISE COUNTY, ARIZONA.

PARCEL NO. 5:

LOTS 1, 2, 3 AND 4, AND THE EAST HALF OF THE WEST HALF OF SECTION 7, TOWNSHIP 14 SOUTH, RANGE 28 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, COCHISE COUNTY, ARIZONA;

EXCEPT ALL COAL AND OTHER MINERALS AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA.

THE FOLLOWING PARCEL NOS. 6 THROUGH 11 ARE LOCATED IN PIMA COUNTY, ARIZONA:

PARCEL NO. 6:

LOT 1, OF SECTION 5, TOWNSHIP 18 SOUTH, RANGE 18 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PIMA COUNTY, ARIZONA;

EXCEPT ALL COAL AND OTHER MINERALS AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA.

PARCEL NO. 7:

LOT 2 AND THE SOUTH HALF OF THE NORTHEAST QUARTER AND THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 18 SOUTH, RANGE 18 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PIMA COUNTY, ARIZONA;

EXCEPT ALL COAL AND OTHER MINERALS AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA.

PARCEL NO. 8:

THE SOUTHWEST QUARTER OF SECTION 10, TOWNSHIP 19 SOUTH, RANGE 18 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PIMA COUNTY, ARIZONA.

EXCEPT ALL COAL AND OTHER MINERALS AS RESERVED IN THE PATENT FROM THE UNITED STATES.

PARCEL NO. 9:

THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 15, TOWNSHIP 19 SOUTH, RANGE 18 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PIMA COUNTY, ARIZONA;

EXCEPT ALL COAL AND OTHER MINERALS AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA.

PARCEL NO. 10:

THE EAST HALF OF THE NORTHEAST QUARTER AND THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 21, TOWNSHIP 19 SOUTH, RANGE 18 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PIMA COUNTY, ARIZONA.

PARCEL NO. 11:

THE NORTHWEST QUARTER AND THE NORTH HALF OF THE SOUTHWEST QUARTER OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 18 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PIMA COUNTY, ARIZONA;

EXCEPT AS TO THE EAST HALF OF THE NORTHWEST QUARTER AND THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER ALL COAL AND OTHER MINERALS AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA.

THE FOLLOWING PARCEL NO. 12 IS LOCATED IN YAVAPAI COUNTY, ARIZONA:

PARCEL NO. 12:

THAT PART OF THE SOUTHWEST QUARTER OF SECTION 15, AND THAT PART OF THE NORTHWEST QUARTER AND THE NORTH HALF OF THE SOUTHWEST QUARTER SECTION 22, TOWNSHIP 16 NORTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, YAVAPAI COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 15, MONUMENTED WITH A 2 1/2" ALUMINUM PIPE;

THENCE NORTH 01 DEGREES 38 MINUTES 17 SECONDS WEST (MEASURED) NORTH 00 DEGREES 36 MINUTES 26 SECONDS EAST (RECORD), ALONG THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 15, AS SHOWN ON THE BOUNDARY SURVEY OF THE PROPOSED TUZIGOOT NATIONAL MONUMENT, RECORDED IN BOOK 2 OF LAND SURVEYS, PAGE 192, YAVAPAI COUNTY RECORDS, A DISTANCE OF 1,475.00 FEET TO THE TRUE POINT OF BEGINNING;

THENCE CONTINUING NORTH 01 DEGREES 38 MINUTES 17 SECONDS WEST, ALONG SAID WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 15, A DISTANCE OF 1,196.12 FEET TO THE WEST QUARTER CORNER OF SAID SECTION 15, MONUMENTED WITH A UNITED STATES FOREST SERVICE ALUMINUM CAP;

THENCE NORTH 88 DEGREES 01 MINUTES 21 SECONDS EAST, ALONG THE EAST-WEST MID-SECTION LINE OF SAID SECTION 15, A DISTANCE OF 2,609.43 FEET TO THE CENTER QUARTER CORNER OF SAID SECTION 15, MONUMENTED WITH A UNITED STATES FOREST SERVICE ALUMINUM CAP;

THENCE SOUTH 02 DEGREES 20 MINUTES 25 SECONDS EAST, ALONG THE NORTH-SOUTH MID-SECTION LINE OF SAID SECTION 15, A DISTANCE OF 2,659.29 FEET TO THE SOUTH QUARTER CORNER OF SAID SECTION 15, ALSO BEING THE NORTH QUARTER CORNER OF SAID SECTION 22, MONUMENTED WITH A GLO BRASS CAP;

THENCE SOUTH 03 DEGREES 55 MINUTES 01 SECONDS EAST, ALONG THE NORTH-SOUTH MID-SECTION LINE OF SAID SECTION 22, A DISTANCE OF 2,657.46 FEET TO THE CENTER QUARTER CORNER OF SAID SECTION 22, MONUMENTED WITH AN ALUMINUM CAP;

THENCE SOUTH 03 DEGREES 55 MINUTES 08 SECONDS EAST, CONTINUING ALONG THE NORTH-SOUTH MID-SECTION LINE OF SAID SECTION 22, A DISTANCE OF 1,323.01 FEET TO THE SOUTHEAST CORNER OF THE NORTH HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 22, MONUMENTED WITH A NATIONAL PARK SERVICE ALUMINUM CAP;

THENCE SOUTH 87 DEGREES 09 MINUTES 57 SECONDS WEST, ALONG THE SOUTH LINE OF SAID NORTH HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 22, A DISTANCE OF 2,667.13 FEET TO THE SOUTHWEST CORNER OF SAID NORTH HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 22, MONUMENTED WITH A NATIONAL PARK SERVICE ALUMINUM CAP IN CONCRETE;

THENCE NORTH 03 DEGREES 33 MINUTES 07 SECONDS WEST, ALONG THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 22, A DISTANCE OF 795.91 FEET TO THE SOUTHWESTERLY BOUNDARY OF THE EXISTING "TUZIGOOT NATIONAL MONUMENT BOUNDARY", MONUMENT WITH A 1/2" REBAR;

THENCE ALONG SAID EXISTING "TUZIGOOT NATIONAL MONUMENT BOUNDARY", THE FOLLOWING COURSES:

THENCE SOUTH 16 DEGREES 15 MINUTES 43 SECONDS EAST, A DISTANCE OF 169.85 FEET TO A GLO BRASS CAP;

THENCE NORTH 87 DEGREES 28 MINUTES 58 SECONDS EAST, A DISTANCE OF 70.00 FEET TO A GLO BRASS CAP;

THENCE NORTH 17 DEGREES 32 MINUTES 19 SECONDS EAST, A DISTANCE OF 2,977.54 FEET TO A GLO BRASS CAP;

THENCE NORTH 65 DEGREES 28 MINUTES 39 SECONDS WEST, A DISTANCE OF 594.31 FEET TO A GLO BRASS CAP;

THENCE NORTH 24 DEGREES 32 MINUTES 11 SECONDS EAST, DEPARTING SAID EXISTING "TUZIGOOT NATIONAL MONUMENT BOUNDARY" AND ALONG THE NORTHEASTERLY PROLONGATION OF THE NORTHWESTERLY BOUNDARY LINE OF SAID EXISTING "TUZIGOOT NATIONAL MONUMENT BOUNDARY", A DISTANCE OF 1,133.00 FEET TO THE BEGINNING OF A 2,850.00 FOOT RADIUS NON-TANGENT CURVE, WHOSE CENTER BEARS SOUTH 45 DEGREES 29 MINUTES 58 SECONDS WEST;

THENCE NORTHWESTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 28 DEGREES 12 MINUTES 28 SECONDS, A DISTANCE OF 1,403.10 FEET TO THE TRUE POINT OF BEGINNING.

THE FOLLOWING PARCEL NO. 13 IS LOCATED IN SANTA CRUZ COUNTY, ARIZONA:

PARCEL NO. 13:

THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 20 SOUTH, RANGE 18 EAST, GILA AND SALT RIVER MERIDIAN, SANTA CRUZ COUNTY, ARIZONA; AND

THE SOUTH HALF OF THE SOUTHWEST QUARTER OF SECTION 10, TOWNSHIP 20 SOUTH, RANGE 18 EAST, GILA AND SALT RIVER MERIDIAN, SANTA CRUZ COUNTY, ARIZONA;

EXCEPT ALL COAL AND OTHER MINERALS AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA.

THE FOLLOWING PARCEL NOS. 14 THROUGH 24 ARE LOCATED IN GRAHAM COUNTY, ARIZONA;

PARCEL NO. 14:

THE SOUTH HALF OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER; THE WEST HALF OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER; THE NORTH HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER; THE WEST HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 5 SOUTH, RANGE 22 EAST, GILA AND SALT RIVER MERIDIAN, GRAHAM COUNTY, ARIZONA.

PARCEL NO. 15:

THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER; THE SOUTH HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER; THE SOUTH HALF OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER; THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER; AND THE NORTH HALF OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 25, TOWNSHIP 5 SOUTH, RANGE 22 EAST, GILA AND SALT RIVER MERIDIAN, GRAHAM COUNTY, ARIZONA.

PARCEL NO. 16:

THE NORTH HALF OF THE SOUTHWEST QUARTER; THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER; THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER; THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 25, TOWNSHIP 5 SOUTH, RANGE 22 EAST, GILA AND SALT RIVER MERIDIAN, GRAHAM COUNTY, ARIZONA.

PARCEL NO. 17:

THE EAST HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER; THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER, AND THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 5 SOUTH, RANGE 22 EAST, GILA AND SALT RIVER MERIDIAN, GRAHAM COUNTY, ARIZONA.

PARCEL NO. 18:

THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER; THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 30, TOWNSHIP 5 SOUTH, RANGE 23 EAST GILA AND SALT RIVER MERIDIAN, GRAHAM COUNTY, ARIZONA.

PARCEL NO. 19:

THE NORTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER; THE SOUTH HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER; THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 30 TOWNSHIP 5 SOUTH, RANGE 23 EAST, GILA AND SALT RIVER MERIDIAN, GRAHAM COUNTY, ARIZONA.

PARCEL NO. 20:

THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER AND THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 30, TOWNSHIP 5 SOUTH, RANGE 23 EAST, GILA AND SALT RIVER MERIDIAN, GRAHAM COUNTY, ARIZONA.

PARCEL NO. 21:

THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTERS; THE NORTH HALF OF THE SOUTHWEST QUARTER AND THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 5 SOUTH RANGE 27 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN. GRAHAM COUNTY, ARIZONA.

EXCEPTING ALL COAL AND OTHER MINERALS AS RESERVED IN PATENT FROM THE UNITED STATES OF AMERICA.

PARCEL NO. 22:

ALL THAT PART OF THE SOUTH HALF OF THE NORTHEAST QUARTER LYING NORTHWEST OF A LINE BEGINNING AT THE NORTHEAST CORNER OF THE SOUTH HALF OF THE NORTHEAST QUARTER; RUNNING THENCE SOUTHWESTERLY TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF SECTION 10, TOWNSHIP 5 SOUTH, RANGE 27 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, GRAHAM COUNTY, ARIZONA.

PARCEL NO. 23:

THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 5 SOUTH, RANGE 27 EAST, GILA AND SALT RIVER MERIDIAN, GRAHAM COUNTY, ARIZONA.

THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 10, TOWNSHIP 5 SOUTH, RANGE 27 EAST, GILA AND SALT RIVER MERIDIAN, GRAHAM COUNTY, ARIZONA, AND THAT PART OF THE NORTHEAST QUARTER OF SAID SECTION 10, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE EAST QUARTER CORNER OF SAID SECTION 10;

THENCE WESTERLY TO THE CENTER QUARTER CORNER OF SAID SECTION 10;

THENCE NORTHEASTERLY TO THE NORTH SIXTEENTH CORNER OF SAID SECTION 10;

THENCE SOUTHERLY TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM, THAT PART OF THE EAST HALF OF SAID SECTION 10, A FIVE ACRE PARCEL, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 10, THE BASIS FOR BEARING IS THE RECORD GLO BEARING ON EAST BOUNDARY OF SECTION 10, WHICH IS NORTH 00 DEG. 01' WEST;

THENCE SOUTH 89 DEGREES 59 MINUTES WEST, A DISTANCE OF 540.00 FEET TO THE POINT OF BEGINNING;

THENCE SOUTH 89 DEGREES 59 MINUTES WEST, A DISTANCE OF 660.00 FEET;

THENCE NORTH 00 DEGREES 01 MINUTES WEST, A DISTANCE OF 330.00 FEET;

THENCE NORTH 89 DEGREES 59 MINUTES EAST, A DISTANCE OF 660.00 FEET;

THENCE SOUTH 00 DEG. 01' EAST, A DISTANCE OF 330.00 FEET TO THE POINT OF BEGINNING.

PARCEL NO. 24:

THE WEST HALF OF THE SECTION 14, AND THE WEST HALF OF SECTION 23, ALL IN TOWNSHIP 5 SOUTH, RANGE 27 EAST, GILA AND SALT RIVER MERIDIAN, GRAHAM COUNTY, ARIZONA.

EXCEPTING ALL COAL AND OTHER MINERALS AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA.

SCHEDULE B

Parcels Nos. 1 through 5 (Cochise County)

PART TWO:

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Water rights, claims or title to water.

2. An easement for roadway and incidental purposes in the document recorded as Docket 1477, Page 483 of Official Records.

   (Affects Parcel No. 4)

3. An easement for ingress and egress and incidental purposes in the document recorded as Docket 1859, Page 516 of Official Records.

   (Affects Parcel No. 4)

4. An easement for road and incidental purposes in the document recorded as 9405-15184 of Official Records.

   (Affects Parcel No. 2)

5. Rights and other matters in that certain undefined airplane landing strip disclosed in instrument no. 9204-9807 and re-recorded in instrument no. 9208-20286 of Official Records.

   (Affects Parcel No. 2 and 5)

6. Lack of a right of access to and from the land.

7. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

8. The rights of parties in possession by reason of any unrecorded lease or leases or month to month tenancies affecting any portion of the within described property.

SCHEDULE B

Parcel Nos. 6 through 11 (Pima County)

PART TWO:

1. Water rights, claims or title to water.

2. An easement for electrical and communication facilities and incidental purposes in the document recorded as Docket 2003, Page 341 of Official Records.

   (Affects Parcel No. 8)

3. An easement for pipe line and incidental purposes in the document recorded as Docket 10369, Page 2757 of Official Records.

   (Affects Parcel No. 9, 10 and 11)

4. An easement for roadway and incidental purposes in the document recorded as Docket 10369, Page 2764 of Official Records.

   (Affects Parcel No. 9, 10 and 11)

5. Lack of a right of access to and from the land.

6. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

7. The rights of parties in possession by reason of any unrecorded lease or leases or month to month tenancies affecting any portion of the within described property.

SCHEDULE B

Parcel No. 12 (Yavapai County)

PART TWO:

1. Reservations or Exceptions in Patents, or in Acts authorizing the issuance thereof.

2. Water rights, claims or title to water.

3. The rights or claims of title, if any, by the State of Arizona to any portion of the property described in Schedule A being located in the bed of any river or dry wash.

4. An easement for electric lines and incidental purposes in the document recorded as Book 348 of Official Records, Page 306 .

5. All matters as set forth in Survey, recorded December 29, 1980 as Book 2 of Land Surveys, Pages 192 and 193.

6. The terms and provisions contained in the document entitled "Agreement and Amendment of Agreement" recorded May 9, 1990 as Book 2247 of Official Records, Page 709 .

7. The terms and provisions contained in the document entitled "Easement Agreement" recorded June 21, 2000 as Book 3762 of Official Records, Page 247 .

8. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

9. The rights of parties in possession by reason of any unrecorded lease or leases or month to month tenancies affecting any portion of the within described property.

SCHEDULE B

Parcel No. 13 (Santa Cruz County)

PART TWO:

1. Reservations or Exceptions in Patents, or in Acts authorizing the issuance thereof.

2. The right to enter upon said land and prospect for and remove all coal, oil, gas, minerals or other substances, as reserved in the Patent to said land.

3. Water rights, claims or title to water.

4. Reservation of all oil rights as reserved in Warranty Deed recorded as Book 17 of Deeds, Page 522.

5. Reservation of all oil, gas and mineral rights as to an undivided 30/100th as reserved in Quit Claim Deed recorded as Docket 382, Page 117.

6. Lack of a right of access to and from the land.

7. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

8. The rights of parties in possession by reason of any unrecorded lease or leases or month to month tenancies affecting any portion of the within described property.

SCHEDULE B

Parcel Nos. 14 through 24 (Graham County)

PART TWO:

1. Reservations or Exceptions in Patents, or in Acts authorizing the issuance thereof.

2. The right to enter upon said land and prospect for and remove all coal, oil, gas, minerals or other substances, as reserved in the Patent to said land.

   (Affects Parcel No. 21 and 24)

3. Water rights, claims or title to water.

4. The rights or claims of title, if any, by the State of Arizona to any portion of the property described in Schedule A being located in the bed of any river or dry wash.

5. Lack of a right of access to and from the land.

6. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

7. The rights of parties in possession by reason of any unrecorded lease or leases or month to month tenancies affecting any portion of the within described property.

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

(b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.

3. Defects, liens, encumbrances, adverse claims or other matters:

(a) created, suffered, assumed or agreed to by the insured claimant;

(b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under the policy;

(c) resulting in no loss or damage to the insured claimant; or

(d) attaching or created subsequent to Date of Policy.

4. This policy does not insure against the invalidity or insufficiency of any condemnation proceeding instituted by the United States of America, except to the extent set forth in insuring provision 5.

CONDITIONS AND STIPULATIONS

1. DEFINITION OF TERMS. The following terms when used in this policy mean:

(a) "insured": the insured named in Schedule A, and, subject to any rights or defenses the Company would have had against the named insured, those who succeed to the interest of the named insured by operation of law as distinguished from purchase including, but not limited to, heirs, distributees, devisees, survivors, personal representatives, next of kin, or corporate or fiduciary successors.

(b) "insured claimant": an insured claiming loss or damage.

(c) "knowledge" or "known": actual knowledge, not constructive knowledge or notice which may be imputed to an insured by reason of the public records as defined in this policy or any other records which impart constructive notice of matters affecting the land.

(d) "land": the land described or referred to in Schedule A, and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule A, nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways, but nothing herein shall modify or limit the extent to which a right of access to and from the land is insured by this policy.

(e) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(f) "public records": records established under state statutes at Date of Policy for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge. With respect to Section 1(a)(iv) of the Exclusions From Coverage, "public records" shall also include environmental protection liens filed in the records of the clerk of the United States district court for the district in which the land is located.

(g) "unmarketability of the title": an alleged or apparent matter affecting the title to the land, not excluded or excepted from coverage, which would entitle a purchaser of the estate or interest described in Schedule A to be released from the obligation to purchase by virtue of a contractual condition requiring the delivery of marketable title.

2. CONTINUATION OF INSURANCE AFTER CONVEYANCE OF TITLE.

The coverage of this policy shall continue in force as of Date of Policy in favor of an insured only so long as the insured retains an estate or interest in the land, or holds and indebtedness secured by a purchase money mortgage given by a purchaser from the insured, or only so long as the insured shall have liability by reason of covenants of warranty made by the insured in any transfer or conveyance of the estate or interest. This policy shall not continue in force in favor of any purchaser from the insured of either (i) an estate or interest in the land, or (ii) an indebtedness secured by a purchase money mortgage given to the insured.

3. NOTICE OF CLAIM TO BE GIVEN BY INSURED CLAIMANT.

The insured shall notify the Company promptly in writing (i) in case of any litigation as set forth in Section 4(a) below, (ii) in case knowledge shall come to an insured hereunder of any claim of title or interest which is adverse to the title to the estate or interest, as insured, and which might cause loss or damage for which the Company may be liable by virtue of this policy, or (iii) if title to the estate or interest, as insured, is rejected as unmarketable. If prompt notice shall not be given to the Company, then as to the insured all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any insured under this policy unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

4. DEFENSE AND PROSECUTION OF ACTIONS; DUTY OF INSURED CLAIMANT TO COOPERATE.

a. Upon written request by the insured and subject to the options contained in Section 6 of these Conditions and Stipulations, the Company, at its own cost and without unreasonable delay, shall provide for the defense of an insured in litigation in which any third party asserts a claim adverse to the title or interest as insured, but only as to those stated causes of action alleging a defect, lien or encumbrance or other matter insured against by this policy. The Company shall have the right to select counsel of its choice (subject to the right of the insured to object for reasonable cause) to represent the insured as to those stated causes of action and shall not be liable for and will not pay the fees of any other counsel. The Company will not pay any fees, costs or expenses incurred by the insured in the defense of those causes of action which allege matters not insured by this policy.

b. The Company shall have the right, at its own cost, to institute and prosecute any action or proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest, as insured, or to prevent or reduce loss or damage to the insured. The Company may take any appropriate action under the terms of this policy, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this policy. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

c. Whenever the Company shall have brought an action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from any adverse judgment or order.

d. In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding, the insured shall secure to the Company the right to so prosecute or provide defense in the action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of the insured for this purpose. Whenever requested by the Company, the insured, at the Company's expense, shall give the Company all reasonable aid (i) in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or proceeding, or effecting settlement, and (ii) in any other lawful act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest as insured. If the Company is prejudiced by the failure of the insured to furnish the required cooperation, the Company's obligations to the insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such cooperation.

e. Notwithstanding Conditions and Stipulations Section 4(a-d), the Attorney General of the United States shall have the sole right to authorize or to undertake the defense of any matter which would constitute a claim under the policy, and the Company may not represent the insured without authorization. If the Attorney General elects to defend at the Government's expense, the Company shall, upon request, cooperate and render all reasonable assistance in the prosecution or defense of the proceeding and in prosecuting any related appeals. If the Attorney General shall fail to authorize and permit the Company to defend, all liability of the Company with respect to that claim shall terminate; provided, however, that if the Attorney General shall give the Company timely notice of all proceedings and an opportunity to suggest defenses and actions as it shall recommend should be taken, and the Attorney General shall present the defenses and take the actions of which the Company shall advise the Attorney General in writing, the liability of the Company shall continue and, in any event, the Company shall cooperate and render all reasonable assistance in the prosecution or defense of the claim and any related appeals.

5. PROOF OF LOSS OR DAMAGE.

In addition to and after the notices required under Section 3 of these Conditions and Stipulations have been provided the Company, a proof of loss or damage signed and sworn to by the insured claimant shall be furnished to the Company within 90 days after the insured claimant shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the defect in, or lien or encumbrance on the title, or other matter insured against by this policy which constitutes the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of the insured claimant to provide the required proof of loss or damage, the Company's obligations to the insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such proof of loss or damage.

In addition, the insured claimant may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Policy, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the insured claimant shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by the insured claimant provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Unless prohibited by law or governmental regulation, failure of the insured claimant to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in this paragraph shall terminate any liability of the Company under this policy as to that claim.

6. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS; TERMINATION OF LIABILITY.

In case of a claim under this policy, the Company shall have the following additional options:

a. To Pay or Tender Payment of the Amount of Insurance.

To pay or tender payment of the amount of insurance under this policy together with any costs, attorneys' fees and expenses incurred by the insured claimant, which were authorized by the Company, up to the time of payment or tender of payment and which the Company is obligated to pay.

Upon the exercise by the Company of this option, all liability and obligations to the insured under this policy, other than to make the payment required, shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, and the policy shall be surrendered to the Company for cancellation.

b. To Pay or Otherwise Settle With Parties Other than the Insured or With the Insured Claimant.

i. Subject to the prior written approval of the Attorney General, to pay or otherwise settle with other parties for or in the name of an insured claimant any claim insured against under this policy, together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay; or

ii. to pay or otherwise settle with the insured claimant the loss or damage provided for under this policy, together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.

Upon the exercise by the Company of either of the options provided for in paragraphs 6(b)(i) or (ii), the Company's obligations to the insured under this policy for the claimed loss or damage, other than the payments required to be made, shall terminate, including any liability or obligation to defend, prosecute or continue any litigation. Failure of the Attorney General to give the approval called for in 6(b)(i) shall not prejudice the rights of the insured unless the Company is prejudiced thereby, and then only to the extent of the prejudice.

7. DETERMINATION AND EXTENT OF LIABILITY.

This policy is a contract of indemnity against actual monetary loss or damage sustained or incurred by the insured claimant who has suffered loss or damage by reason of matters insured against by this policy and only to the extent herein described.

a. The liability of the Company under this policy shall not exceed the least of:
I. the Amount of Insurance stated in Schedule A; or,
II. the difference between the value of the insured estate or interest as insured and the value of the insured estate or interest subject to the defect, lien or encumbrance insured against by this policy.
b. The Company will pay only those costs, attorneys' fees and expenses incurred in accordance with Section 4 of these Conditions and Stipulations.

8. APPORTIONMENT.

If the land described in Schedule [A][C] consists of two or more parcels which are not used as a single site, and a loss is established affecting one or more of the parcels but not all, the loss shall be computed and settled on a pro rata basis as if the amount of insurance under this policy was divided pro rata as to the value on Date of Policy of each separate parcel to the whole, exclusive of any improvements made subsequent to Date of Policy, unless a liability or value has otherwise been agreed upon as to each parcel by the Company and the insured at the time of the issuance of this policy and shown by an express statement or by an endorsement attached to this policy.

9. LIMITATION OF LIABILITY.

a. If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures the lack of a right of access to or from the land, or cures the claim of unmarketability of title, all as insured, in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.
b. In the event of any litigation, including litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title as insured.
c. The Company shall not be liable for loss or damage to any insured for liability voluntarily assumed by the insured in settling any claim or suit without the prior written consent of the Company.

10. REDUCTION OF INSURANCE; REDUCTION OR TERMINATION OF LIABILITY.

All payments under this policy, except payments made for costs, attorneys' fees and expenses, shall reduce the amount of the insurance pro tanto.

11. LIABILITY NONCUMULATIVE.

It is expressly understood that the amount of insurance under this policy shall be reduced by any amount the Company may pay under any policy insuring a mortgage to which exception is taken in Schedule B or to which the insured has agreed, assumed, or taken subject, or which is hereafter executed by an insured and which is a charge or lien on the estate or interest described or referred to in Schedule A, and the amount so paid shall be deemed a payment under this policy to the insured owner.

12. PAYMENT OF LOSS.

a. No payment shall be made without producing this policy or an accurate facsimile for endorsement of the payment unless the policy has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.
b. When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within 30 days thereafter.

13. SUBROGATION UPON PAYMENT OR SETTLEMENT.

a. The Company's Right of Subrogation.
Whenever the Company shall have settled and paid a claim under this policy, all right of subrogation shall vest in the Company unaffected by any act of the insured claimant.
The Company shall be subrogated to and be entitled to all rights and remedies which the insured claimant would have had against any person or property in respect to the claim had this policy not been issued. If requested by the Company, the insured claimant shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The insured claimant shall permit the Company to sue, compromise or settle in the name of the insured claimant and to use the name of the insured claimant in any transaction or litigation involving these rights or remedies.
If a payment on account of a claim does not fully cover the loss of the insured claimant, the Company shall be subrogated to these rights and remedies in the proportion which the Company's payment bears to the whole amount of the loss.
If loss should result from any act of the insured claimant, as stated above, that act shall not void this policy, but the Company, in that event, shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount, if any, lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation.
b. The Company's Rights Against Non-insured Obligors.
The Company's right of subrogation against non-insured obligors shall exist and shall include, without limitation, the rights of the insured to indemnities, guaranties, other policies of insurance or bonds, notwithstanding any terms or conditions contained in those instruments which provide for subrogation rights by reason of this policy.
c. No Subrogation to the Rights of the United States.
Notwithstanding the provisions of Conditions and Stipulations Section 13(a) and(b), whenever the Company shall have settled and paid a claim under this policy, the Company shall not be subrogated to the rights of the United States. The Attorney General may elect to pursue any additional remedies which may exist, and the Company may be consulted. If the Company agrees in writing to reimburse the United States for all costs, attorneys' fees and expenses, to the extent that funds are recovered they shall be applied first to reimbursing the Company for the amount paid to satisfy the claim, and then to the United States.

14. ARBITRATION ONLY BY AGREEMENT.

Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. All arbitrable matters shall be arbitrated only when agreed to by both the Company and the Insured.
The law of the United States, or if there be no applicable federal law, the law of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.
A copy of the Rules may be obtained from the Company upon request.

15. LIABILITY LIMITED TO THIS POLICY; POLICY ENTIRE CONTRACT.

a. This policy together with all endorsements, if any, attached hereto by the Company is the entire policy and contract between the insured and the Company. In interpreting any provision of this policy, this policy shall be construed as a whole.
b. Any claim of loss or damage, whether or not based on negligence, and which arises out of the status of the title to the estate or interest covered hereby or by any action asserting such claim, shall be restricted to this policy.
c. No amendment of or endorsement to this policy can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

16. SEVERABILITY.

In the event any provision of the policy is held invalid or unenforceable under applicable law, the policy shall be deemed not to include that provision and all other provisions shall remain in full force and effect.

17. NOTICES, WHERE SENT.

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this policy and shall be addressed to the Company at 1 First American Way, Santa Ana, California 92707, or to the office which issued this policy

Arizona Department of Water Resources
Surface Water Rights
500 North Third Street, Phoenix, Arizona 85004-3903
(602) 417-2442
FAX (602) 417-2424

REQUEST FOR ASSIGNMENT OF SURFACE WATER APPLICATIONS AND CLAIMS AND ASSIGNMENT AND REISSUANCE OF PERMITS AND CERTIFICATED RIGHTS

1. **Registry number of right or claim being assigned** 36-025460
(Use attachment for 2 or more filings)

2. **Request for:** (check one box only)

☑ Total (complete) Assignment ☐ Partial Assignment

3. **If the request is for a partial assignment, the following information must be provided for use(s), quantity(s), and location(s) of the portion being assigned:**

Use _____ Quantity _____

Lot _____ (if applicable), ¼ _____ ¼ _____ ¼, Section _____, Township _____ N/S, Range _____ E/W

Use _____ Quantity _____

Lot _____ (if applicable), ¼ _____ ¼ _____ ¼, Section _____, Township _____ N/S, Range _____ E/W

Use _____ Quantity _____

Lot _____ (if applicable), ¼ _____ ¼ _____ ¼, Section _____, Township _____ N/S, Range _____ E/W

4. **SELLER(S)/ASSIGNORS**

Name Phelps Dodge Corporation
Address 1 N. Central Ave.
Phoenix, AZ 85004
Phone No. (602) 366- 8084

Tim Gibson
Signature

Tim Gibson
(Please print or type name of assignor or representative)

1/23/06
Date Signed

BUYER(S)/ASSIGNEES

Name Dept. of Interior National Park Service / 1451
Address P.O. Box 728
Santa Fe, N.M. 87504
Phone No. (505) 988-6810

Signature

Glenna F. Vigil - Chief Land Resources - IMLR
(Please print or type name of assignee or representative)

07/05/2006
Date Signed

Current mailing addresses and telephone numbers must be included.

ASSIGNMENTS WILL NOT BE PROCESSED WITHOUT FEE(S), PROOF OF OWNERSHIP (MAY INCLUDE CHAIN OF TITLE OF OWNERSHIP), ASSESSORS MAP OR ALLOTMENT MAP.

INSTRUCTIONS FOR COMPLETING THE REQUEST FOR ASSIGNMENT

The Department of Water Resources will process requests for assignment of surface water applications, permits, certificates, or claims listed on the official form or its attachment only. An assignment conveys the ownership of the right or claim from one entity to another and in the case of permits and certificates results in re-issuance of the permit or certificate.

1. Fill in the registry number of the right or claim being assigned. If more than one right or claim is being assigned with this request, the attachment must be utilized. Write "see attachment" in this space to indicate that more than one right or claim is being assigned. Photocopy the attachment sheet as needed.

2. Indicate whether this request for assignment is for the entire right or claim or for a portion of a right or claim. If Total Assignment is indicated, the current holder will retain no portion of the right or claim following completion of the assignment. Partial Assignment would be selected if the current holder intends to retain some portion of the right.

   NOTE: A single Request for Assignment form cannot be utilized if a right or claim is being assigned (either in total or partial) to multiple parties. In this case, **a separate request for assignment must be completed for each buyer/assignee.** The total quantity of water being assigned to all parties cannot exceed the quantity of water listed in the original claim or right. Photocopy additional pages if needed.

3. This portion of the request for assignment **must** be completed for all partial assignments. Using the existing claim or right as a guide, complete the blanks to indicate the type of use being assigned, the quantity of use being assigned that is associated with that particular use, and the legal location of the place of use. If there are more than three uses associated with a right or claim, please provide the additional information in the same form either on the attachment or on a separate sheet of paper.

4. Requests for assignments that are not signed by both the buyer and seller will not be processed unless circumstances warrant. If the seller is not the current holder of the right or claim, **a chain of title of ownership must be provided**. Please indicate if property was in lieu of foreclosure and provide documentation.

5. **REQUIRED ATTACHMENTS:**

☑ **Fees (per claim or right being assigned) as authorized by AAC Rule R12-15-151:**

$10.00	Application for Permit to Appropriate (prefixes 33, 3R, or 4A) Application for Stockpond Certificate (prefix 38) Statement of Claim of Right (prefix 36)
$20.00	Permit to Appropriate (prefixes 33, 3R, or 4A) Stockpond Water Right Certificate (prefix 38)
$35.00	Certificate of Water Right (application prefixes 33, 3R, or 4A)

☑ **Copy of recorded deed** showing land ownership in the name of the buyer. If the seller is not the current holder of the right or claim, **a chain of title of ownership must be provided**. If land is owned by other than buyer, a copy of all pertinent leases or grazing permits must be included.

☑ **Copy of assessors map or allotment map** with places of use identified.

For partial assignments more detailed land ownership information may be requested.

Revised 1/2003

STATEMENT OF CLAIMANT
"39"

ASSIGNMENT

Gila River Adjudication
SUPERIOR COURT OF MARICOPA COUNTY

By court order, a statement of claimant must be assigned whenever there is a change in ownership of land for which the claim for a water right was made, or there is a change in ownership of the water right that is either not appurtenant to land or that has been transferred from one parcel of land to another. This form is to be used to assign statements of claimant ("39s") filed in the general adjudication of the Gila River System and Source, which includes the Salt River, San Pedro River, Upper Gila River, Verde River, Agua Fria River, Lower Gila River and Upper Santa Cruz River watersheds. After the assignment is completed, the new owner will be substituted as a party in the Gila River adjudication.

General Instructions

Each side of this form must be completed, signed by each buyer and seller, and notarized. The name, address and phone number for each buyer and seller must also be provided. If necessary, additional copies of this form may be attached.

A copy of a legal document that establishes that a change of ownership has occurred must be submitted with this form. This requirement may be satisfied by providing either a copy of a duly recorded deed, a copy of the county assessor's tax parcel notice, or other similar document.

More than one statement of claimant may be assigned on a single form if the assignors (sellers) and assignees (buyers) are identical. Otherwise, a separate form must be submitted. For example, if the ownership of the land or the water right is subdivided and conveyed to different buyers, then a separate form must be completed for each of the different buyers.

After this form is completed, please submit it to the **Arizona Department of Water Resources, Attention: Adjudications, 500 North 3rd Street, Phoenix, AZ 85004.** The Department will record the assignment and forward this form to the Superior Court of Maricopa County. If you have any questions regarding this form, please contact the Arizona Department of Water Resources at (602) 417-2442 or (800) 352-8488.

ASSIGNMENT

The undersigned parties hereby notify the Superior Court of Maricopa County of the assignment of the following statements of claimant:

39-48002 filed in the Verde River watershed.

39-_____ filed in the _____ watershed.

39-_____ filed in the _____ watershed.

39-_____ filed in the _____ watershed.

39-_____ filed in the _____ watershed.

Type of legal document enclosed to establish a change of ownership:

☒ Recorded Deed (date, file number, county) _____

☐ Tax Parcel Notice (date, county) _____

☐ Other (date, description) _____

ASSIGNOR (seller):

Phelps Dodge Corporation
Name (printed or typed)

1 N. Central Ave.
Address

Phoenix AZ 85004

(602) 366-8084
Telephone

Tim Dil
Signature

STATE OF ARIZONA)
)
County of Maricopa)

The foregoing instrument was

acknowledged and signed before

me this 25th day of

January, 2006,

by Tim Gibson.

Leslie Nielsen
Notary Public

My commission expires: 9-30-08

ASSIGNEE (buyer):

Dept. of Interior, National Park Service/USA
Name (printed or typed)

P.O. Box 728
Address

Santa Fe, N.M. 87504

(505) 988-6810
Telephone

Glenna F. Vigil, Chief Land Resources-IMLR
Signature

STATE OF ~~ARIZONA~~ New Mexico)
)
County of Santa Fe)

The foregoing instrument was

acknowledged and signed before

me this 6th day of

July, 2006,

by Glenna F Vigil.

Notary Public

My commission expires: 5.13.08

LESLIE NIELSEN
Notary Public - Arizona
Maricopa County
My Comm. Expires Sep 30, 2008

OFFICIAL SEAL
GABRIELA PINA
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: May 13, 2008

Rev 7/00

Arizona State Parks

"Managing and conserving natural, cultural, and recreational resources"

Dead Horse Ranch State Park

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

June 10, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

Dead Horse Ranch State Park would like to express support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will not only help the National Park Service manage invasive plant species but will also help Dead Horse Ranch and the Verde River Greenway by reintroducing native, non-invasive vegetation. The project will provide educational opportunities for Dead Horse Ranch visitors through the establishment of interpretive plots that will be used by visitors to both Tuzigoot and Dead Horse Ranch.

Dead Horse Ranch State Park recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We look forward to working closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Les Bovee, Manager
Dead Horse Ranch State Park
675 Dead Horse Ranch Road
Cottonwood, AZ 86326

Arizona State Parks
1300 W. Washington
Phoenix, AZ 85007

Tel & TTY: 602.542.4174
www.azstateparks.com

800.285.3703 from
(520 & 928) area codes

General Fax:
602.542.4180

Director's Office Fax:
602.542.4188

WPF 0376

Verde Watershed Association

P.O. Box 4001
Cottonwood, AZ 86326
Ph: (928) 776-4754
Web: www.vwa.org
E-mail: webmaster@vwa.org

May 21, 2008

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The Verde Watershed Association (VWA) supports the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder group, the VWA appreciates the opportunity the project offers to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

The Verde Watershed Association recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring Tavasci Marsh. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Edward W. Wolfe

Edward W. Wolfe, Chair
Verde Watershed Association
2725 Boone Court
Prescott, AZ 86305
928-776-4754; ewwolfe@commspeed.net

WPF0376

May 14, 2008

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The City of Cottonwood would like to express its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

The City of Cottonwood recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Diane Joens
Mayor

Karen Pfeifer
Councilmember

James Chapman
Councilmember

Tim Elinski
Councilmember

Duane Kirby
Councilmember

Linda Norman
Councilmember

Terence Pratt
Councilmember

WPF0376

P. Box 280
Camp Verde, AZ 86322
May 24, 2008

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

May 24, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The Verde Natural Resource Conservation District would like to express its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide

educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

The Verde NRCD recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Verde NRCD
Kaki Rowland, Chair
Ryna Rock, Supervisor
Bill Cowan, Supervisor
Jodi Allen, Supervisor

WPF0376

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

May 28, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

At a recent meeting, the Board of Directors of the Verde Valley Chapter of the Arizona Archaeological Society expressed its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder in the prehistory and history of the area, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland.

We understand that this restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The educational opportunities, through the establishment of interpretive plots and trails, will be a valuable addition to the area for visitors and residents alike.

We recognize the requested investment in this project from the Arizona Water Protection Fund and are enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

Thank you for your consideration.

Sincerely,

Kenneth J. Zoll
President
P.O. Box 2451
Sedona, AZ 86339
928-284-1228

WPF 0376

Verde
Natural Resource Conservation District

P. Box 280
Camp Verde, AZ 86322
May 24, 2008

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

May 24, 2008

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The Verde Natural Resource Conservation District would like to express its support for the Tavasci Marsh – Wetland Restoration Project at Tuzigoot National Monument, National Park Service. We understand that the purposes of the project are to develop a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland, which have been lost due to artificial manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by

reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

The Verde NRCD recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Verde NRCD
Kaki Rowland, Chair
Ryna Rock, Supervisor
Bill Cowan, Supervisor
Jodi Allen, Supervisor

WPF0376

TOWN OF CAMP VERDE

◆ 473 S. Main Street ◆ Camp Verde, Arizona 86322 ◆ (928) 567-6631 FAX 567-9061
Marshal 567-6621 ◆ Parks & Recreation 567-0535 ◆ Community Development 567-8513 ◆www.campverde-az.gov

May 30, 2008

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

Re: Tavasci Marsh Restoration Project, Tuzigoot National Monument

Dear Arizona Water Protection Fund Commissioners:

The Town Council of Camp Verde is writing to support the National Park Service's Tavasci Marsh wetland restoration project at Tuzigoot National Monument, Yavapai County, Arizona. The purposes of the project are to create a conceptual design to restore native plant communities and wildlife habitat diversity and to implement a pilot project. As a stakeholder, we appreciate the opportunity the project provides to restore and enhance aquatic and wetland community diversity and wildlife habitat in this unique desert wetland. Much of the habitat has been lost due to manipulation of the flow of Pecks Lake's water through the marsh and a hundred years of farming, grazing, burning, and ditching. The Camp Verde Town Council has been at the forefront of protecting the Verde River and associated water resources through our active membership in the Water Advisory Group, Verde Watershed Association, Verde River Basin Partnership, and other groups. We see the restoration of Tavasci Marsh as integral part of the health of the entire river system.

The National Park Service has begun public scoping to restore Tavasci Marsh. The conceptual design and pilot project to re-establish a native plant community, such as a cottonwood-willow association, will be incorporated into the final plan and environmental assessment.

Over the past decade there has been an increase in cattail communities that resulted in a loss of cottonwood/willow forests, sedge/rush herbaceous plant communities, and other aquatic/riparian habitats. This restoration effort will help the National Park Service manage invasive plant species by reintroducing native, non-invasive vegetation. The project will provide educational opportunities through the establishment of interpretive plots and trails for visitors and public outreach opportunities.

The Town Council of Camp Verde recognizes the investment in this project requested of the Arizona Water Protection Fund and is enthusiastic about the opportunity to provide support and assistance for restoring the Tavasci Marsh – Wetland Restoration Project. We agree to work closely with the National Park Service and other stakeholders to see this project to completion and to help with its success into the future.

Thanks you for your consideration.

Sincerely,

Mayor Tony Gioia

Tony Gioia
Mayor, Town of Camp Verde
928-567-6631 x 307