Cascabel Working Group Presentation at Public Meeting in Cascabel on the SunZia Transmission Line Project

Jan. 13, 2010

Introduction:
--David Omick

Good evening. My name is David Omick and I am speaking of behalf of the Cascabel Working Group, a local grassroots organization concerned with the ecological and cultural integrity of the San Pedro Valley. We have an approximately 20 minute presentation for you as an introduction and orientation to this part of the San Pedro Valley.

The section of the valley through which Sun Zia proposes to route a major transmission line is arguably the wildest and most scenic section of the approximately 140 mile long San Pedro River. The list of environmental and cultural attributes included in this relatively short stretch of the San Pedro Valley is unique in Arizona, and perhaps in the entire American West. Although only 30 miles long and perhaps 25 miles wide, it includes one of the major migratory bird flyways in North America and one of the greatest diversities of mammal species in the United States. It also contains a wealth of archaeological sites dating back several thousand years.

Its unique attributes are evidenced by the fact that this short section of the San Pedro Valley includes a National Park, a National Forest, 4 federally designated Wilderness Areas, one of The Nature Conservancy's largest U.S. ecological management areas, as well as grazing leases that are part of Pima County's Sonoran Desert Conservation Plan. In addition, numerous conservation and archaeological easements are held by the Bureau of Land Management, The Bureau of Reclamation, The Nature Conservancy and the Center for Desert Archeology.

Now, these many efforts are beginning to coalesce into a locally generated conservation vision, which may eventually include Valley wide cooperative management status between area landowners, conservation groups and county, state and federal agencies that would put an end to further utility development here, would actively conserve the valley's myriad environmental and cultural resources and would encourage the viability of traditional land uses such as ranching and outdoor recreation.

History:
--David Omick

I'd like to speak for a just few minutes about the history of conservation work in this part of the San Pedro Valley.

In that long history, perhaps the longest record belongs to the ranching community here. Some of our local ranching families go back generations to the late 1800's, and have been instrumental in preserving our vast landscape of open space. They have also helped to maintain wildlife connectivity in the valley and to preserve our rural heritage and culture of the Southwest.

Assisting them is the Redington Natural Resource Conservation District which was established in 1947 to offer technical assistance for area ranchers and other landowners in conservation related projects. The District's area of conservation influence covers some 285,000 acres in this part of the Valley.

The first institutional conservation work here dates to 1910 with the establishment of U.S. Forest Service holdings in the Galiuro Mountains on the east side of the valley. Those holdings have since expanded to include extensive lands of the Coronado National Forest in the surrounding Winchester, Santa Catalina and Rincon Mountains as well as the Rincon Mountain Wilderness and the Galiuro Wilderness Areas.

In recognition of the area's unique environmental attributes, the Saguaro National Park was established as a National Monument in 1933 and upgraded to National Park status in 1994. The Saguaro East Unit, which includes the Saguaro Wilderness Area, overlooks this part of the San Pedro Valley.

Beginning in 1982, The Nature Conservancy became a partner, along with the Bureau of Land Management and the U.S. Forest Service in the 49,000 acre Muleshoe Ranch Cooperative Management Area. The Nature Conservancy has more recently recognized the extraordinary environmental value of the San Pedro Valley by designating it one of "The Last Great Places". The Nature Conservancy has been a leader in local conservation efforts, acquiring deeded land and conservation easements along this part of the San Pedro River.

The Bureau of Land Management is also a long time conservation partner here in the Valley, working with The Nature Conservancy to cooperatively manage the Mule Shoe Ranch since 1982 and with Cascabel residents to develop the Cascabel/BLM Ecosystem Management Plan in 2000. It also manages the Redfield Canyon Wilderness area.

In 1988, the Saguaro Juniper Association, a local ranch and conservation group, began to acquire deeded land and state grazing leases in and around Hot Springs Canyon, a major tributary of the San Pedro River. The Saguaro Juniper Association now holds over 1000 acres of deeded land and nearly 8000 acres of state lease land. All 1000 acres of Saguaro Juniper's deeded land are under conservation easement.

In the late 1990's, the Cascabel Hermitage Association was established with the 3 pronged purpose of offering solitary desert retreats, outdoor education and conservation work. Recognizing the need to conserve Hot Springs Canyon as a major trans-valley wildlife corridor, the Hermitage Association worked for more than 5 years with local land owners to coordinate the transfer of properties in the Canyon to conservation easement status.

Extensive grazing leases on the west side of the valley are also managed for open space and conservation values under Pima County's Sonoran Desert Conservation Plan following voter authorized bonds in 2004.

To protect the irreplaceable cultural and historic resources in the San Pedro Valley, the Center for Desert Archaeology has been locally active since the 1980's. It holds archaeological easements here and has an active staff member living in Cascabel.

Finally, the recreational opportunities offered by the wild and open public lands here cannot be overlooked. In the fall of 2009, the Arizona Department of Game and Fish issued nearly 6000 hunting licenses in Units 32 and 33, which include this part of the valley. The world class bird watching opportunities attract countless birders each year and increasing numbers of hikers are beginning to enjoy the recently developed Arizona Trail which circuits the western rim of our valley, just to name a few examples.

Chet Phillips of the Cascabel Working Group will now speak on the biological attributes of the valley.

San Pedro River from Soza Mesa

Biological Attributes:
--Chet Phillips

Biological Resources and Threats from SunZia Lines

The lower San Pedro Valley is a unique place. The people who live here or visit much already know that. Right here, the hills are dotted with saguaros, cacti that occur nowhere else in the world but the Sonoran Desert. Go a few miles south of here and the saguaros disappear, as the Sonoran Desert rolls into the Chihuahuan. The plants and animals come from both the Rocky Mountains to the north and the Sierra Madre to the south.

More than 400 bird species live or pass through here, utilizing the mainstem San Pedro and tributaries in canyons like Hot Springs, Paige, Redfield, and Buehman, making the San Pedro Valley as a whole a bird habitat and flyway without parallel in North America . If the SunZia powerline was routed around sensitive bird habitat in the Bosque del Apache of New Mexico, how can it make sense to run it through here? We have almost half the total number of species in the United States. The American Bird Conservancy designated the San Pedro as its first "Globally Important Bird Area." The National Audubon Society has given the lower valley "global" priority because it provides critical habitat for the Southwestern Willow Flycatcher, a federal endangered species. Western Yellow-billed Cuckoos, currently a candidate for Federal listing as threatened or endangered, nest along the lower San Pedro.

The Endangered Species Act, sec. 3, defines critical habitat as--(i) the specific areas...on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management consideration or protection (and; (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon determination that such areas are essential for the conservation of the species.

In 1999, the US Fish and Wildlife Service declared much of the lower San Pedro Valley, including Cascabel, Cactus Ferruginous Pygmy-owl critical habitat. Since then the owl has been controversially de-listed, then petitioned for listing again .

Two of our native fishes, the loach minnow and spikedace, have critical habitat, designated in 2007, along the lower San Pedro between Aravaipa and the Gila River. Bass, Redfield and Hot Springs canyons have also been declared critical habitat in the past. Four other native fish species that have been candidates for listing inhabit Buehman, Bass, Redfield, and Hot Springs Canyons .

We have 180 species of butterflies here and more than 60 reptiles and amphibians. An endangered semi-aquatic plant, the Huachuca water umbel, is found at Bingham Cienega, one of the last remaining desert wetlands in the world.

Our 87 mammals, from the coatimundi to the civet cat, from four types of skunk and at least eight bats to the beaver once vanished but recently returned, the San Pedro Valley hosts the greatest number of mammal species in the continental United States.

After yesterday's ruling, US Fish and Wildlife must also determine critical habitat for the North American jaguar, and the San Pedro Valley seems a likely candidate for recolonization.

Recognizing both the value and fragility of the San Pedro Valley, in 1988 the U.S. Congress established the nation's first Riparian National Conservation Area along 45-miles of the upper San Pedro. The thing is though, that designation stops south of Benson, while the river itself, with all the life it sustains, continues. If anything, the San Pedro north of Pomerene is more intact and has less pressure from industry and population growth than the area that has been formally protected.

With a metropolitan area of a million people one valley to the west, in what until recently was one of the fastest growing states in the nation, it is truly remarkable that the lower San PedroValley remains as unfragmented as it is today. We have an opportunity to keep it that way, an opportunity we have to seize and not let slip away.

The “Arizona Wildlife Linkages Assessment Document” conducted by the Arizona Dept of Transportation and Arizona Game & Fish (with involvement by Bureau of LM and US Fish and Wildlife Service) recognized that:

The most significant threats to Arizona’s wildlife populations are habitat alteration, fragmentation, and loss. Some of the leading causes of these threats are development, transportation corridors and land conversion. Worldwide, 85% of endangered species are imperiled by habitat fragmentation (Shaffer et al. 2000). ...As connectivity between key habitat elements is lost, isolation deprives species of their daily, seasonal and lifetime needs. Loss of connectivity deprives animals of resources, prevents some animals from finding mates, reduces gene flow, prevents animals from re-colonizing areas where extirpations have occurred, and ultimately prevents animals from contributing to ecosystem functions such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. Maintaining biodiversity and ecosystem functions requires habitat connectivity (CERI 2001).

[<http://www.azdot.gov/Highways/OES/AZ_WildLife_Linkages/assessment.asp]

Canyons like Buehman, Redfield, Paige, and Hot Springs crisscross the valley providing migration corridors for animals and, over time, even plant species, to move between the Rincon and Galiuro Mountains (point out on map). Keeping these corridors intact is essential for the short and long-term health of innumerable species. With Global Climate Change, many plants and animals are expected to move up in elevation as the climate becomes hotter and possibly drier. They can only do this if we are foresighted enough to protect our canyon corridors from fragmentation.

Much good work to protect our valley has been done by both national and local conservation groups, local ranchers, and many other private citizens, but when a proposal to run a several hundred ft wide utility corridor through a place as precious as the San Pedro Valley comes along, we know there is much more to do.

“A Venezuelan study showed the importance of placing powerlines away from areas where birds congregate to nest and feed.” As I mentioned before, about 400 species of birds nest and feed in this valley. Other studies show that “powerlines fragment bird flight paths, leading to collisions of birds with the lines, resulting in injury and death. In the USA collisions with automobiles and power lines were the two most frequent causes of bird mortality.”

Road construction for powerlines can harm our already threatened native fish populations by causing erosion. In Australia, a study found that the clearing of arid lands for powerline construction has led to “soil compaction which inhibits revegetation, leading to erosion and siltation of important watercourses.” A Mojave Desert study showed that the vegetation under a new power line had not completely recovered after 33 years .

Additional studies have demonstrated that small mammal movement is inhibited by even dirt road barriers as small as 98 ft. wide. The SunZia access corridor would be several hundred ft. wide. Such barriers have been shown to lead to “local extinctions if an area is affected by fire or drought, reduce immigration of species to areas which may need replenishment, and also limit gene-flow…for species with poor dispersal or dispersal-related problems…fragmentation may prove more critical than area as a determinant of extinction probabilities.”

In a 2008 article on The Nature Conservancy's work to protect the San Pedro, Dave Harris, Director of Land and Water in Arizona, referred to the fact that the San Pedro Valley must be considered as a single unit for conservation, not merely a patchwork of isolated lands set aside but an ecological whole in need of protection. "The rehabilitated areas will be vulnerable until the entire river is protected."

I'll close with a letter Representative Raul Grijalva, Chair of the House Subcommittee on National Parks, Forests, and Public Lands, sent to Secretary of Interior Ken Salazar:

"The BLM holds a conservation easement on several properties in the area to protect its ecological and cultural values. However, running a 1000 ft. utility corridor through the area is inconsistent with the BLM's own stated conservation goals in the San Pedro Watershed. There are no sufficient mitigation options for the damage new roads and infrastructure development could do to this fragile area. I encourage the Department of Interior and the BLM to look into rerouting the proposed transmission lines to the south of the San Pedro River Valley, along existing transmission routes, including along the I-10 highway. While I recognize that the growth in the Tucson and Phoenix areas has put a strain on our utility system, we must remain mindful of the impacts of the solutions that are offered - and pushing this onto our pristine natural areas is not the solution."

Works Cited

National "Riparian vegetation is limited in extent in the vicinity of our study sites, covering less than 1% of the landscape. We conclude that all riparian patches in southeastern Arizona are important as stopover sites to en route migrants regardless of their size and degree of isolation or connectivity. In light of potential habitat limitation, the protection of both small, disjunct riparian patches and extensive riverine tracts in western landscapes is imperative."

Southwestern Willow Flycatcher

Endangered riparian species in Lower San Pedro Valley

North American Jaguar

Endangered, Critical Habitat to be determined by 2011.

Sonoran Desert Tortoise

Candidate for listing as threatened or endangered

Huachuca Water Umbel

Endangered, with Crritical Habitat in Cochise County including Bingham Cienega on the San Pedro

Desert Sucker

Has been a candidate for Endangered Species List along with the Sonora Sucker and Longfin Dace.

Gila Chub

Endangered Species found in Hot Springs, Bass, and Redfield Canyons

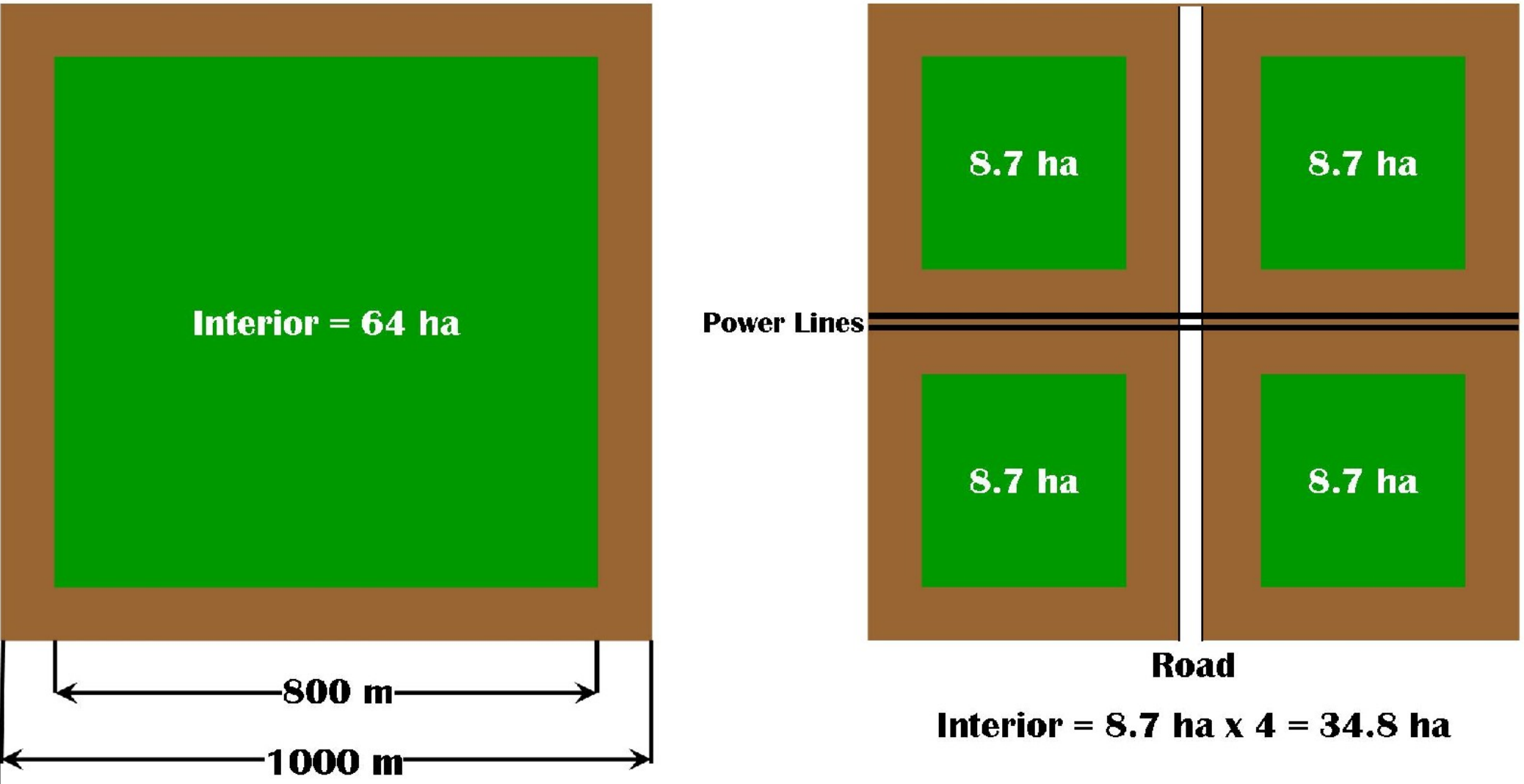
Coatimundi

Not threatened or endangered, just really cool!

Cactus Ferruginous Pygmy Owl

Spikedace

Habitat Fragmentation



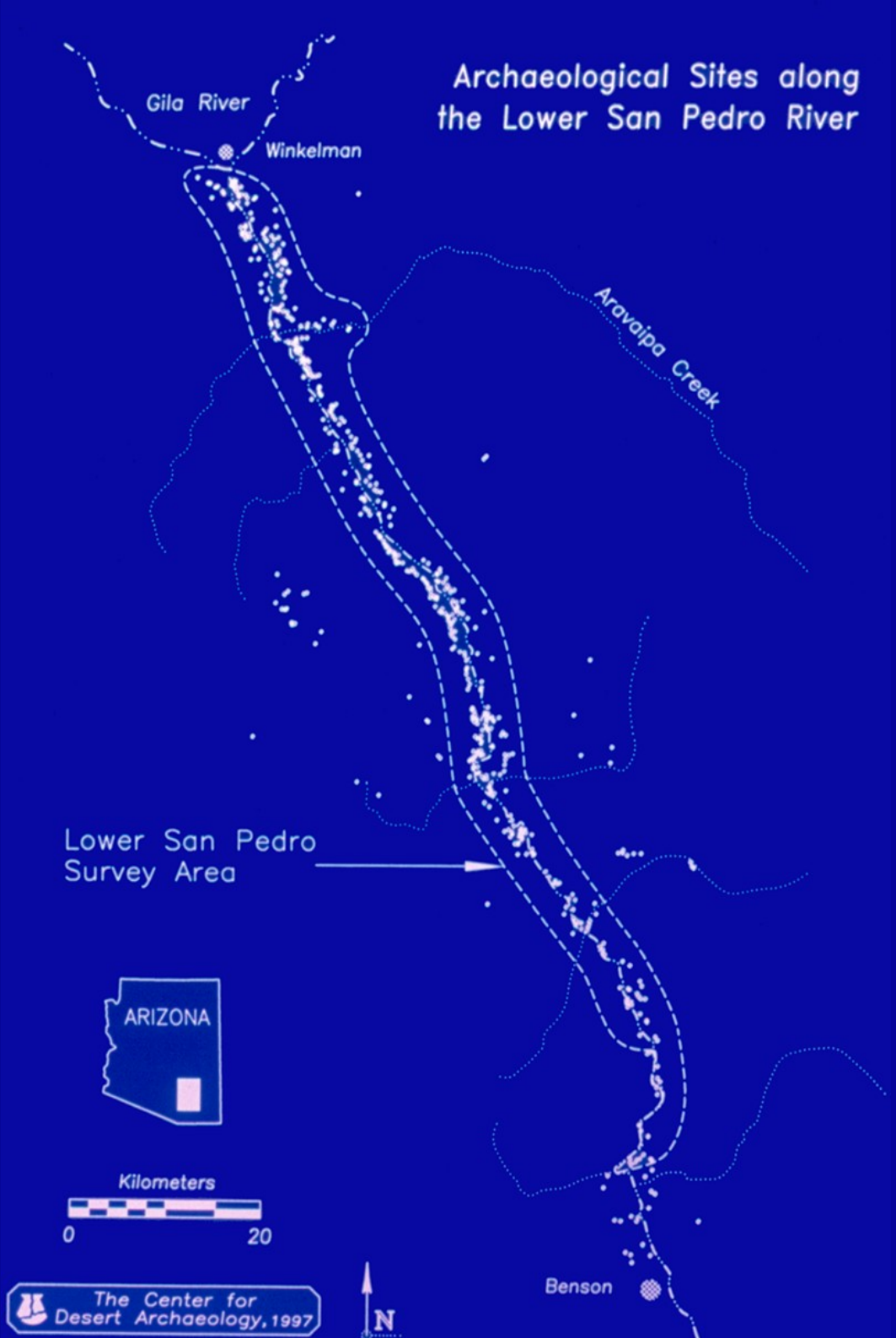
Habitat fragmentation can occur even if the habitat area is only minimally reduced, as when it is divided by roads, railroads, powerlines, fences, or any barrier that prevents animals from moving freely.

From: Primack, Richard B. (editor)
2008 A Primer on Conservation Biology, Fourth Edition, Sinauer and Associates Inc., Sunderland, MA.

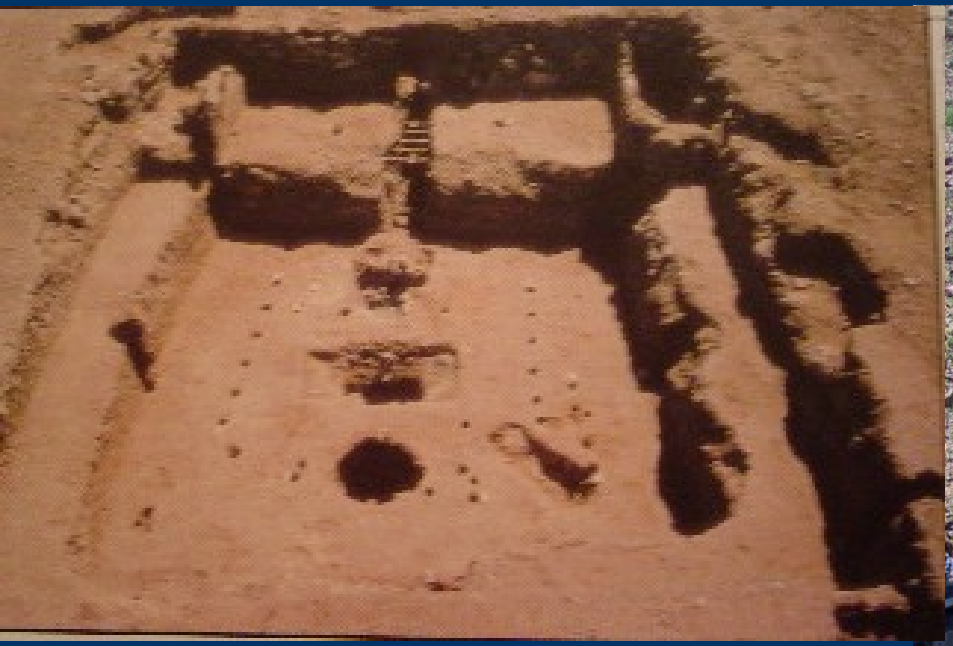
Cultural and Historical Attributes:
--Jacquie Dale

I am a Cascabel resident and preservation archaeologist working for the Center for Desert Archaeology. I am also a member of the Cascabel Working Group.

(Note: text read in actual presentation has been superimposed on slides in this document for easier viewing).



The Center for Desert Archaeology identified over 500 sites along the river during a archaeological survey in the 1990s. Several of these were then further investigated through test units.



There are a range of sites and different time periods represented from pre-agricultural to the historic period. Sites include features such as agricultural rock piles like you see on the right. These rock piles are widespread on many of the slopes on both sides of the river. A kiva at one of the sites, shown in the upper left was excavated by the Amerind in the 1950s and indicates movement of migrants from Kayenta/Tusayan area of Northern Arizona.

This pottery vessel is a salado polychrome, a type often associated with late Classic period sites in the valley. The Classic period is defined as dating from about 1200 to1450 AD.

Ballcourts

Compounds

At least 40 identified sites were villages inhabited by 75-250 people and associated with large cemetery areas. Many of these villages were occupied for centuries, generating considerable archaeological deposits. Ballcourts, like the one in this picture were associated with some of the sites along the river. This ballcourt is in Redington.

These villages are classified as compound villages, platform mounds and pithouse types. On the right is a typical compound type site found along the river that was excavated in the 1970s as part of the highway salvage project.

Rock Art

Rock art is present in various tributaries of the San Pedro River like these from Buehman Canyon and from Redfield Canyon.

Historic Sites and Cemeteries

The Valley had historic settlers and much of the evidence for those homesteads still exists archaeologically.

Many descendants still have strong links to the valley. Family cemeteries are still evident and used. A few years ago, I undertook a project with the help of volunteers and mapped and recorded several historic cemeteries in the area.

Donation of Archaeological Conservation Easement

Local individuals are aware of the importance of the cultural sites and want to preserve those sites. One such investment in preserving cultural resources was by Harold and Mignon Elliott who donated an archaeological conservation easement to the Center for Desert Archaeology to protect the site in perpetuity.

BLM Conservation Easement protects Archaeological Sites on 130 Acre Parcel in Cascabel

Another local site is now under a conservation easement with the BLM due to the owners interest in preserving the site. In this slide you can see excavations on the Taylor site with the help of local volunteers. Sites on the property show nearly 5,000 years of human use.

The rock ring feature at bottom right is a Sobaipuri house and the archaeological and historic evidence suggests this may be the site of San Salvador de Baicatcan, a site visited by Father Kino in the late 1600s and early 1700s.

Local Arizona Site Stewards

Residents of the valley are both formal and informal site stewards of the local sites.

In 2009 I trained 15 local residents to be Arizona Site Stewards. There are now a total of 26 Stewards in the Lower San Pedro Region actively monitoring sites from Benson to Winkelman. Here are some local site stewards visiting an historic site in Cascabel and a prehistoric site in the Redington area.

Summary

- There are a large number of well preserved intact cultural resources in the valley that can be referred to as an “intact cultural landscape.”
- Individuals and organizations have made a real investment in researching and protecting the cultural resources in the valley (BLM, CDA, Landowners, Residents, State Historic Preservation Office).
- This is an important area and worth preserving for future and current stakeholders including archaeologists, Native Americans and the interested public. Power lines have the potential to destroy archaeological sites and provide off road access into areas that were previously inaccessible leading to looting and vandalism of these resources.

In Summary:

A great number of sites are well preserved in this valley. This is unusual in southern Arizona to have so many intact well preserved sites in one area. In fact, the Center for Desert Archaeology refers to the valley as having an intact cultural landscape. This scale of regional preservation provides an opportunity to interpret sites as part of a broad cultural and economic landscape rather than as isolated phenomena. The great time depth allows us to study changes in this landscape since humans first inhabited the New World. Such opportunities are no longer available in valleys such as Phoenix, Tucson, and Safford, where early development destroyed much of the archaeological record without adequate documentation.

Considering the non-renewable character of cultural resources this landscape should be preserved for current and future stakeholders, including Native American groups, archaeologists, and the interested public.

There are a significant number of individuals and organizations that have made an investment in preserving and monitoring the cultural resources in the valley. Individual landowners, BLM, Center for Desert Archaeology and residents as Site stewards, and the State as coordinating agency for the Arizona Site Steward program have all invested time and money for this. This demonstrates that this is a very special place and therefore one that is worth preserving.

Power lines have the potential to destroy archaeological sites directly and indirectly by providing roads into areas that were previously inaccessible thereby leading to looting, vandalism and loss of these resources.

Paleontological Resources
In addition to cultural resources, there is a unique and interesting paleontological site in the Cascabel area. The footprints from Brontotherium, an Eocene mammal (dated about 33 mya) are found in Teran Wash.The species is considered to have been related to hippos and horses.

Below is an artist's rendition of a Brontotherium:
http://www.arcadiastreet.com/cgvistas/earth/earth_04_cenozoic_100.htm

Summary:
--David Omick

In conclusion, it is the position of the Cascabel Working Group that efforts to thread a major transmission line through one or another part of the San Pedro River Valley misses the point that this part of the Valley, above all other parts of it, can only be appropriately thought of as an essentially unfragmented ecological whole. Consider for a moment that on the other side of the Rincon Mountains is a metropolitan area of a million people. On this side of the Rincon's is a largely wild, open and environmentally intact area 1-1/2 times the size of the state of Rhode Island, with a population of only a few hundred people. This is no place for a major transmission line.

It is further the position of the Cascabel Working Group that the most appropriate place for transmission lines is through already disturbed areas, and not through one of America's outstanding environmental and cultural jewels.

Section 101 of the National Environmental Policy Act requires that the Federal Government "fulfill the responsibilities of each generation as trustee of the environment for succeeding generations." Let us hope that the arbiters of this decision have the wisdom to recognize that our greatest responsibility is to pass this irreplaceable legacy on to our children and our children's children.

Thank you.