Chapter 4

INTERPRETIVE THEMES AND RELATED RESOURCES

THE HERITAGE OF A DESERT FRONTIER

The Santa Cruz Valley, with its long and complex cultural past, is blessed with a rich historic legacy in a unique natural environment—important historic and cultural places located along a desert river that flows through a culturally and environmentally diverse region. Here, Native American, Spanish Colonial, Mexican, and American Territorial heritages and traditions intersect with the natural landscape in ways unique to the American story. These remain very much a source of the identity and vitality of the region.

The predominant characteristics of the landscape, the underlying threads of both the natural history and human experience, and the distinctive stories this region has to tell are those of a desert frontier. For the last 8,500 years—after the climate changes that occurred during the time of its first inhabitants, the Paleoindian big-game hunters—this has been essentially a desert region. Here, the Sonoran cactus desertscrub meets the Chihuahuan desert grasslands, creating a strong contrast with remnants of Ice Age forests on the "Sky Island" mountain ranges that rise steeply above the desert floor.

This desert valley was a cultural frontier during much of prehistory. After being largely abandoned during a long interval of hotter and drier climate between 8,500 and 5,500 years ago, it was reoccupied by Archaic hunter-gatherers arriving from the north and the south as the climate became more like that of today. Between 4,000 and 2,000 years ago, this region was the northern frontier of Mesoamerican agriculture and early village culture. The local lifeway was transformed by the introduction of tropical crop plants, new food storage and processing technologies, and the social changes that came with living in larger groups in settled communities. Water control and pottery may have been local innovations, and native plants were domesticated and added to the mix of crops. From this frontier, farmers migrated to other parts of the Southwest, spreading the new way of life. Between 1,500 and 500 years ago, this valley was the boundary between the Hohokam culture that developed in the heart of the Sonoran Desert to the north, and the Trincheras culture that developed to the south. Seashells, obsidian, pottery, cultural practices, and ideas were exchanged along this valley corridor.

During the late seventeenth century, the Santa Cruz Valley became the northern frontier of the Spanish empire and the edge of European civilization in western North America. Spaniards established ranches on the upper Santa Cruz River by 1680, and during the 1690s, the Jesuit missionary Eusebio Francisco Kino explored the rest of the valley and single-handedly established a chain of missions and introduced European crops, livestock, architecture, and religion. Following Kino's large footsteps were Spanish miners, soldiers, and colonists who built ranches, towns, and forts, and survived both native Piman revolts and Apache raids on this remote region of New Spain. After independence was won from Spain in 1821, this remained the northern frontier of Mexico. The missions were secularized or abandoned, and constant Apache attacks made it a dangerous place to live.

American trappers explored the area during the early eighteenth century, and the Santa Cruz Valley became the southwestern frontier of United States expansion after the region was purchased from Mexico in 1854. Gold and silver miners came first, followed by the United States Army and ranchers who built large cattle operations under its protection. This region was the westernmost front of the Civil War, as well as the front of the Apache campaigns of the 1870s and 1880s. This part of the Western frontier was not finally closed until the arrival of the railroad and subjugation of the Apaches in the early 1880s. During the early twentieth century, the Santa Cruz Valley was at the northern edge of the Mexican Revolution, with battles spilling across the border and requiring a buildup of United States troops to protect valley residents.

The present-day landscape of the Santa Cruz Valley has been shaped by long continuities in frontier livelihoods and institutions. It may be the longest continuously cultivated region in the United States, with an agricultural history extending back more than 4,000 years. Cattle ranching continues in a 300-year, unbroken link with Spanish, Mexican, and American pioneers. Active copper mines are surrounded by ghost towns left by earlier gold and silver mining booms. Prehistoric ruins, Spanish missions, Mexican streetscapes, and American forts are preserved, visited, studied, and celebrated. A vibrant United States-Mexico border culture interacts with contemporary American society and ancient Native American traditions.

The continuities of cultural traditions and land uses in this desert frontier region define the sense of place and contribute in a unique way to the fabric of America. This is still very much a working and a living landscape—home to Native Americans who view and use the land in traditional ways, home to descendants of Spanish settlers whose religious faith shaped the land and defined the cities, home to descendants of American pioneers whose courage brought them westward seeking new opportunities, and home to rural ranchers whose stewardship of the land serves to preserve this unique landscape for everyone.

This vast desert, shaped by generations of founding groups with diverse cultural origins, has also shaped its people and their relationship to the land. The ways in which successive cultures adjusted to the limiting conditions of this desert are significant chapters of the national biography, and have helped form the character of our country. Long a desert borderland, where cultures converged and emerged anew, the Santa Cruz Valley of southern Arizona has a heritage and a sense of place like no other, and it contributes uniquely to our nation's story. The themes presented here highlight some of the most important natural features and cultural continuities in the Santa Cruz Valley, this desert frontier of our American heritage.

THEME CENTERPIECES: DESIGNATED NATIONAL TREASURES

Among the natural and cultural wealth of the Santa Cruz Valley are several places that have been designated as nationally significant resources. **Saguaro National Park** and the **Desert Laboratory National Historic Landmark** preserve and study the plants and wildlife of the Sonoran Desert, and the **Sky Island Scenic Byway** in Coronado National Forest provides spectacular views of one of the globally unique mountain ranges of the United States-Mexico borderlands. The rarity and biological importance of flowing water in the desert have been recognized by the designations of **Las Cienegas National Conservation Area** and the **Patagonia-Sonoita Creek** and **Canelo Hills Cienega National Natural Landmarks**. The legacy of the Spanish Colonial and Mexican periods in the history and cultural development of the

Southwest are exemplified by **Tumacácori National Historical Park**, and the **San Xavier del Bac**, **Guevavi**, and **Calabazas National Historic Landmarks**. As one of the earliest missions established in the Southwest, San Xavier also represents an important part of the cultural history of Native Americans of this region.

The **Pennington** and **Binghampton National Rural Historic Landscapes** were designated to recognize the historical roots of American ranching and farming in the desert Southwest. The crucial defensive role served by this region during the Cold War is represented by the **Titan Missile Silo National Historic Landmark**. These nationally significant resources are centerpieces of the themes of the proposed Santa Cruz Valley National Heritage Area, and they are linked by those themes to related resources in the region that have national or local significance.

The 10 interpretive themes of the proposed Santa Cruz Valley National Heritage Area highlight significant aspects of the natural and cultural history of the region. These are the special stories of the region, and they are unique among existing National Heritage Areas. A criterion for selecting each theme is that, within the boundaries of the proposed National Heritage Area, there is an assemblage of related and publicly accessible resources with sufficient integrities to convey the theme. Each identified theme is described here, and its distinctiveness among the themes of existing National Heritage Areas is discussed, examples of related resources are listed, its suitability as a National Heritage Area theme is assessed, and suggestions for further reading are provided.

SKY ISLANDS AND DESERT SEAS

Summary of Theme

Southwestern New Mexico, southeastern Arizona, northwestern Chihuahua, and northeastern Sonora are a landscape of wonder, beauty, wildness, and astounding biological diversity. This is the Sky Island region, and the proposed National Heritage Area is its heart. The *Sky Islands and Desert Seas* theme highlights the globally unique landscape and extraordinary biological diversity of the proposed National Heritage Area. This landscape has provided the resources and opportunities for exceptional natural and cultural diversity in the region. The southwestern Sky Island archipelago is unique on the planet, and is the only Sky Island complex extending from subtropical-to-temperate latitudes, with a globally unprecedented array of plant and animal species of northern and southern origins. These mountain islands are among the most diverse ecosystems in North America due to their great topographic relief and location at the meeting point of major desert and forest biomes. These unique qualities result from several factors, including the wide range of elevations in the region, the convergence of the Sonoran and Chihuahuan deserts, the north-south trending mountain ranges that contain a mingling of species (many endemic) from the Rocky Mountains to the north and the Sierra Madre Occidental to the south, and two, distinct rainy seasons.

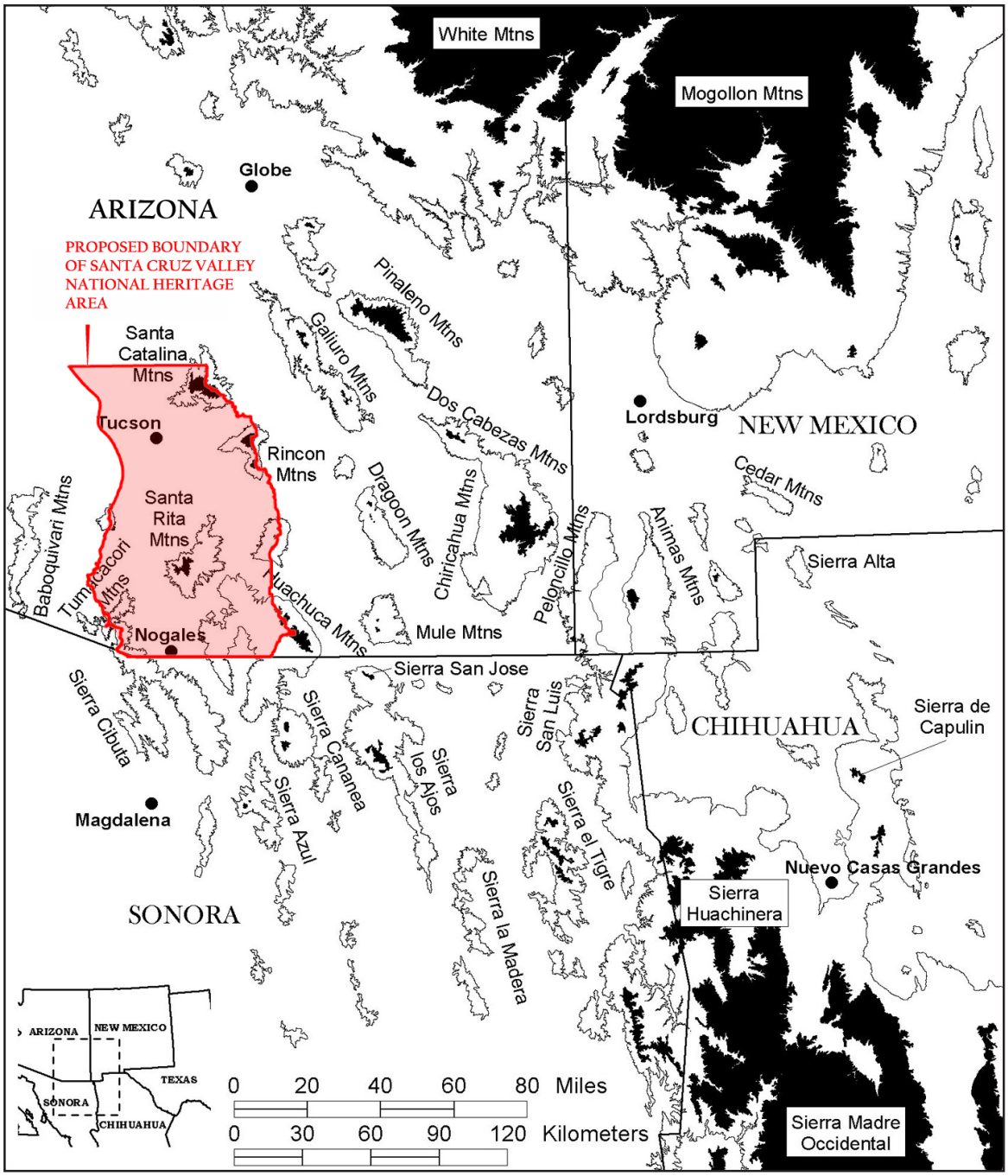
Description of Theme

Sky Islands are mountain ranges isolated from each other by intervening basins and valleys of desert and grassland, usually below 4,000 ft in elevation. The basins and valleys in this Basin and Range topographic province act as barriers to the movement of woodland and forest species at higher elevations, somewhat like the way saltwater seas isolate plants and animals on oceanic islands. The 40 ranges of the Sky Island system may be thought of as an archipelago connecting the continents of the Sierra Madre Mountain Range of northern Mexico to the south with the Rocky Mountains of the United States to the north.

Sky Islands are forested ranges that rise thousands of feet above seas of desert and grassland, like islands in the sky. They are typically over 5,000 ft in elevation and have oak forests at lower elevations, oak-pine forests at middle and higher elevations, and spruce-fir forests on the highest peaks. About 40 such mountain ranges occur in the Sky Island region, of which eight (Santa Catalina, 9,157 ft; Rincon, 8,666 ft; Santa Rita, 9,453 ft; Patagonia, 7,221 ft; Whetstone, 7,684 ft; Huachuca, 9,466 ft; Tumacácori, 5,634 ft; and Atascosa/Pajarito, 6,440 ft) occur in the proposed National Heritage Area.

At lower elevations, the western portion of the proposed National Heritage Area is in the Arizona Upland Subdivision of the Sonoran Desert Biome, while the eastern part is in the Desert Grassland Community. Higher elevations comprise the Madrean Evergreen Woodland Community: warm-temperate oak-pine communities with connections to the Sierra Madre Range in northern Mexico. These comprise the Sky Island, or Apache Highland communities.

The Santa Cruz Valley has two rainy seasons. From December to February, winter storms originating in the North Pacific bring gentle rain. From July to mid-September, the summer monsoon brings surges of wet tropical air and localized deluges in the form of violent



Map of the Sky Island region and location of the proposed National Heritage Area (copyright 2004 Cory Jones, Sky Island Alliance).

thunderstorms. Rain falls about equally in the two seasons and provides the region with an average of 12 inches annually, although this varies widely with elevation, as do temperatures.

> To my mind these live oak-dotted hills fat with side oats grama, these pine-clad mesas spangled with flowers, these lazy trout streams burbling along under great sycamores and cottonwoods, come near to being the cream of creation.—Aldo Leopold, 1937

This mosaic of deserts, grasslands, and mountains is used for outdoor recreation (hiking, camping, rock climbing, skiing, summer homes, car-based tourism), extraction of natural resources (hunting, grazing, fuel-wood, mining), habitat use and scientific research (critical habitat for threatened and endangered species, scenic views, birdwatching, film making), preservation of prehistoric archaeological sites, and practice of traditional Native American ceremonies.

High Natural Diversity

High levels of natural diversity are expressed in several forms on the Sky Island landscape and represent some of the most important resources relevant to this theme. Biodiversity is the natural variety and variability among living organisms, the ecological complexes in which they naturally occur, and the ways in which they interact with each other and the natural environment. It includes three elements: ecosystem diversity, biotic community diversity, and species diversity.

Ecosystem diversity includes the variety of landscapes found together within any region, and the ways in which their biotic communities interact with a shared physical environment, in this case the Santa Cruz Valley watershed. Here, the high diversity is attributed to the variable landscape, interspersed with native desert and grassland vegetation, oasis-like cienegas and lakes, and riparian woodlands.

Biotic community diversity refers to the richness of plants and animals found together within any single landscape mosaic, such as the watershed. The numerous Sky Islands in the watershed demonstrate a gradient of communities as they rise from desert and grassland to xeric woodlands and coniferous forests.

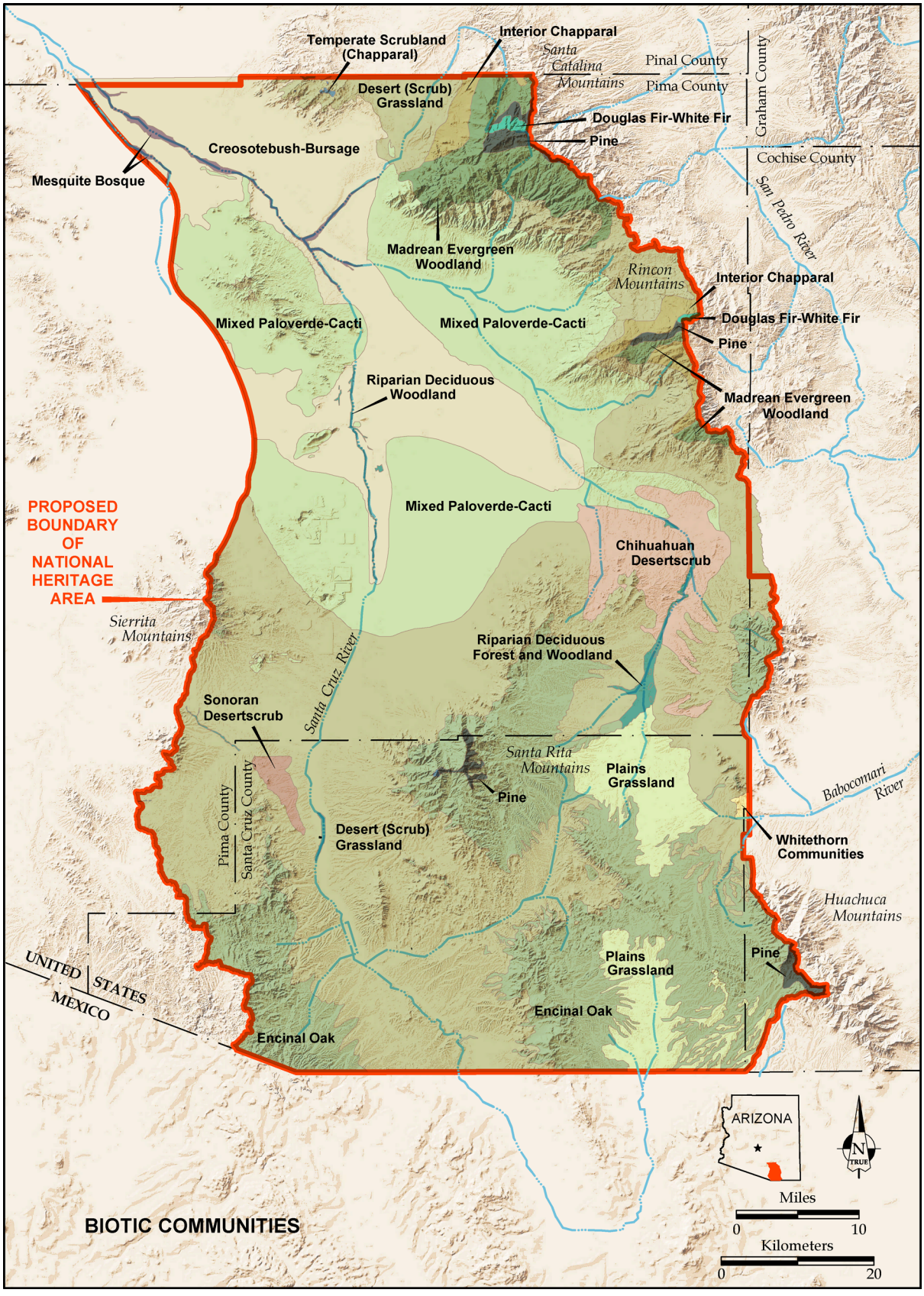
Species diversity encompasses the richness of living species in the area, made possible by the merging of four biomes (Neotropical Sierra Madre, temperate Rocky Mountain, and Sonoran and Chihuahuan deserts), an extreme three-dimensional landscape, and two rainy seasons. Species diversity is constantly changing and must be tracked by continued monitoring programs. Although each species plays a vital role in its community, some have attained special status. For example, the flower of the protected saguaro cactus is the state flower, while the ironwood tree—now protected in Ironwood National Monument—is regarded as the tree of life for the Sonoran Desert.

These and other components of biodiversity ensure some form of ecosystem stability to inhabitants of the watershed. When a mosaic of biotic communities occurs together and are environmentally healthy in a large landscape—as occurs in the proposed National Heritage Area—fewer species will succumb to endangerment or extinction.

Sensitive and Unique Species in the Sky Islands of the Proposed National Heritage Area

Plants (common name)

- Agave
- Wild onion
- Aster
- Milk-vetch
- Zorillo



The diverse biotic communities located in the proposed National Heritage Area.

- Climbing milkweed
- Fleabane
- Lemon lily
- Huachuca water umbel
- Dock sorrel
- Groundsel
- Sophora
- Kearney's blue star
- Canelo Hills ladies tresses

Animals (common name)

- Fish
  - Sonora chub
  - Gila chub
  - Gila topminnow
  - Desert pupfish

- Amphibians
  - Barking frog
  - Tarahumara frog
  - Chirichua leopard frog
  - Mountain tree frog
  - Narrow-mouthed toad
  - Sonoran green toad
  - Sonoran tiger salamander

- Reptiles
  - Mexican garter snake
  - Ridge-nosed snake
  - Tucson shovel-nosed snake
  - Mexican vine snake
  - Green rat snake
  - All montane rattlesnakes

- Birds
  - Buff-breasted flycatcher
  - Southwest willow flycatcher
  - Gray hawk
  - Black hawk
  - Yellow-billed cuckoo
  - Mexican spotted owl
  - Northern goshawk
  - Peregrine falcon

- Mammals
  - Lesser long-nosed bat
  - Mexican long-tongued bat
  - Arizona shrew
  - Mesquite mouse

- Jaguar
- Mexican gray wolf
- Desert bighorn sheep

Recent biological inventories of vascular plants and vertebrates at Tumacácori National Historical Park (Table 4.1.) and Saguaro National Park (Table 4.2) give an idea of the extraordinary biological diversity at these sites. Note that there was no survey for bats at Tumacácori National Historical Park or fish at Saguaro National Park, and that results from Saguaro National Park are preliminary. These inventories were conducted by the Sonoran Desert Network, a joint research collaboration of the University of Arizona (School of Natural Resources) and the United States Geological Survey (Sonoran Desert Research Station), and were funded by the National Park Service between 2000 and 2003.

Table 4.1. Observed biodiversity in Tumacácori National Historical Park (2000 to 2003).

Taxon	Tumacácori (132 ha)	Calabazas (9 ha)	Guevavi (3 ha)
Plants	302	179	152
Fish	8	–	–
Amphibians	7	2	2
Reptiles	15	11	7
Birds	129	80	74
Mammals	26	15	10
Totals	487	287	245

Table 4.2. Observed biodiversity in Saguaro National Park (2001 and 2002).

Taxon	Rincon Mountains (27,186 ha)	Tucson Mountains (9,710 ha)
Plants	539	177
Amphibians	8	4
Reptiles	38	31
Birds	175	71
Mammals	35	20
Totals	795	303

The high natural diversity in the Santa Cruz watershed is most visible to residents and visitors as a spectrum of distinct life zones at different elevations. The elevational extremes in the region extend from about 2,000 ft above sea level at Marana, to 9,453 ft at the top of Mount Wrightson in the Santa Rita Mountains. Depending on the elevation of the Sky Islands, each will have two to five life zones, with distinct plant communities providing different foods for animals and lower temperatures at higher elevations. Thus, each Sky Island has a unique ecosystem with a stack of life zones, ranging from arid at the bottom to potentially boreal at the top. Many species migrate vertically to feed and breed at different elevations. Further, life zones occur at lower elevations on the northern faces of Sky Islands and higher elevations on their southern faces. As an example, in the Huachuca Mountains, the grassland zone occurs up to approximately 4,500 ft, the encinal (oak woodlands) zone to about 6,000 ft, the pine-oak

woodland zone to about 7,500 ft, the pine forest to roughly 9,500 ft, and the fir forest from 8,000 to 9,500 ft (only on the northern face).

Natural Core Areas

Large expanses of land in the proposed National Heritage Area are managed for the conservation of natural conditions by public agencies such as the National Park Service, the National Forest Service, and the Bureau of Land Management, or by conservation organizations such as The Nature Conservancy. In a number of parks and preserves located in core natural areas, extractive uses of natural resources are prohibited, and ecological and evolutionary processes are maintained. These areas are important for focal species such as Mexican gray wolves, jaguars, mountain lions, black bears, and northern goshawks, while providing an umbrella effect for protecting many other species in the same habitats.

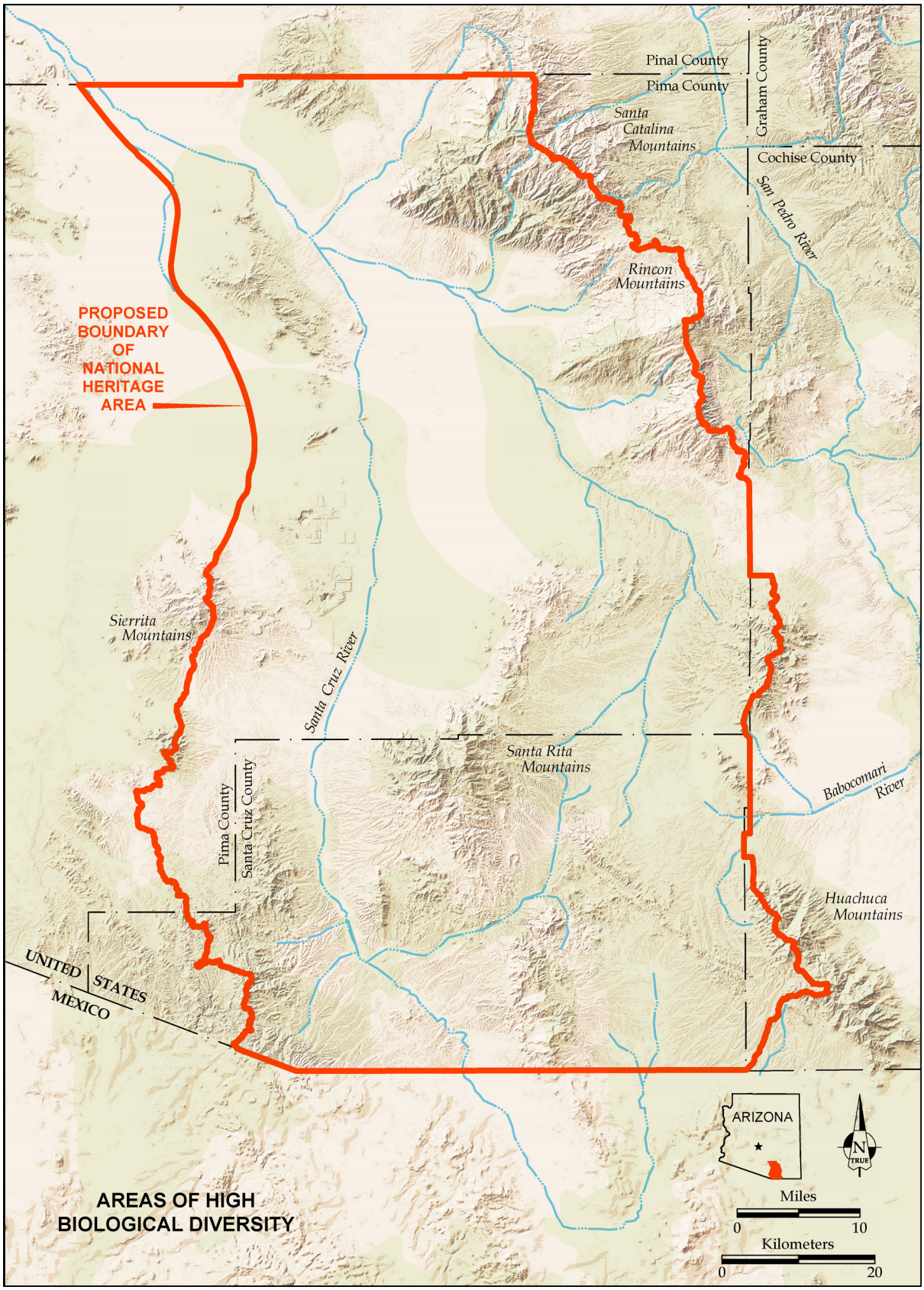
The Arizona Nature Conservancy has developed a plan of Portfolio Conservation Sites identified in terms of eco-regions and biological diversity. Of the 147 regions with high biological diversity identified in the State of Arizona, nine occur within the proposed National Heritage Area, including number one on their list—the Huachuca Mountains Grassland Valley Complex, which covers about 35 percent of the proposed National Heritage Area and extends into Sonora, Mexico (Table 4.3). This area has the highest biological diversity in Arizona.

Table 4.3. Endemic and threatened species in Arizona Nature Conservancy Natural Core Areas in the proposed National Heritage Area.

Portfolio Conservation Area	Endemic Species	Endangered/ Threatened Species	State Rank (147 Total)
Huachuca Mountains Grassland Valley Complex	36	14	1
Atascosa/Pajarito Mountains	12	8	12
Tanque Verde Ridge	2	2	48
Tucson Mountains	2	1	50
Sabino Canyon	1	1	51
Patagonia Mountains	3	1	55
Santa Rita Mountains	2	1	59
Tortolita Mountains	1	1	119
East Tucson Riparian	0	0	128

Courtesy of The Arizona Nature Conservancy

The natural core areas in the Santa Cruz watershed have 15 endangered species, including five plants (Kearney's blue star, Nichol Turk's head cactus, Pima pineapple cactus, Huachuca water umbel, and Madrean ladies'-trusses), two fish (Gila topminnow and desert pupfish), two amphibians (Sonoran tiger salamander and Chiricahua leopard frog), four birds (southwestern willow flycatcher, masked bobwhite, cactus ferruginous pygmy-owl, and Mexican spotted owl), and two mammals (lesser long-nosed bat and jaguar). In Pima County, 9 mammals, 8 birds, 7 reptiles, 7 plants, 6 fish, 2 amphibians, and numerous invertebrates have been identified as being in need of protection.



Map showing natural core areas with high biological diversity within the proposed National Heritage Area.

Biological Corridors

Landscape features that connect large tracts of isolated habitat (natural core areas) across a fragmented terrain are present within the proposed National Heritage Area. Movement of wildlife through these linkages ensures that a species can persist in an isolated habitat patch and in the overall region. Wildlife activities within these corridors include foraging movements, seasonal migrations, and dispersal of juveniles. Additionally, the resultant connectivity between natural core areas fosters genetic exchange among wide-ranging plants and animals, helping to maintain viable populations, while maintaining migratory pathways in times of environmental change.

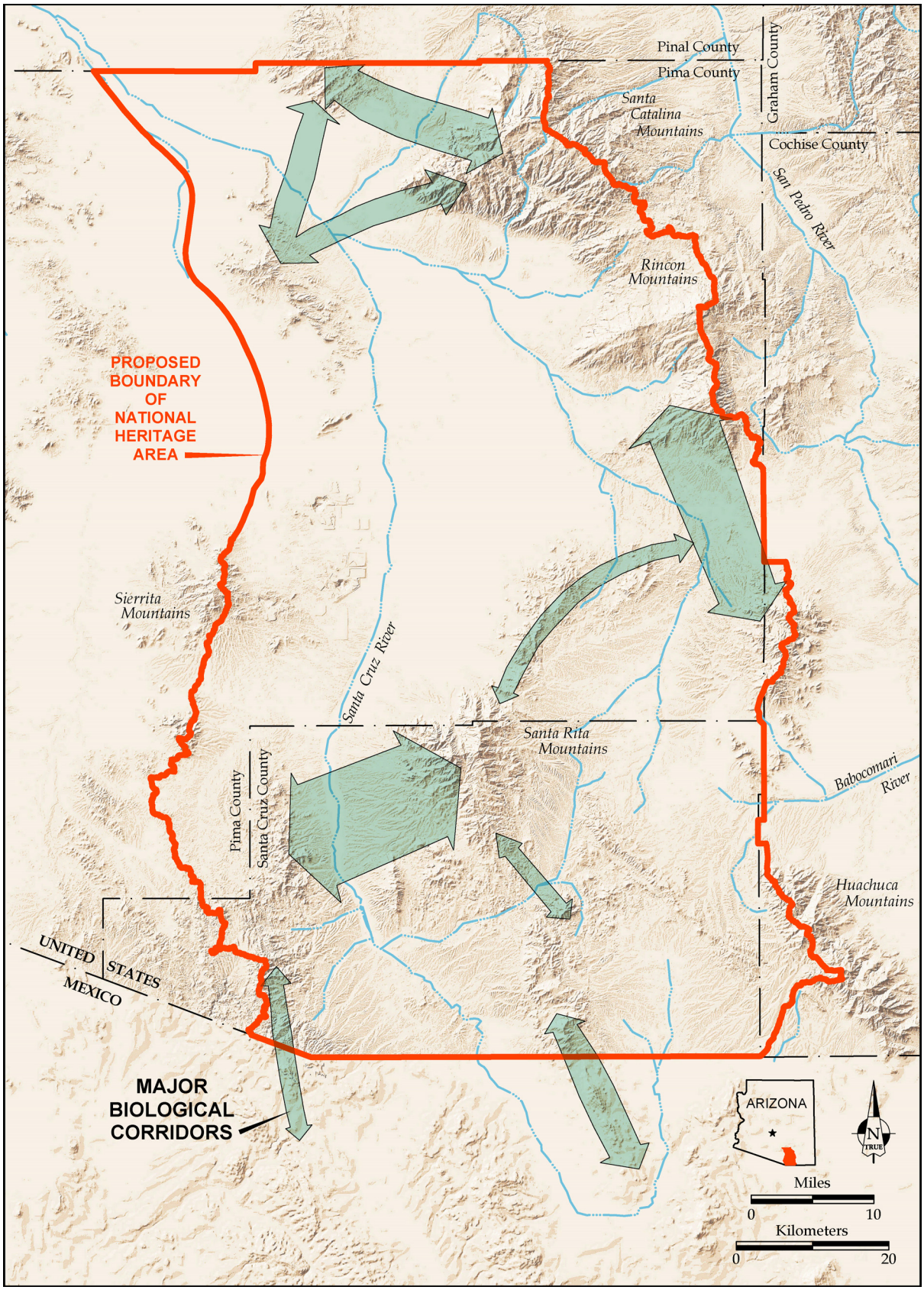
The Sky Island Alliance's Wildlife Monitoring Program has identified three critical wildlife corridors that fall within the proposed National Heritage Area: (1) the Tumacácori/Santa Rita Corridor links the Tumacácori/Atascosa mountain complex to the Santa Rita Mountains; (2) the Cienega Creek Corridor connects the Rincon Mountains east of Tucson to the Empire, Whetstone, and Santa Rita mountains to the south; and (3) the stretch of landscape south of the Santa Ritas, continuing to the connection to the Patagonia Mountains. Since 2001, the Sky Island Alliance's Wildlife Monitoring Program has mobilized volunteers to collect data on wildlife movement within the first two linkages.

In the spring of 2004, the Arizona's Missing Linkages Workshop, sponsored by the Arizona Game and Fish Department and the Arizona Department of Transportation, produced a statewide habitat linkage map identifying natural core areas and linkages. The Sky Island Regional Working Group listed 18 critical landscape linkages within southeastern Arizona, and placed both the Cienega Creek Linkage and the Tumacácori/Santa Rita Linkage at the top of the list with high biological value and facing high threat from urban development. These two critical linkages are also recognized as high priorities for protection in the Pima County Sonoran Desert Conservation Plan. There are several other linkages along spines of mountains that cross the border into Sonora, Mexico.

For many land animals, corridors that facilitate movement between Sky Islands are through riparian habitats. Eleven selected priority habitats and corridors were identified in the Sonoran Desert Conservation Plan for Pima County, and seven of these occur in the proposed National Heritage Area: Cienega Creek, Eastern Tucson Riparian Complex, Sabino Canyon, Santa Rita Mountains, Silverbell Mountains, Tortolita Mountains, and Tucson Mountains.

Scenic Landscapes

The proposed National Heritage Area includes some of the most breathtaking scenic landscapes in North America, highlighted by over 300 days of annual blue skies and majestic mountains. With numerous world-renowned observatories in the area (Mount Bigelow, Mount Hopkins, Kitt Peak, Mount Graham), the standards for outdoor lighting are more strict than in other parts of the nation, providing spectacular night skies for wonderment and stargazing. Daytime marvels include the saguaro-studded slopes of Saguaro National Park, the lush riparian forests along Sonoita Creek, and the splendor of the San Rafael Valley. Visitors during the rainy seasons will forever remember the seas of purple, orange, and red wildflowers. There are also mountain heights and the cool elevations of the Sky Islands. These can be reached by road (Mount Lemmon), hiking trails (Rincon Mountains), or a combination of the two (Santa Rita and Patagonia mountains).



Map showing critical landscape linkages in the proposed National Heritage Area.

Distinctiveness of Theme

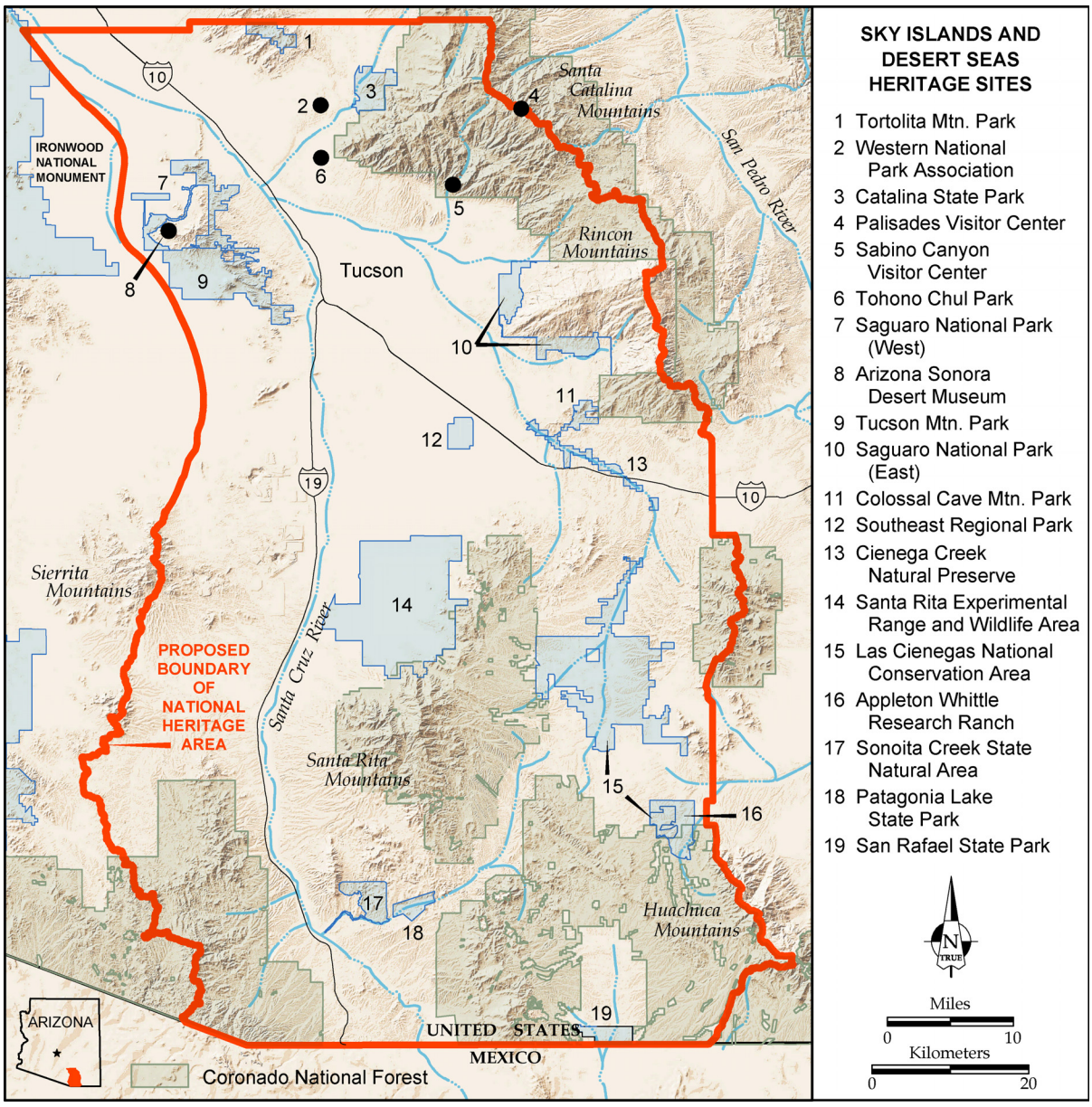
Sky Islands and Desert Seas is a distinctive theme among National Heritage Areas. The unique landscape of the proposed National Heritage Area is an environment that hosts the richest biological diversity in the State of Arizona and has supplied the natural resources that have enabled a diverse and rich cultural history. With about 1.5 million acres of public lands, parks, and preserves, the future conservation of this landscape and preservation of its rich cultural history is ensured**.** Further conservation and preservation efforts are primary goals of Pima County's Sonoran Desert Conservation Plan and Santa Cruz County's newly approved Comprehensive Plan.

Most urban and rural communities depend on nature and heritage tourism, and there is strong public awareness that if the natural and cultural resources are preserved, this will lead to increased tourism and economic development. Creation of a National Heritage Area will enhance the pride of people living in the area. To foster the understanding and knowledge of the area, place-based educational programs will be a primary objective in the mission of this proposed National Heritage Area. The unique qualities of the area are well known nationally, as reflected by the fact that this is a desirable place to live and one of the three most rapidly growing regions in the nation. With the establishment of a National Heritage Area, nature tourism can become a sustainable strategy of economic development that will balance promotion and preservation of the nature resources that make this region unique and that attract visitors from around the world.

The Sky Island region of southeastern Arizona, southwestern New Mexico, and northwestern Mexico is significant due to its rich diversity of species and habitats, and as the last North American stronghold for such magnificent predators as the Mexican gray wolf and jaguar. This is the only place in the United States where tourists can visit this Sky Island landscape and enjoy the exceptional scenic views and biological complexity in a designated National Heritage Area.

Astronomy Capital of the World

The numerous sky islands in the proposed National Heritage Area provide unparalleled opportunities for viewing and studying the night skies. Tucson is considered to be the astronomy capital of the world. Local ordinances require that streetlights and other outdoor lighting minimize light pollution, and there are more observatories and telescopes within a 50 mile radius of Tucson than anywhere else on our planet. Within the proposed Santa Cruz Valley National Heritage Area are the Smithsonian's Fred Lawrence Whittle Observatory (on Mount Hopkins), the University of Arizona's Steward Observatory (with facilities on Mount Lemmon, Mount Bigelow, and Tumamoc Hill) and Flandreau Observatory (with a 16-inch telescope for use by the public), and numerous private observatories. Local organizations include the Tucson Amateur Astronomy Association and the Southern Arizona Section of the International Dark Sky Association. Nearby is Mount Graham International Observatory and Kitt Peak National Observatory, the world's largest astronomical observatory and home of the world's largest solar telescope. These observatories include optical, radio and infra-red scopes. Kitt Peak and the Flandrau have educational programs for the public, and the Steward Observatory has been providing astronomy field camps on Mount Lemmon for the past 20 years.



Heritage sites located in the "Sky Islands and Desert Seas" of the proposed National Heritage Area.

Related Resources

Numerous places in the Santa Cruz Valley are available to the public, where they can experience and learn about Sky Islands and their surrounding deserts. Coronado National Forest includes all of the major mountain ranges, the Sky Island Scenic Byway (Mount Lemmon Highway), and the Madera Canyon and Sabino Canyon recreational areas. In the Santa Catalina Ranger District, the Palisades Visitor Center and Sabino Canyon Visitor Center have exhibits about Sky Island geology and natural history. Sky Island landscapes and wildlife can also be explored in Saguaro National Park (East and West Units), Catalina State Park, Colossal Cave Mountain Park, Tortolita Mountain Park, and Tucson Mountain Park. The natural histories and ecologies of Sky Islands and the Sonoran Desert are interpreted at Saguaro National Park, the Arizona-

Sonora Desert Museum, Tohono Chul Park, and the Tucson Botanical Garden. Relevant maps and publications can be found at the Western National Parks Association in Oro Valley, and at many local bookstores and businesses that sell outdoor gear. Each year, the Ironwood Festival is held at the Mason Audubon Center, and Tohono Chul Park hosts the Wildflower Festival.

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STREAMS IN THE DESERT

Summary of Theme

Some 90 miles of streams and rivers flow year-round in the Santa Cruz watershed. These support riparian habitats that are both beautiful and the keys to life in the desert. The word "riparian" describes the banks of streams and rivers, and the distinct plants and animals found there. At lower elevations, riparian habitats are dominated by big, billowing willow and cottonwood trees. At higher elevations, these are joined by hackberry, sycamore, ash, walnut, alder, and other trees. In dry regions such as southern Arizona, certain plants are found only in the moist conditions along streams and rivers. Some animals that roam mountains and deserts depend on visits to riparian areas, where they can rest, drink, and sometimes hunt. Other animals spend their entire lives in riparian areas and cannot survive without them. These include many fish, frogs, and bird species. Some 60-75 percent of all wildlife species in this region depend on riparian areas at some point in their lives, and 90 percent of all bird species are found in these desert oases. Riparian areas also function as movement or migration corridors for wildlife. North-south trending rivers such as the Santa Cruz are important migratory routes for birds.

Description of Theme

Riparian Areas

Riparian communities are those ribbons of life along banks of rivers, shoreline communities along slow or non-flowing waters such as marshes and lakes, and along the banks of dry washes in deserts. Riparian communities have three components: water availability, vegetation, and wildlife. These communities occupy less than 5 percent of the proposed National Heritage Area surface, but support 90 percent of its bird life. The majority of the 55 priority vulnerable species identified by the Sonoran Desert Conservation Plan in Pima County are associated with riparian-based ecosystems. Approximately 60-75 percent of all animal species in the area rely on riparian environments at some point during their lifecycle.

The Santa Cruz River provides a riparian corridor of a habitat similar to that in northern Mexico. Because the river has a north-south orientation, it is important as a flyway for migratory birds and bats. Its lush forests of cottonwood, willow, and velvet mesquite contrast with the adjacent dry desert and grassland. At higher elevations, riparian communities include hackberry, sycamore, ash, walnut, alder, and other trees. These riparian communities enable some subtropical species to extend their ranges north into Arizona; for some species, the watershed is the United States stronghold, or place where a species is most readily found. About 30 species of birds of subtropical origin have their northern limits within the region, and of the 36 species of raptors (birds of prey) that nest in Arizona, 31 do so in this watershed. The Santa Cruz watershed is also the northern most range of the jaguar, coatimundi, Mexican long-tongued bat, and banded rock rattlesnake.

For many organisms, the habitat structure of a forest or woodland is as important as the species of tree. This is true of the 4,500 acres of pecan groves (FICO Farms) south of Tucson.

This is an artificial riparian environment maintained for agriculture that provides many of the best ecological functions and values of the native riparian woodland. Many native riparian obligate bird species now live in or frequent this habitat, including the yellow-billed cuckoo, Swainson's hawk, and white-tailed kite, as do many amphibians, reptiles, and mammals.

Perennial Surface Water Flows

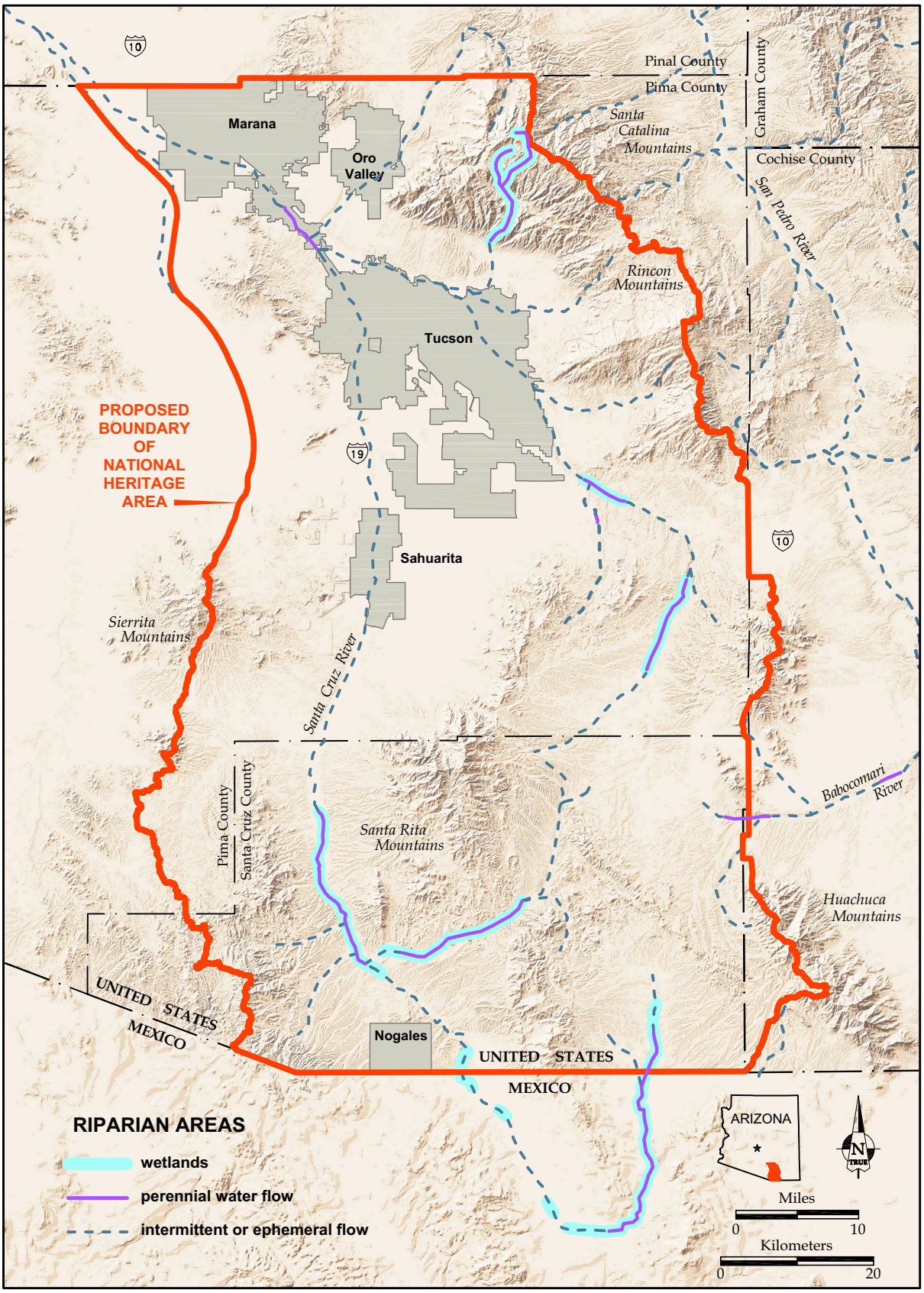
There are roughly 90 miles of year-round flowing water in the upper and middle watershed of the Santa Cruz River. Natural perennial surface flow of the river—varying with month, year, season, and rainfall—occurs only in the San Rafael Valley over a stretch of about 15 miles. Tributaries with year-round flow include Sonoita Creek (about 12 miles), Sabino Creek (about 10 miles), Cienega Creek (approximately 10 miles), and Davidson Canyon (roughly 6 miles). Peck Canyon, Potrero Wash, and Arivaca Creek each have a mile or less of intermittent surface flow, as well as numerous drainages and springs primarily in the surrounding mountains. Other parts of the proposed National Heritage Area have ephemeral (sporadic) surface flow only during heavy rains. Effluent (treated sewage) water maintains lush riparian vegetation and provides recharge for the aquifers along two stretches of the Santa Cruz River. One in Santa Cruz County begins at Calabazas and continues sometimes as far north as Canoa (25 miles). The other, in Pima County, begins at Roger Road and continues sometimes as far north as Red Rock (30 miles).

Cienegas (Wetlands)

Riparian marshes, called cienegas in Spanish, were once common along the Santa Cruz River and its tributaries. However, most dried up as the water table dropped from pumping, diverting flows, or draining to prevent malaria epidemics. The remaining cienegas are havens for vegetation and wildlife. The largest three are Potrero Wetlands (Las Lagunas or Meadow Hills) in the City of Nogales, Cienega Creek (Cienega Creek Natural Preserve, Las Cienegas National Conservation Area), and Sonoita Creek (Sonoita Creek State Natural Area, Patagonia-Sonoita Creek Preserve). Several small cienegas are located in the San Rafael Valley. A man-made cienega has been created at Sweetwater Wetlands in Tucson using effluent (sewer-treated) water.

Riparian Restoration and Rehabilitation

Riparian restoration is the effort to restore ecosystem structures and functions as they were at some point in the past. Riparian rehabilitation is when there is no attempt to create an ecosystem similar to what was present prior to the activities that degraded the resources. Riparian resources and aquatic systems are the most vulnerable and least protected habitats in the Santa Cruz watershed. Plans are in place to ensure that natural riparian systems be preserved, restored where possible, and managed to compensate for decades of largely unintentional destruction of these systems. Numerous projects are ongoing or planned that will increase riparian habitat in the proposed National Heritage Area. These restoration/rehabilitation projects include: (1) ongoing—one on the San Xavier District of the Tohono O'odham Nation, one south of the Town of Marana, and one in Santa Cruz County (Nogales); and (2) planned—more than 10 in Pima County which involve collaborative efforts of the county with the Town of Marana, City of Tucson, and the Army Corps of Engineers.



Map showing areas of perennial flow and wetlands in the proposed National Heritage Area (Nature Conservancy has map).

Riparian Restoration/Rehabilitation Projects in the Proposed National Heritage Area

Ongoing

- Wa:k Hikdañ restoration site (San Xavier District of the Tohono O'odham Nation)
- Tucson Audubon's Santa Cruz River Habitat Project (south of the Town of Marana)
- North River Road (Santa Cruz County, City of Nogales)

Planned

- Town of Marana
- Tucson Origins Heritage Park (City of Tucson)
- Paseo de las Iglesias (City of Tucson, Pima County, and the Army Corps of Engineers) Christopher Columbus Park (City of Tucson and Pima County)
- Cortaro Mesquite Bosque (Pima County)
- Tres Ríos del Norte (Town of Marana, Pima County, and the City of Tucson)
- Río Antiquo (Pima County and the Army Corps of Engineers)
- Rillito Watershed Projects (various)
- Canoa Ranch (Pima County)

Distinctiveness of Theme

The Santa Cruz River is a natural treasure for three nations: United States, Tohono O'odham, and Mexico. The Santa Cruz River is nationally unique in that it originates in the United States, crosses into Mexico, and returns to the United States. Rising in the San Rafael Valley of southern Arizona, it crosses south into Sonora, Mexico, then turns north to reenter the United States east of Nogales. It continues north to cross a 10-mile stretch of the San Xavier District of the Tohono O'odham Nation, through Tucson, and then north-northwest to the Gila River west of Phoenix. Riparian areas along the banks of the Santa Cruz and its perennial tributaries are home to special plants and animals, and are corridors for wildlife movements and migrations. These oases are habitats and migration stopovers for many bird species. This theme is distinctive among existing National Heritage Areas.

Related Resources

Several stretches of the Santa Cruz River and its tributaries have year-round surface flows and are accessible to the public. The Santa Cruz River emerges in the San Rafael Valley, and flows with treated wastewater from Rio Rico to Tubac, and from Tucson to Marana. Two developed segments of the Juan Bautista de Anza National Historical Trail follow the riverbank between Rio Rico and Tubac. Portions of Cienega Creek are protected in Las Cienegas National Conservation Area and the Cienega Creek Natural Preserve. The Sabino Creek recreational area in Coronado National Forest has hiking trails, a paved road, and tram rides. The Patagonia-Sonoita Creek Preserve has trails and an interpretive center.

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BIRD HABITATS AND MIGRATION CORRIDORS

Southeastern Arizona, including the Santa Cruz Valley, is unsurpassed among North American birdwatching, or birding, regions. A major birding magazine rated it second among bird watching destinations in the United States. The diversity and rarity of bird species in southeastern Arizona owes to the available range of elevations and habitats. The affinities of the region to the Sierra Madre Occidental of Mexico make it the northern extent of several Mexican species. Riparian areas harbor nesting neotropical migrants such as common black-hawk, northern beardless-tyrannulet, and broad-billed hummingbird. Mid-elevation deserts and grasslands host birds such as varied bunting, Cassin's sparrow, and Montezuma quail. Sky Islands draw buff-breasted flycatchers, magnificent hummingbirds, and elegant trogons. Of the 36 species of raptors (birds of prey) that nest in Arizona, 31 do so in the Santa Cruz watershed. The north-south trending Santa Cruz Valley is also a major migratory corridor for species that winter in the tropics and nest north of the Mexican border. Over 400 bird species are found annually in the Santa Cruz Valley, and the region has 20 of the 50 stops on the Southeastern Arizona Birding Trail.

Description of Theme

Important Birding Sites and Habitats

The three leading national books on birdwatching sites in the United States include as among the most exciting destinations to birding in the United States: Las Cienegas National Conservation Area, Madera Canyon, Mount Lemmon, the Patagonia area along Sonoita Creek (including The Nature Conservancy's Patagonia-Sonoita Creek Preserve, Sonoita Creek State Natural Area, Patagonia Lake State Park, Patagonia Rest Stop, and Paton's Birder Haven), Sabino Canyon, Saguaro National Park (West), and Sycamore Canyon. Of the 50 recommended birding stops on the Southeastern Arizona Birding Trail, 20 are in the proposed National Heritage Area.

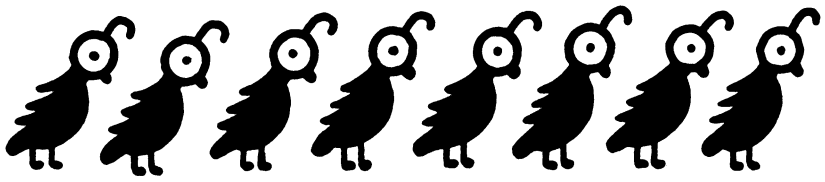
The Audubon Society, as the Partner Designate for Bird Life International, is working to identify a network of sites across the United States that provide critical habitat for birds. This effort, known as the Important Bird Areas Program, identifies those places that are critical to birds during some part of their life cycle (breeding, wintering, feeding, migrating). To date, nine sites have been identified in southeastern Arizona, and three of these are in the proposed National Heritage Area (Santa Rita Mountains, Sabino Canyon, and United States/Mexico borderlands of the upper Santa Cruz watershed). These are of national importance, because they include some of the most important bird habitats in the United States.

Southeastern Arizona provides birders with a list of specialty species that includes birds rarely or never found north of the Mexican border except in this region. The proposed National Heritage Area is a major destination for birders who want to include these on their life lists. Some of the most highly sought species on this list include the common black-hawk, gray hawk, Montezuma quail, whiskered screech-owl, cactus ferruginous pygmy-owl, buff-collared nightjar, violet-crowned hummingbird, broad-billed hummingbird, blue-throated hummingbird, magnificent hummingbird, elegant trogon, green kingfisher, gilded flicker, Arizona woodpecker, greater pewee, buff-breasted flycatcher, northern beardless-tyrannulet, dusky-capped flycatcher, tropical kingbird, thick-billed kingbird, sulphur-bellied flycatcher,

rose-throated becard, Mexican jay, bridled titmouse, painted redstart, red-faced warbler, rufous-winged sparrow, and yellow-eyed junco.

Migration Routes

The Santa Cruz Valley is a major north-south riparian flyway for birds and bats. Migrations occur in spring (late March-mid May) and fall (September-November). About 200 bird species migrate in the spring, including most of the hummingbirds (16 species), the largest number in the nation. Migration occurs over a broad front. Apart from the main flyway, which consists of large tracts of connected riparian habitat, there are oases that represent desirable but disjunct habitat. These include, among others, Harshaw Creek, Sabino Canyon, Sonoita Creek, Tanque Verde Creek, Agua Caliente Creek, Madera Canyon, Cañada del Oro Wash, Gardner Canyon, and Potrero Wetlands (Las Lagunas). With its rich riparian areas, unique desert habitats, diverse canyons, and extensive Sky Island landscapes, this area provides an important migratory corridor for millions of subtropical migrants and large numbers of wintering and migrating waterfowl.



Distinctiveness of Theme

No existing National Heritage Area has this as a theme. With over 300 days a year of sunny skies and mild winters, this is a birder's paradise. Over 400 bird species are found annually in the area, and some 30 of these can be seen here and virtually nowhere else in the nation. A recent study by the University of Arizona found that the top tourist attractions in the Tucson region are birdwatching and other nature-experience destinations, and a 2001 survey by the U.S. Fish and Wildlife Service concluded that, "bird watching is bigger than golf as a tourism and economic impact in Southern Arizona." As the top nature tourism activity in the nation, birding fuels the economic viability of related items and industries such as subscriptions to birding magazines, books on birding, binoculars, clothes, maps, nature-catering lodgings (which provide early breakfasts, sack lunches, advice on destinations, bird feeders), bird food and feeders, and other local enterprises. The presence of publicly accessible resources such as national, state, county, and city parks, preserves, public camp grounds, designated trails, scenic landscapes, riparian areas, water bodies, nature-based museums and gardens, annual events, and other businesses and organizations all add to the attraction of visiting a birding designation, as well as to the economic growth of the region.

Related Resources

The Tucson Audubon Society has identified 37 top birding spots in the valley that are open to the public (see Chapter 3). Birding tourism in this region is both domestic and international in origin, with visitors coming from every other state, and many parts of the world. Inns and

bed-and-breakfasts that cater specifically to birdwatchers dot the landscape. They often offer special resources such as bird feeders, advice on destinations, early breakfasts, and sack lunches. Annual birding events in the region include the Fiesta de los Aves and Annual Christmas Bird Count in Patagonia, the Festival of Hummingbirds and Great Backyard Bird Count in Tucson, and the Tucson Audubon Birdathon throughout southeastern Arizona.

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NATIVE AMERICAN LIFEWAYS (11,000 B.C. TO PRESENT)

Summary of Theme

The Santa Cruz Valley is one of the longest inhabited places in North America and the homeland of two Native American tribes. Archaeological traces indicate a series of prehistoric cultures flourished in this region between the end of the last Ice Age and the beginning of Spanish colonial activities in the late seventeenth century. The cultural achievements of these prehistoric cultures include the first agriculture, canals, pottery, and villages in the Southwest. This valley has been part of the territory of the Tohono O'odham (People of the Desert) since prehistoric times, and groups of the Yoeme (Yaqui) tribe of western Mexico arrived here in several waves beginning in the early nineteenth century. Today, the cultural traditions of the Tohono O'odham and the Yoemem are celebrated at several annual festivals and craft fairs, and the artifacts of their predecessors are displayed and interpreted in numerous museums and archaeological parks.

Description of Theme

Prehistoric Cultures

Near the end of the Ice Age, about 11,000 B.C., Paleoindian hunters of the Clovis culture traveled the Santa Cruz Valley in search of mammoths and other now-extinct large mammals. Their spear points are currently the oldest evidence of human presence in the region, and they mark the beginning of the long and rich human history of the valley. Traces of a series of prehistoric cultures that flourished during various timespans between about 11,000 B.C. and the late seventeenth century A.D are preserved on and beneath the surface. These cultures included groups of the earliest people on the continent, the first farmers and villagers in the Southwest, unique variants and blends of the Hohokam and Trincheras cultures of the Sonoran Desert, and the first southern Arizona tribe to come in permanent contact with Europeans. All of these prehistoric cultures were centered on the linear oasis created by the river—the common thread through their histories.

Two periods of continent-wide drought occurred during the Clovis time (about 11,500-10,900 B.C.), and a combination of drought and overhunting may explain the extinctions of mammoths, horses, camels, ground sloths, and other large Ice Age animals which correlate with the end of the Clovis culture. Geological and biological evidence indicate water tables rose in southern Arizona during a global period of colder conditions between about 11,000 and 9500 B.C. After this reversion to nearly Ice Age conditions, the climate began to warm rapidly at the beginning of a new global climatic era, the Holocene. A now-extinct form of bison continued to be hunted by late Paleoindian groups in southeastern Arizona and in some other regions in the West.

Scientists debate whether the period of hotter climate between approximately 6500 B.C. and 3500 B.C. was also drier, but the lack of any archaeological sites that can be confidently dated to this interval suggest the Santa Cruz Valley and the rest of the desert lowlands of the Southwest were largely abandoned by people. In southern Arizona, there are also signs that rivers, streams, springs, and lakes dried up, and sand dunes formed and moved with the

wind. Sediment layers show that the downcutting channel of the Santa Cruz River incised the floodplain, while sediments eroded from the surrounding landscape accumulated at the channel margins. Bison, elk, mountain sheep, and pronghorn—the last remnants of the Ice Age fauna—appear to have shifted their ranges to higher elevations or to other regions.

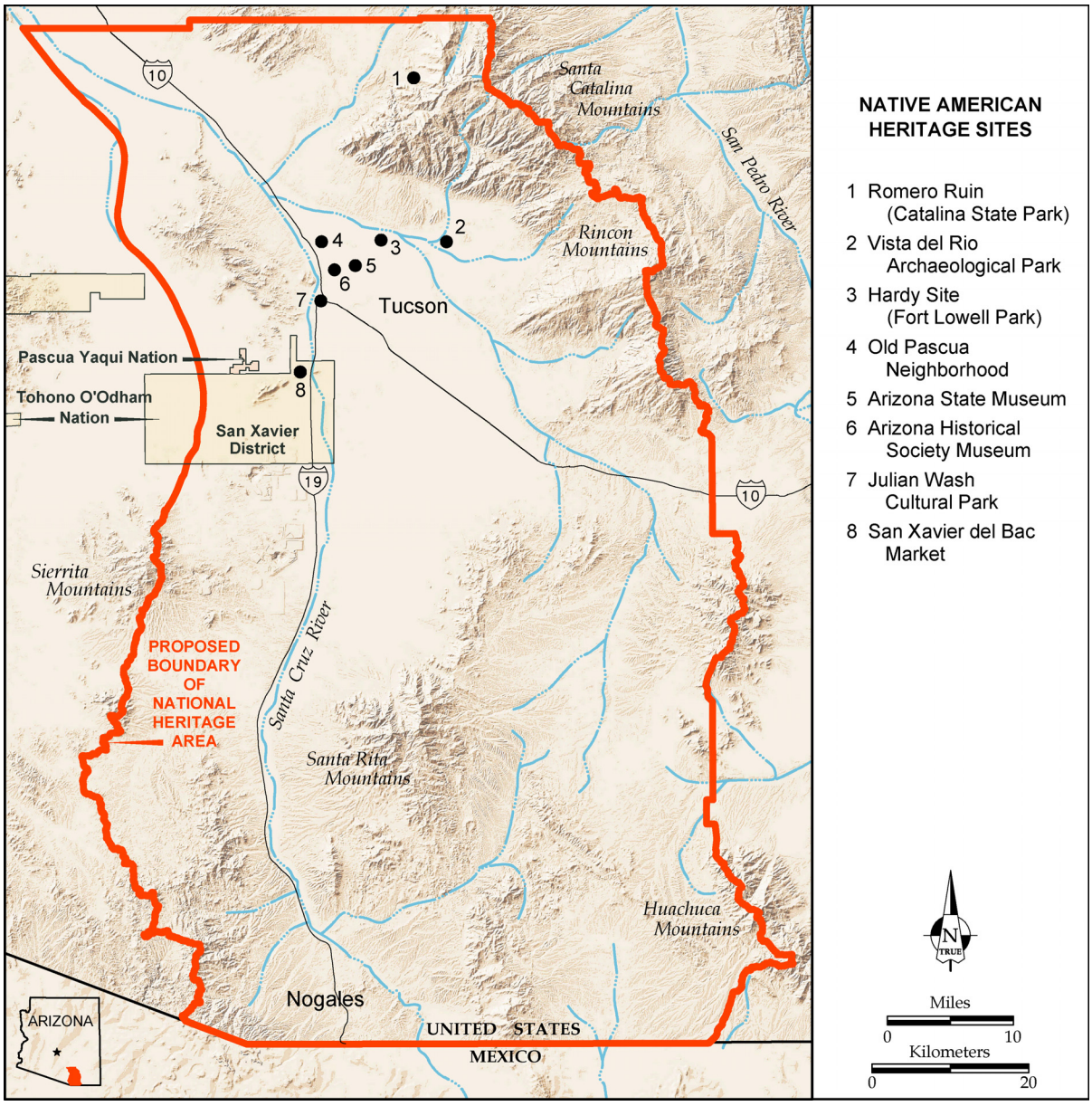
The climate of the Southwest became cooler and wetter about 3000 B.C., the beginning of the late Holocene. Lakes refilled, rivers and springs flowed again, and floodplains began to build up anew. The deep, wide channel of the Santa Cruz River began to fill with fine sediments. Hunter-gatherers returned to the low deserts, and the old way of life was revived, but with increasing reuse of the same locations. Groups repeatedly camped on the banks of the Santa Cruz River during seasonal movements between the uplands and lowlands. Butchered bones found at campsites in the lower and middle Santa Cruz Valley indicate the return of bison to the area (the smaller form living today) and their importance to the hunting and gathering bands of that time.

Direct radiocarbon dates on archaeological maize (corn) remains indicate agriculture arrived in southern Arizona from Mexico by 2000 B.C. To supplement wild resources, hunter-gatherers in the region planted maize and grew some of their food for the first time. These part-time farmers built pithouses and storage pits in summer camps near their fields along the Santa Cruz River and made the first ceramic figurines and pottery in the Southwest. This modest start began 2,000 years of increasing dependence on agriculture and sedentism, a period during which this region was perhaps the foremost center of population and cultural development in the Southwest.

By 1200 B.C., farmers living in early villages along the Santa Cruz River in the western Tucson Basin constructed the earliest known irrigation canals in North America. In addition to maize, they cultivated squash, tobacco, and possibly beans and cotton. Objects resembling spindle whorls for spinning yarn may be evidence that they were also the first cotton weavers in the Southwest. A string of culturally related farming communities along the river maintained close social connections with each other and developed trade connections with distant parts of the Southwest, California, and northern Mexico to acquire volcanic glass for making dart points and seashells for making jewelry. House groups and large, special buildings that appeared in villages along the Santa Cruz River after 800 B.C. are indications that communities were composed of multiple households that were integrated by public meetings and ceremonies. Small stone projectile points suggest the bow-and-arrow began to be used in southern Arizona about this time—earlier than in other regions of the Southwest.

Following a decline in the water table and a cycle of channel downcutting near A.D. 100, new types of architecture, pottery, stone tools, and burial types appeared in the Tucson Basin, perhaps indicating the arrival of a new cultural group from the uplands of the Southwest. If so, overlapping radiocarbon dates mean this new group coexisted for about 100 years with the older farming culture in the valley. Pithouses shifted from round to rectangular about A.D. 400; large villages developed along the Santa Cruz River, with village locations moving to terraces above the floodplain. There, communities grew and developed—some in the same locations for a millennium—as the river flow and floodplain remained stable.

Between roughly A.D. 550 and 750, styles of architecture, artifacts, graphic symbols, and burial practices of the Hohokam culture spread from the Phoenix Basin into the middle Santa Cruz



Native American heritage sites in the proposed National Heritage Area.

Valley and the rest of the Tucson Basin. Plazas became the central features of villages, the largest of which also had Mesoamerican-style ballcourts by about A.D. 800. By A.D. 1000, villages were spread out along expanded canal systems. Ballcourts were no longer built in the Tucson Basin and most other Hohokam areas after about A.D. 1050.

Beginning approxiamtely A.D. 750, villages in the upper Santa Cruz Valley were also influenced by the Trincheras culture centered in Sonora. For the next several hundred years, the valley was a borderland between these two Sonoran Desert cultures, which were blended in local communities. The valley was also a corridor of trade in locally made seashell jewelry, pottery, and probably cotton textiles, as well as macaws and copper items from Mesoamerica.

Near A.D. 1150, many Hohokam villages in the middle Santa Cruz Valley were abandoned and new villages were established, possibly in response to a major cycle of channel downcutting that forced the abandonment of canal systems in the floodplain. After this, new types of runoff farming were developed on the bajadas above the floodplain. Walled compounds and aboveground adobe architecture appeared in the new villages, and platform mounds were built as public ceremonial structures. The population of the region became concentrated in a few large villages by A.D. 1275, perhaps in response to increasing warfare.

Between about A.D. 1400 and 1450, the Hohokam culture of southern Arizona collapsed after a population decline. In the Phoenix Basin, this decline was marked by malnutrition and high mortality rates, perhaps due to overpopulation and a series of droughts punctuated by large floods that destroyed most canal systems. What happened to the Hohokam villages in the middle Santa Cruz Valley is less well understood. To the south, the numbers and sizes of Trincheras villages also began to decline during this period for unknown reasons.

During the period between approximately A.D. 1450 and the 1690s, several related Piman tribes lived in villages in the Santa Cruz Valley. They farmed the floodplain with floodwaters and canals, but also continued to hunt and gather wild plant foods. Their material culture resembled those of other Piman peoples in southern Arizona and northern Sonora. Archaeologists do not currently know much about the people living in southern Arizona during this period, because very few sites have been identified or investigated. However, gaps in the Santa Cruz Valley archaeological record may reflect intervals of abandonment, as appear to have happened in the neighboring San Pedro Valley.

The available archaeological and documentary evidence suggests that, at about the same time in the late seventeenth century, Apaches arrived from the north and began to raid native Piman villages, while Europeans entered the valley from the south. Spanish colonists founded cattle ranches in the upper Santa Cruz Valley in the 1680s, and in the 1690s, Jesuit missionaries started a chain of missions in native villages in the upper and middle valley. With the establishment of these permanent contacts with Europeans who made maps and kept written records, the human story of the Santa Cruz River Valley entered into historical time.

Timeline of Santa Cruz Valley Prehistory

11,000 B.C.	Paleoindian hunters cross the Tucson Basin in search of mammoths and other now-extinct large mammals at the end of the Ice Age (the Pleistocene). All of the large Ice Age mammals except bison soon disappear in the Southwest, possibly due to a combination of drought and overhunting.
9000 B.C.	The climate warms at the beginning of a new global climatic era, the Holocene. In southern Arizona, bison continue to be hunted by Paleoindians, while a hunting and gathering (Archaic) adaptation develops. This new lifeway is based on seasonal mobility and foraging for smaller animals, seeds, nuts, and fruits of wild plants, and the use of seed grinding tools.
6500 B.C.	A long period of hotter, drier climate during the middle Holocene begins; population declines in the lowlands of the Southwest.

3000 B.C.	The climate of the Southwest becomes cooler and wetter at the beginning of the late Holocene. Hunter-gatherers spread back into the lowlands; foragers camp on the banks of the Santa Cruz River during their seasonal rounds.
2000 B.C.	Maize (corn) arrives in southern Arizona from Mexico. To supplement wild foods, foragers in the region plant maize to grow some of their food for the first time. They build pithouses and storage pits in summer camps near their fields along the Santa Cruz River and make the first ceramic figurines and pottery in the Southwest.
1200 B.C.	Farmers in early villages along the Santa Cruz River build the first canals in North America. They grow maize, squash, and possibly beans and cotton, and develop trade with distant parts of the Southwest, California, and northern Mexico to acquire volcanic glass for making dart points and seashells for making jewelry.
800 B.C.	The first ceremonial buildings in the Southwest are constructed in villages along the Santa Cruz River. Earlier than in other areas of the Southwest, the bow-and-arrow begins to be used in southern Arizona alongside the older spearthrower-and-dart.
A.D. 100	New types of architecture, pottery, and burial practices suddenly appear in the valley, perhaps representing the arrival of a new cultural group from the uplands of the Southwest.
A.D. 400	Pithouses shift from round to rectangular, and large villages develop along the Santa Cruz River; village locations move to terraces above the floodplain.
A.D. 550	Styles of architecture, artifacts, and burial practices of the Hohokam culture, centered in the Phoenix Basin, begin to appear in the Santa Cruz Valley; plazas become central features of villages.
A.D. 800	The first Mesoamerican-style ballcourts are built in the southern Southwest. Villages with central plazas grow in population in the Santa Cruz Valley. Hohokam styles and iconography from the middle Gila Valley are adopted, and the Trincheras culture in Sonora begins to influence villages in the upper Santa Cruz Valley.
A.D. 1000	Villages in the valley spread out along expanded canal systems.
A.D. 1050	Ballcourts are no longer built in Hohokam-influenced areas.
A.D. 1150	In the middle Santa Cruz Valley, many Hohokam villages are abandoned and new villages are established. Compounds and rectangular, aboveground architecture appear.
A.D. 1275	Population in the valley concentrates—possibly in response to warfare—into a few large villages. Platform mounds are built as public ceremonial structures within large walled compounds.

A.D. 1450 The Hohokam culture collapses after a period of population decline due to malnutrition, droughts, and disastrous floods in the Phoenix Basin that destroy major canal systems. The Trincheras culture also begins to fade.

A.D. 1680 Spaniards arrive from the south and establish cattle ranches in the upper Santa Cruz Valley, and Apaches arrive from the north and begin raiding ranches and native Piman villages along the river.

A.D. 1691 Father Kino, the first European to visit the middle Santa Cruz Valley, finds villages of Piman-speakers at Guébavi and Tumacácori. The next year, he travels farther north and finds Bac and Chuk-shon.

The Tohono O'odham (People of the Desert)

During the late 1600s, the Jesuit missionary Eusebio Francisco Kino explored the borderland region that now includes northern Sonora and southern Arizona. He and other early Spanish missionaries, explorers, soldiers, and colonists found the region inhabited by the O'odham people, who they called the Pima Altas (Upper Pimas) to distinguish them from the Pima Bajos (Lower Pimas) living in southern Sonora. Among the O'odham, they distinguished several subgroups, including the Sobaipuri of the Santa Cruz and San Pedro river valleys, the Papago of the desert region between the Santa Cruz and Colorado rivers, and the Gileños living along the Gila River to the north. Over the next 300 years, several O'odham groups disappeared as a result of diseases introduced by the Spanish and displacements by colonizing Spanish and raiding Apaches. The Sobaipuri of the San Pedro Valley fled from the Apaches and resettled in the Santa Cruz Valley, where they became integrated with the Papagos, now known as the Tohono O'odham (People of the Desert).

Some modern scholars think the Tohono O'odham are one of the most ancient peoples of southwestern North America, occupying this region for many thousands of years. The Tohono O'odham themselves, and some scholars, trace their origins to the Hohokam culture that flourished in this region between about A.D. 450 and 1450. Another view supported by a few scholars, and also by an oral history version of the origin of the Gila River Pimas recorded in the early 1900s, is that the O'odham migrated from southern Sonora to this region in the 1400s, and then warred with the Hohokam culture, contributing to its collapse. Regardless of which version is accepted, the Tohono O'odham are clearly a very ancient culture of the Sonoran Desert and are part of a chain of related, Piman-speaking cultures that extends from Jalisco in western Mexico to Phoenix, Arizona. Some scholars argue that the Hohokam culture developed as a result of Mesoamerican influences that spread along this corridor of related cultures speaking Piman languages.

From ancient times until the late nineteenth century, the Tohono O'odham lived in dispersed villages (*rancherías*) along low-elevation drainages during the summer to grow crops of corn, squashes, melons, and beans in areas flooded by summer rains. They then moved to villages at higher elevations during the winter to use springs and wells that have water year-round. The saguaro wine festival marks the beginning of the Tohono O'odham year, and it is an

important part of the agricultural cycle. The native Devil's claw plant is cultivated to provide a source of fiber for weaving distinctive coiled baskets.

Today, some 18,000 members of the Tohono O'dham Nation live in three reservations in southern Arizona, including the San Xavier District in the Santa Cruz Valley, established in 1874. Located on the San Xavier District is a Spanish Colonial church completed in 1797, and representing a mixture of baroque and native styles. This church still serves the residents of the district, and the adjacent plaza is used for powwows and craft fairs. Traditional coiled baskets are made by elders, as well as by young people learning the craft. A farmers' cooperative produces and sells native crops near the church. A casino is an important employer and a source of funding for housing, education, and other services.

The Yoemem (Yaquis)

The Yaqui Valley in southern Sonora, Mexico, is the sacred homeland (the *Hiakim*) of the Yoemem people, a native Indian group of northwestern Mexico. Since ancient times, they have planted corn, beans, and other crops in the rich floodplain of the Yaqui River after the annual flood recedes. After Jesuit missionaries converted the Yoemem to Catholicism during the 1600s and 1700s, they also raised livestock introduced by the missionaries. In 1814, Yoemem Indians were brought north to work gold mines near the Guevavi Mission in the Santa Cruz Valley.

The Yoemem homeland was never conquered by the Spanish or Mexican governments. The natives of this region rose up in revolts in 1740, and again when Mexico gained independence from Spain in 1821. Warfare lasted throughout the nineteenth century as the Yoemem resisted intrusions by non-Indian settlers supported by the Mexican army. Massive deportations by the Mexican government during the early 1900s led many Yoemem to flee, and they dispersed throughout northwestern Mexico to work in mines and on haciendas, changing their names to hide their identities and abandoning their public religious ceremonies. Many crossed the border into Arizona by following the railroad tracks and working as laborers on the railroad and in cotton fields around Tucson, Phoenix, and Yuma. Anthropologist Edward Spicer noted that by 1910, the Yaquis "had become the most widely scattered native people in North America." The deportation program ended with the Mexican Revolution in 1910, in which the Yoemem fought against the old government.

In southern Arizona and their homeland, the Yoemem gradually resumed their public religious ceremonies, including the Lent and Holy Week ceremonies, which blend indigenous beliefs with Christian symbols. Another important public ritual is the killing-the-deer ceremony (*maso me'ewa*), which takes place on the first anniversary of the death of a relative. Yaqui public rituals are important expressions of ethnic identity, yet they are universal in that they are open to outsiders and seek blessings for all men and women.

Today, the Yoemem have lands in both Mexico and the United States that are formally recognized by the governments. In Mexico, a 1937 decree by the Mexican president created the Yaqui Indigenous Zone along the Rio Yaqui. In the United States, the Pascua Yaqui Association received 200 acres of land southwest of Tucson in 1964. A grant from the Office of Economic Opportunity in 1966 allowed the association to begin building New Pascua Pueblo,

and in 1978, New Pascua gained official recognition as a United States Indian tribe. However, the older Yoemem communities of Pascua and Barrio Libre in Tucson, Yoem Pueblo in Marana, and Guadalupe on the outskirts of Tempe are not recognized by the U.S. Bureau of Indian Affairs. These communities receive help from the tribal government of New Pascua, which earns its own revenues from gaming and hosting events in a new outdoor arena. The Yoemem culture continues to flourish in southern Arizona.

Distinctiveness of Theme

None of the 24 existing National Heritage Areas have a theme related to Native American history and cultural traditions. Such a theme, as outlined here, is central to the long history of the region, and will be unique among National Heritage Areas. Like many regions of the western United States, the Santa Cruz Valley has vibrant Native American communities with deep roots in the region. Celebration of the cultural contributions of Native Americans to the story of this nation is very appropriate and overdue, and the proposed Santa Cruz Valley National Heritage Area provides an opportunity for this expression.

Related Resources

The Native American history and cultural traditions of this region are interpreted and celebrated at a number of places and events open to the public. In and near Tucson, artifacts and exhibits about prehistoric cultures of the Santa Cruz Valley can be found at the Arizona State Museum and the Arizona Historical Society Museum. Archaeological sites with interpretive trails and outdoor exhibits include the Hardy site at Fort Lowell Park and Romero Ruin at Catalina State Park, and more are being developed at the Julian Wash Cultural Park, Vista del Rio Archaeology Park, and Tucson Origins Heritage Park. Lectures and other local events related to the ancient cultures of this region are held during Arizona Archaeology Month. Tohono O'odham baskets and other crafts can be purchased at the San Xavier del Bac Market and the annual Southwest Indian Art Fair at the Arizona State Museum. Corn, tpeary beans, squashes, and other traditional native crops can be purchased at the San Xavier District Farming Co-op. Native American dancing, drumming, and singing are showcased at the American Indian Heritage Powwow and Craft Fair, the Indian America New Years Competition Powwow, the Native American Heritage Month Powwow, and the Wa:k Powwow. The Yaqui Easter Ceremonies in the Old Pascua neighborhood in Tucson features a week of public ceremonies that includes traditional dancing, music, and masks.

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SPANISH AND MEXICAN FRONTIER (1680 - 1854)

Summary of Theme

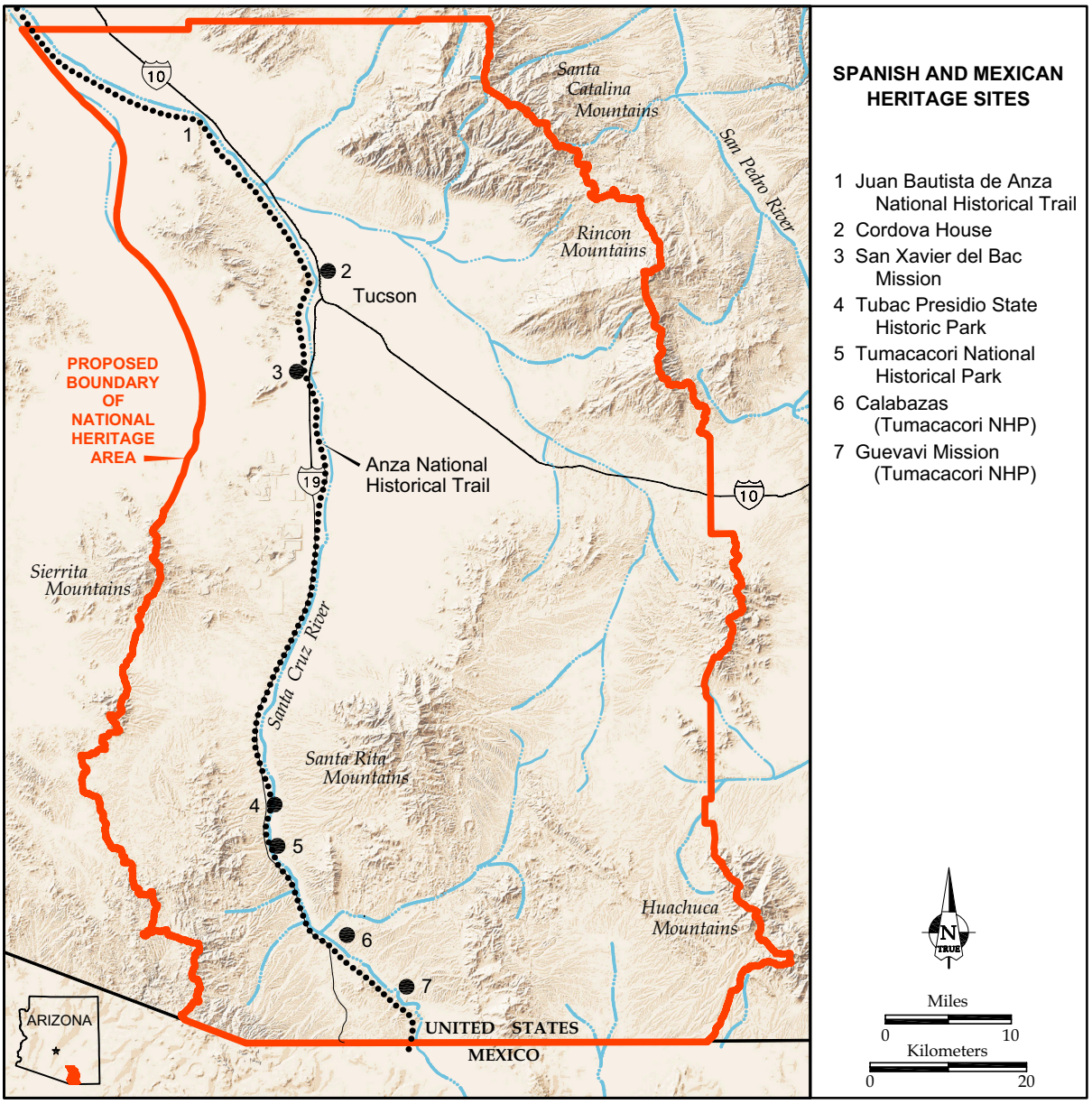
The proposed Santa Cruz Valley National Heritage Area will be the first National Heritage Area on the border with Mexico. The Santa Cruz Valley was once the northern frontier of New Spain—an isolated and often inhospitable region where Spanish colonists, soldiers, and missionaries interacted with local Native American populations beginning in the 1680s. The region became part of Mexico when Mexico won independence from Spain in 1821, and then became part of the United States when the Gadsden Purchase was signed in 1854. Despite the changing political jurisdictions, many of the early Spanish and Mexican settlers have living descendents in the area today. A number of the presidio fortresses, missions, and ranches occupied between the 1680s and 1854 are still preserved in the Santa Cruz Valley, and many are open to visits by the public. Most of these heritage sites from the Spanish and Mexican periods are under the management of various governments; however, there is currently no interpretive link between them. Designation of a Santa Cruz Valley National Heritage Area will increase awareness of the rich and unique Spanish and Mexican heritage of the region, allowing local residents and tourists the opportunity to visit and learn about the deep history that connects this region with Mexico.

Description of Theme

The arrival of Christopher Columbus' fleet in the New World in 1492 led to the conquering of modern-day Mexico and the gradual expansion of Spanish authority northward into what is today the United States. Beginning in the 1530s, Spanish missionaries and military personnel in search of souls and resources traveled through what are now the states of New Mexico, Arizona, and California.

In Arizona, the efforts of Europeans were focused on the Hopi and Zuni pueblos in the north, and along the Colorado, San Pedro, and Santa Cruz rivers in the south. The Spanish and subsequent Mexican northern frontier extended from the Colorado River on the west, to the Rio Grande on the east. Between them, the Santa Cruz River and its valley was the focus of the heaviest occupation. The ready availability of water, fodder for grazing animals, irrigable fields, mineral resources, and relatively friendly Native American populations made the Santa Cruz Valley the hotspot of activity along the northern frontier of the Pimería Alta (Land of the Upper Piman Indians) from about 1680 onward. Native American uprisings and attacks increased through time, and eventually only the Santa Cruz Valley settlements remained. Small, isolated communities endured, with the residents watching warily as the area became part of the United States in the 1850s.

The interplay between local Native Americans, Spaniards, and Mexicans created a distinctive community along the border. The relative isolation of the area, quite distant from large commercial and manufacturing areas, fostered greater self-sufficiency and a reliance on cooperation and interaction among these groups. The result was the development of distinctive cultural traditions, architecture, and foodways in this border region. Many of these traditions, including the Sonoran rowhouse architecture and the use of Sonoran Desert plants as food resources, have continued into the modern period. Other traditions, such as the Día de San Juan festival, have been revived in recent times and are becoming increasingly important to



Spanish and Mexican heritage sites in the proposed National Heritage Area..

both local residents and visitors from across the nation and the world. The Spanish and Mexican heritage of the region is one of the reasons that have compelled an increasing number of tourists to explore the Santa Cruz Valley.

The Native Americans who lived along the course of the Santa Cruz River—the Pimans and Papagos (today known as the Tohono O'odham, or People of the Desert)—had probably heard stories of the newcomers heading north before these strangers actually traveled through the region. The 1530s and 1540s saw a handful of Spanish expeditions journey through the southeastern part of what is today Arizona. The first permanent Spanish presence in the Santa Cruz Valley was the cattle ranch established by Jose Romo de Vivar in 1680, at San Lázaro on the upper reach of the river, in what is now Sonora. However, more significant interactions

did not develop until Father Eusebio Francisco Kino was dispatched to New Spain's northern frontier in the 1690s.

Father Kino was a man of many talents. A Jesuit priest born in Italy in 1645, he was sent to the Pimería Alta to serve as a missionary to the Native Americans of the region. He traveled out to small communities, learning the Piman language so he could preach to them about his Catholic beliefs. Kino was an inquisitive man interested in understanding the history and geography of the area. He was shown blue seashells by some of his Native American friends, and afterwards, attempted to find an overland route to California, where he knew the shells originated from.

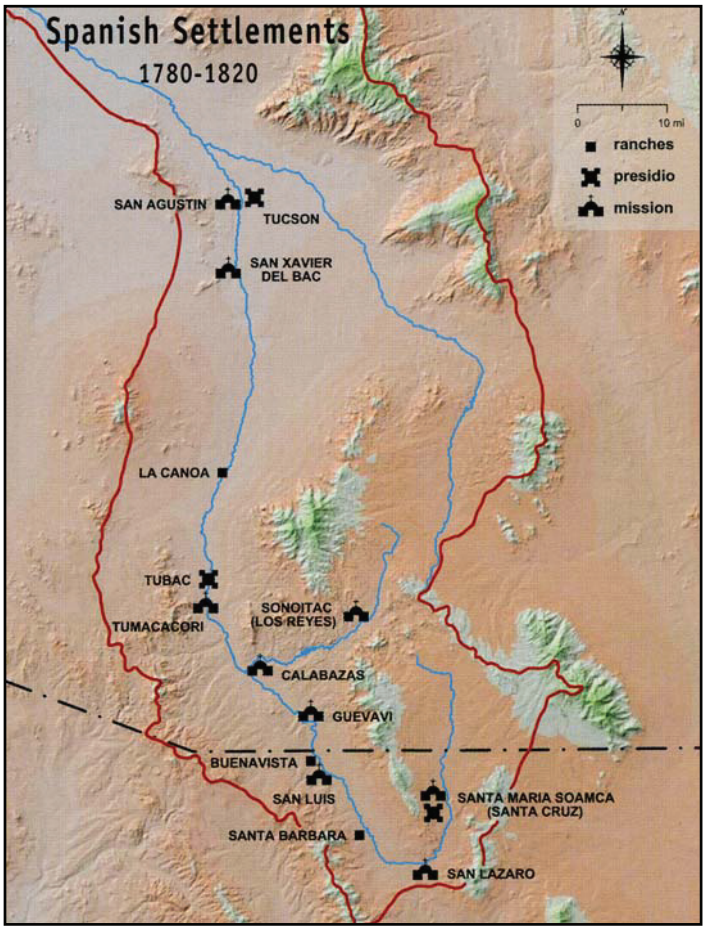
Kino and accompanying priests and soldiers were the first Europeans to travel north along the Santa Cruz River into what is now Arizona. Their journeys during the 1690s and early 1700s brought local Native Americans into contact with new ideas, technologies, and sources of food. Kino introduced cattle, sheep, horses, wheat, peaches, lentils, figs, onions, and other crops to communities along the river.

Unfortunately, the newcomers also brought diseases that local inhabitants were not immune from. Many people died from epidemics of measles, smallpox, and other contagions. The Spaniards had difficulties in understanding the time-honored yearly rounds of the Native Americans, who lived at their farming villages for part of the year and traveled out to gather wild resources for months at a time. The Spaniards preferred complete sedentism, so they could preach Christianity to the Indians and ensure that they were following European moral codes. Further, year-round occupation at villages allowed for a steady labor source. The introduction of European crops made this more possible, but attempts to change Native American lifestyles proved difficult.

Jesuit missions, where Native Americans could receive religious instruction and would supply labor, were established at Guevavi in 1691 and San Xavier del Bac in 1700. Visiting missions, known as *visitas,* were established at Tumacácori in 1691, San Agustín in 1700, and Calabazas in the 1750s. Priests initially traveled to these places several times a year. It was not until the 1730s that a permanent European presence was established.

Local Native Americans soon began to chafe under Spanish authority. By November 1751, interactions between the two groups soured as Native Americans grew tired of their land being taken, and angered at punishments and insults meted out by some of the missionaries. The Pimans revolted, forcing Spanish priests and settlers to flee south into Sonora. The following year, the Spaniards returned and constructed a presidio fortress, at Tubac, which was a small Piman rancheria 4 miles north of the mission at Tumacácori. A garrison of about 50 soldiers was stationed at the presidio, ensuring peace among the local Pimans and protecting the area from Apaches, who had begun to conduct raids into the area from the north, attacking settlements and capturing livestock.

Other Spaniards trickled into the area, operating ranches and prospecting for mines. Raids by the Apaches against both Spanish and local Native Americans grew. In the 1760s, the Sobaipuri Pimans, who lived along the San Pedro River to the east, moved to Tucson to live at the Mission of San Agustín. In 1775, Juan Bautista de Anza led two expeditions from the Tubac Presidio to establish a colony at San Francisco, California.



Concerns about the overall security of the northern frontier led the Spanish military to have Irishman Hugo O'Conor make an inspection tour in 1775. He decided a new presidio was needed along the San Pedro River, and the Terrenate Presidio was constructed in 1776. That same year, he ordered the garrison at Tubac be moved north to Tucson. This was accomplished the following year, although the soldiers failed to construct the new fortress according to new regulations.

Meanwhile, the Terrenate Presidio proved to be a failure, with constant attacks killing 80 soldiers, including two of the fort's commanders, over a four-year period. It was abandoned in 1780. The soldiers at Tucson failed to heed this warning, and in May 1782, a group of about 500 Apache warriors attacked the presidio and mission. A desperate battle ensued, but the small garrison of Spanish soldiers was able to repulse the Apaches through the providential firing of a brass cannon. The Apaches had never heard such a loud sound, and fled the area. The soldiers spent the next year hurriedly enclosing their fortress within a tall adobe enclosure, about 670 ft to a side, guarded by 20-ft-tall towers on opposite corners.

The priests at San Xavier began construction of a new, grand church in 1783. Architects and artisans from Mexico and local Papagos fired adobe bricks and spent the next 14 years raising a dramatic cross-shaped chapel, its interior decorated with religious statues and paintings. The old church from the 1750s was dismantled and the materials converted into a convento, where resident priests lived. Afterwards, the trained workers probably moved to the Mission of San Agustín in Tucson, where they constructed a two-story convento, a chapel, a granary, and enclosing walls for the mission and nearby gardens. In 1800, work began on a new church at Tumacácori, a structure that would not be completed until the 1820s.

Political turmoil was developing in Mexico, as many people sought independence from Spain. Soldiers from Tucson were sent to Mexico in the 1810s, to fight against the rebels. Mexico gained its independence in 1821. The Mexican government was unable to maintain the same level of spending, and support for the military at Tucson and Tubac declined, as did work at the nearby missions. The expulsion of foreign-born priests removed religious leaders from the region. The feeling of isolation was compounded by increasing Apache raids.

Ranches and mines were abandoned, followed by the missions. For a time in the 1840s, Tucson was the only occupied settlement. The passage of the Mormon Battalion, United States Army troops marching to San Diego in 1846, was seen as an ominous sign. The discovery of gold in Californian resulted in increased travel through southern Arizona in 1849 and 1850. Many of the forty-niners brought trade goods to exchange for food, and Tucson residents were eager to barter. Arizona south of the Gila River became part of the United States with the completion of the Gadsden Purchase in 1854; however, it was not until 1856 that American forces formally took control. Many Mexican residents of Tucson and Tubac remained behind and became American citizens. Thousands of modern-day Arizonans are descendents of people who lived in the region when it was the frontier of New Spain, and then Mexico.

Distinctiveness of Theme

No other existing or planned National Heritage Area is located on the United States-Mexico border or has a Spanish colonial theme. Although the area along the Santa Cruz River from Nogales northward has been a part of the United States for 150 years, the influences of Spain and Mexico remain strong. Communities are increasingly looking back and celebrating their Hispanic cultural heritage. Annual events, such as the traditional Christmas Mass at Tumacácori National Historical Park, recall celebrations that occurred 100 and even 200 years ago. Sonoran-style cuisine, which combines Spanish, Mexican, and local Native American influences, is available in many restaurants throughout the region. Local Spanish and Mexican heritage sites are receiving increased visitation as people seek a greater understanding of the unique history along the Santa Cruz River. No other National Heritage Area currently celebrates the contribution that Spain and Mexico made in what is now the United States.

Related Resources

The missions of Tumacácori and Guevavi were established by Father Kino in 1691, and the visita of Calabazas was constructed in the 1750s. All three are part of Tumacácori National Historical Park. Guevavi was the location of a Piman village where Kino baptized local residents. In 1732, Father Grazhoffer became the first resident priest for the first church, which consisted of a brush roof on posts. An adobe church was being constructed at Guevavi when the 1751 Pima revolt began, and the site was abandoned by the Spaniards. A Spanish priest returned in December 1753. The Native American population of Guevavi gradually declined, and in 1771, Guevavi became a visita of Tumacácori. The complex was abandoned in 1775.

Calabazas was a visita of the mission of Guevavi in the 1750s. In 1760, a house was built and construction of a church begun. The church was still roofless in 1768, but was completed by 1773, when the Franciscans established a cemetery at the site. It was part of a rectangular compound with a central plaza. The church and other houses present at the visita were burned by Apaches in 1773, and the Pima abandoned the site in 1786. The church was later repaired in 1807, and served as a cattle ranch for the Tumacacori Mission until 1830, when it was again raided and burned by the Apaches. The land was acquired by Governor Gandara of Sonora in 1844, and was occupied by various people into the 1860s.

Tumacácori began as a visita of Guevavi and was moved to its present location in 1751. A large number of buildings were eventually constructed; however, the standing church was

Among the many heritage attractions in the Santa Cruz Valley are Spanish missions, presidios, and ranches dating between the 1690s and the 1820s.

begun in 1800 and completed in the 1820s. The mission was abandoned soon afterward and was only periodically reoccupied due to attacks by Apaches. The mission was made a National Monument in 1908, and was later designated a National Historic Landmark. It is open year-round to visitors. Guevavi and Calabazas were later added as separate units and can be visited during monthly tours.

The Presidio of Tubac was established in 1752, following the Pima Revolt the preceding year. About 50 soldiers were sent to build a fort at the location of a Piman rancheria. The presidio consisted of a cluster of structures centered around a Captain's House. An inspection in 1775 led to the presidio being moved north to Tucson. The village continued to be occupied, and military personal were occasionally stationed in the community. The 1840s saw renewed attacks by Apaches, and for a few years, Tubac was abandoned. The arrival of Americans in the 1850s led to the revival of the village, which has developed into a tourist attraction today, with many shops selling artwork. The Tubac Presidio State Historic Park commemorates the presidio and includes an innovative underground archaeology display amid the ruins of the Captain's House.

San Xavier del Bac was the location of a Native American village; construction of the third church began in the 1780s, and was apparently completed in 1797. The Franciscan priest at San Xavier was deported in 1828, when the Mexican government ordered all foreign-born people sent back to Spain, and the mission remained without a resident priest for the next 30 years. The local Papago Indians removed the church furnishings and kept them safe until the return of Catholic officials in 1858. The Catholic church remains in use today. Recent efforts to restore the church have focused on cleaning the interior, exposing many paintings hidden beneath several centuries of smoke and dirt. Work on the exterior of the church includes replacement of concrete stucco with a re-creation of the original lime and cactus juice stucco, which will prevent water from becoming trapped in the walls of the structure. This church, widely considered to be the finest example of Spanish Colonial architecture in the United States, is open to public visitation.

The northernmost Spanish settlement along the Santa Cruz River was at Tucson. The Mission of San Agustín was on the western side of the river, while the Presidio of Tucson was across the river. Both survive as archaeological sites and have been heavily impacted during the historic and modern periods. Portions of the mission were destroyed by clay mining and use of the area as a landfill in the 1950s. Recent archaeological excavations have revealed that approximately 20 percent of the mission survives, along with the all of the nearby Mission Gardens. While nothing from the Tucson Presidio are visible, archaeological excavations have revealed that structure foundations and other archaeological features survive beneath streets, parking lots, sidewalks, lawns, and even buildings. The City of Tucson's planned Tucson Origins Heritage Park calls for the re-creation of selected structures at both locations. The prominent two-story convento and smaller chapel will be recreated at the mission, using historic photographs, drawings, and floor plans drafted by archaeologists in the 1950s. The northeastern corner tower and adjoining perimeter walls will be re-built at the presidio, slightly offset from the original wall foundations. Visitors will be able to view a portion of the 1780s tower wall and an underlying 1,000-year-old Hohokam pithouse in a unique glass display case. The mission and presidio re-creations will include museum exhibits and living history, with costumed docents teaching residents and visitors about daily life in eighteenth and nineteenth century Tucson.

The Juan Bautista de Anza National Historical Trail follows the western bank of the Santa Cruz River northward from the United States-Mexico border until it reaches the Gila River and turns westward toward California. The National Park Service is working with Pima County, Santa Cruz County, and the Anza Trail Coalition of Arizona on developing and linking segments of the trail, and marking them with signs. Segments extending for several miles have already been developed in the Rio Rico property and between Tumacácori National Historical Park and Tubac Presidio State Park.

Throughout the year, a variety of events celebrate Spanish and Mexican culture within the proposed Santa Cruz River National Heritage Area. The Fiesta de Los Vaqueros Rodeo and Parade takes place every February in Tucson, culminating in the largest non-motorized parade in the United States. Summer holidays include the Día de San Juan and the Fíesta de San Agustín, two Saint's Day festivals with roots extending back to the Spanish-era Tucson Presidio. Local residents gather for these two events and watch singers, folklorico dancers, processions, and enjoy Mexican food. Tucson's Birthday Celebration, the anniversary of the founding of the Tucson Presidio is celebrated at an annual flag-raising, attended by local residents dressed in historic costumes. Historical attire is required for attendance at annual traditional Latin

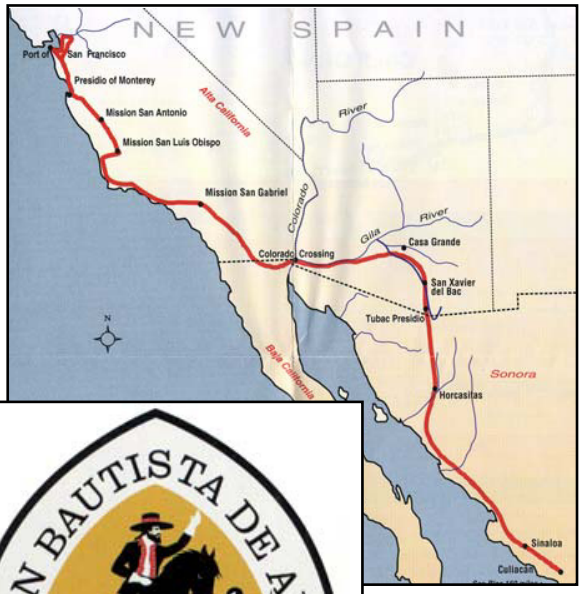
masses held at churches in Tubac and Tumacácori during the Anza Days Cultural Celebration and at Christmas, respectively. Toward the end of the year, the Nacimiento, a large miniature Christmas scene, is presented at the Cordova House within the Tucson Museum of Art Complex. Other events held during the year include Mariachi and Norteño music festivals and Cinco de Mayo celebrations. Attendance at these events has increased in recent years, as people seek out Mexican cultural experiences.

Spanish Barb Horses

In the late 1680s, Father Kino established a herd of Spanish horses and other livestock at Mission Dolores in Sonora, Mexico, to supply the missions and ranches he was establishing throughout the Pimería Alta. In the 1690s, Kino brought horses from this herd to the Santa Cruz Valley, introducing them to the region. In the late 1870s, Dr. Rueben Wilbur purchased a breeding group of 25 mares and a stallion from the herd at Dolores, and allowed them to run wild on his ranch near Arivaca, in southern Arizona. This isolated herd was preserved by Dr. Wilbur's descendents.

In 1989, when the Wilbur ranch was sold to The Nature Conservancy to become part of the Buenos Aires Nature Preserve (and later, the Buenos Aires National Wildlife Area), the American Livestock Breeds Conservancy funded the distribution of the Wilbur-Cruce Mission

A centerpiece of this National Heritage Area will be the Juan Bautista de Anza National Historic Trail.



In 1775, Tubac was the final staging area for de Anza's expedition to colonize San Francisco.

strain among conservation breeders. The strain is now recognized in the registry of the Spanish Barb Breeders' Association.

Today, several strains of Colonial Spanish Horses, including these descendents of Father Kino's herds, have been preserved in the Santa Cruz Valley and other parts of the United States. Mostly or wholly extinct in Spain, and one of only a very few genetically unique horse breeds worldwide, they have both local and global importance for genetic conservation. The combination of exceptional disposition, great beauty, athletic ability, and historic importance makes this breed a very significant part of our Santa Cruz Valley heritage.

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DESERT FARMING (2000 B.C. TO PRESENT)

Summary of Theme

Archaeological evidence and historical records show that people have farmed in the Santa Cruz valley for at least 4,000 years, and have constructed canals to irrigate fields in the same locations for the last 3,000 years. This long agrarian history makes the Santa Cruz Valley one of the oldest continuously cultivated areas—and the place with the longest documented history of water control—in North America. Irrigation from surface flows stopped in the late 1800s and early 1900s, as water tables dropped and the river channel incised its floodplain in many places. However, irrigated farming has continued throughout the valley through groundwater pumping. Today, the main valley is still an important producer of cotton, wheat, pecans, and other crops. Native American crops are also being cultivated again with Colorado River water from the Central Arizona Project canal. Vineyards and fruit orchards have been recently developed in areas of the watershed with the right elevations and soils.

Description of Theme

The Riverine Oasis

Until the end of the nineteenth century, five reaches of the main channel of the Santa Cruz River contained water that flowed on the surface year-round. The uppermost perennial reach extended from the headwaters of the river in the San Rafael Valley, to San Lazaro in Sonora, Mexico. Downstream, the next perennial reach flowed from the United States-Mexico border to Canoa, although in summers and dry years, it stopped at Tubac. These upper perennial reaches occurred in areas with thin layers of alluvium overlying bedrock just below the surface, creating shallow aquifers with emergent flows. In these areas, canals could be built to divert the reliable surface flows to floodplain fields. Further downstream, in the middle Santa Cruz Valley, basalt dikes formed by the volcanic hills of Martinez Hill near San Xavier, Sentinel Peak (A-Mountain) near downtown Tucson, and Point of Mountain at the northern end of the Tucson Mountains forced the underground flow of the Santa Cruz River to the surface. This effect created marshes (cienegas) that were ideal for shallow ditches and wells intercepting the high water tables. Springs in the marshes could also be tapped, and downstream of the marshes, where the river flowed on the surface, water could be diverted into canals.

Early Farming and Water Control

The tropical crops maize (corn), beans, squash, and possibly cotton were introduced to the Santa Cruz Valley from Mexico between 2000 and 1000 B.C. Tobacco, probably a native variety, was also cultivated very early. Recent archaeological discoveries near Tucson have shown that, by 1200 B.C., early farmers built canals to divert both floods and perennial flows from the Santa Cruz River to their fields. These canals are the oldest examples yet found in North America and are more than 1,000 years older than any previously found in the Southwest. As early as 800 B.C., wells were dug in the Santa Cruz floodplain to tap high water tables. The logistics of irrigation required the cooperation of groups of farmers, which is probably why the Santa Cruz Valley had some of the earliest village communities in the Southwest.

Hohokam Agriculture

A number of canals built by the Hohokam between about A.D. 500 and 1450, have been discovered in the middle Santa Cruz Valley in recent years. These canals were smaller than the major Hohokam canals in the Phoenix Basin, but rivaled them in their skillful engineering. They were generally larger than those built by earlier farmers in the Santa Cruz Valley. Most of the Hohokam canals in the valley were constructed between roughly A.D. 950 and 1100, coinciding with the peak in Hohokam canal building in the Phoenix Basin. During this period, new varieties of maize, beans, squash, cotton, and tobacco were introduced from Mexico, and native plants such as tepary bean, agave, little barley, panic grass, and devil's claw were locally domesticated. After approximately A.D. 1100, perhaps in response to downcutting of the river channel in several areas, extensive areas on the bajadas above the Santa Cruz floodplain were developed for runoff farming. Archaeological investigations have shown that the rock piles and terraces in these new fields were used primarily for cultivating agave (mescal).

Sobaipuri Ditches and Spanish Acequias

In 1691, Father Kino and Father Juan María de Salvatierra, the first Europeans to explore the Santa Cruz Valley, traveled as far north as the Sobaípuri Pima (O'odham) village of Tumacácori, then south through Guébavi (Guevavi) and Santa María (also the name of the Santa Cruz River at that time). The following year, Kino traveled farther north to the O'odham village of Bac, and it was probably on that trip that he first visited the village of Chuk-shon (from which Tucson derives its name) near the foot of what is now called A-Mountain. In both locations, he saw many irrigation ditches. Between A-Mountain and the Rillito, on the eastern bank of the river, the inhabitants of the village of Oiaur also irrigated crops in the floodplain.

These irrigated areas supported sizeable populations. On 23 November 1697, the Spanish explorer Captain Juan Mateo Manje was traveling with Father Kino and described the scene in his diary: ". . . after going six leagues, we came to the settlement of San Agustin del Oiaur. . .Here the river runs a full flow of water, though the horses forded it without difficulty. There are good pasture and agricultural lands with a canal for irrigation." He counted 750 people in 186 houses, and at San Xavier, another 830 inhabitants were subsisting from irrigated fields. In 1699, Father Kino described the irrigated agriculture at San Xavier (and exaggerated its potential): "The fields and lands for sowing were so extensive and supplied with so many irrigation ditches running along the ground that . . . they were sufficient for another city like Mexico."

Father Kino and other Jesuit missionaries introduced wheat, fruit trees, and many other Old World crops. In contrast to native summer crops, wheat grew in the winter, an otherwise lean season in the annual food supply. Thus, winter wheat filled a gap in the agricultural cycle and allowed the O'odham to farm year-round. Its wide adoption had a major impact on the native agriculture and diet in the valley. Kino also introduced cattle, horses, sheep, and goats, which added livestock ranching to the local economy.

In the late 1730s, a mission farm and ranch was established at the O'odham village of Tchuvaca (later called Tubac), then a visita of the priest at Guevavi. Under Spanish overseers, the O'odham residents of Tubac cultivated both native and introduced crops and raised cattle, sheep, and goats. After a presidio was established there in 1752, Spanish soldiers and colonists

built a more extensive system of irrigated fields. A 1766 map of Tubac shows the main acequia diverting water from the Santa Cruz River to irrigate fields, and then returning the remaining water to the river. Historical documents also show that the O'odham mission at Tumacácori had to share its water with the downstream presidio at Tubac. The presidio's commander, Captain Juan Bautista de Anza, instituted a weekly water rotation in the 1770s.

The mission established at San Cosme (the first Spanish name for Tucson) in the 1750s included irrigated gardens and orchards by the 1770s, and the Sobaipuris and Papagos (now Tohono O'odham) living in the vicinity also irrigated fields on the western side of the river. A 1780 map shows a dam diverting water from the Río Santa Maria (the first Spanish name for the Santa Cruz) into an acequia (canal) through the mission at San Agustín (the mission's name after the 1770s, until it was abandoned in 1831). After the Tucson Presidio was built on the eastern side of the river, where downtown Tucson is today, the eastern floodplain was also irrigated by Spanish settlers. Increasing competition for the water of the river led to a 1776 agreement that guaranteed three-fourths for the Indian villages and one-fourth for the presidio. In the 1790s, however, the Indians' share was reduced to half.

Mexican Irrigation Communities

After Mexico gained independence from Spain in 1821, and new settlers began to arrive from the south, the traditional Sonoran system of irrigated agriculture was established on the banks of the Santa Cruz in Tucson. Mediterranean winter crops of wheat, barley, chickpeas, lentils, onions, and garlic followed native summer crops of maize, beans, squash, pumpkins, chili peppers, tobacco, and cotton. The three acequias madres (mother canals) were maintained as common property by a común de agua (irrigator community), and an elected zanjero (overseer) supervised water distribution.

The irrigation schedule was flexible, with water turns arranged according to varying crop needs, and water shortages were shared proportionally. First use of water was reserved for fields south of what is now St. Mary's Road, while fields to the north were irrigated only during relatively wet years. This northern area grew hay and was used as pasturage for cattle. The canal alignments, field boundaries, and property lines of this traditional irrigation system are recorded on a map surveyed during the Civil War by the United States Army. Below the modern ground surface, archaeologists have recently found some of the canals shown on that 1862 map.

In the Santa Cruz Valley south of Tucson, Mexican ranchers irrigated cattle pastures. In 1849, Jose Maria Martinez, former commander of the Tucson Presidio and a famous Apache fighter, cleared land east of San Xavier, on the western side of the river, and cut a ditch to the spring called Punta de Agua. The Acequia de Punta de Agua irrigated a field west of what became known as Martinez Hill, and the Agua de la Misión acequia irrigated O'odham fields at the mission.

American forty-niners passing through the area on their way to the California gold fields described the farmlands near Tucson and San Xavier as "rich and fertile to the extreme." In 1852, John Russell Bartlett, conducting a survey of the new border after the Mexican-American War, was impressed by the scene that greeted him in Tucson: "irrigating canals in every direction, the lines of which are marked by rows of cottonwoods and willows, presenting an agreeable landscape."

Early Anglo Water Development Schemes

The 1854 Gadsden Purchase opened the territory south of the Gila River to Americans, and newly arriving Anglos impounded the river at several points to provide heads of water to power flour mills. The remains of Solomon Warner's mill, built in the 1870s, can still be seen at the base of A-Mountain at the western end of Mission Lane. Agriculture was the next focus of Anglo attempts to profit from water development (although Hispanic businessmen were also partners). In the early 1880s, Samuel Hughes, W. C. Davis, and Leopoldo Carillo purchased floodplain land upstream of the traditional fields. They cleared them for new fields and excavated new, deeper ditches to increase the water supply to the vegetable gardens of their tenants, mostly Chinese who had arrived in the 1870s.

The impounding of water in reservoirs and the increased water use by the upstream entrepreneurs diminished the supply to downstream Mexican-American farmers, who fought for their water rights in court. However, in an 1884-1885 court ruling, the western United States law of prior appropriation was determined to supercede local customs. This ruling marked the beginning of the end for the traditional system of irrigated agriculture in Tucson.

In place of the irrigation community, corporations competed for the river's water. By 1891, 33 new ditches, comprising a total length of 56 miles, had been constructed in the Santa Cruz floodplain by corporate enterprises. In 1881, Sylvester Watts dug several wells on his property south of town and built a wooden flume in the bed of the river. Several additional wells near Eighteenth Street and Osborne Avenue supplemented this water supply, and an aboveground pipe was built to carry the water into town by gravity flow. The then-private Tucson Water Company began to provide water to homes and businesses on 6 September 1882.

Downcutting of the River through Tucson

During the swirl of land speculation and water development schemes in the late nineteenth century, the current form of the Santa Cruz River, a dry bed up to 20 ft below the top of the banks, was created by a combination of human error and natural disasters. Attempting to increase the water supply to his fields on the western side of the Santa Cruz River north of Saint Mary's Road, Sam Hughes constructed a new, deep ditch in 1887, to intercept the subsurface flow of the river. Large floods over the next four years caused the ditch to downcut to the water table lowered by drought and overgrazing, and caused the headcut to rapidly erode upstream (southward). Steady progression of the headcut and the channel's increasing width were reported with alarm in the newspaper. By 1910, the headcut had coalesced with another downcut segment near San Xavier, resulting in a deeply incised river channel through much of the middle Santa Cruz Valley. The effect on irrigated agriculture was disastrous. The downcutting of the main channel stranded canal intakes above the river, and other flood channels severely damaged canals.

New Waterworks for Tucson

In 1891, Frank and Warren Allison began work to repair the irrigation system on the western side of the river near Tucson. By 1895, they built a new reservoir near the old Warner Dam site and a large ditch that extended north to what is now Congress Street. The project was initially a success, but soon, their 1,160 acres of fields were accumulating crop-damaging salts as a result of intensive, uninterrupted irrigation. In 1895-1896, the Allisons built a new, 12-ft-wide

canal on the eastern side of the river after much of their west side land bcame too salinized for agriculture. From their new 10- to 15-ft-deep artesian wells at the foot of A-Mountain, the brothers built a wooden flume that carried water across the river to the eastern bank. The water in this 5-mile-long East Side Canal also powered a new flour mill just north of what is now Speedway Boulevard. It then irrigated their land to the north, which they called Flowing Wells after a new source of water they located there. The Tucson Canal Company, incorporated in 1896, financed the construction of another canal south of the Allisons', tapping a source near the San Xavier mission.

In 1902, the Allisons sold their property to Levi Manning, a surveyor and businessman who became Tucson's mayor in 1905. He further developed the well field below Sentinel Peak, drilling new wells to tap the now 20-ft-deep subsurface flow of the river. The East Side Canal soon became known as Manning's Ditch. By 1910, four main canals fed by Manning's wells were irrigating the floodplain west of Tucson.

A group of Chicago and British investors bought part of Manning's land in 1911. Upstream of Manning's Ditch they developed the "Crosscut"—a line of 19 new wells across the floodplain, ranging from 45 ft to 150 ft deep and connected underground by a horizontal shaft. Calling themselves the Tucson Farms Company, they also installed electric pumps, replaced the old flume across the river with a 4-ft-diameter concrete siphon below the riverbed, extended Manning's Ditch to a total length of 7 miles, lined some canal segments with cement, and added reinforced concrete headgates, drop structures, and lateral turnouts. The company peddled the land to Midwestern farmers for $200-300 per acre, but it was not a financial success. In 1922, a group of farmers formed the Flowing Wells Irrigation District and assumed control of the Crosscut and distribution system. A large flood in 1940 destroyed most of these waterworks, bringing an end to irrigated agriculture in the middle Santa Cruz Valley near Tucson.

The Plantations of Continental

During World War I, the supply of natural rubber from Asia was interrupted. President Woodrow Wilson asked businessmen Joseph Kennedy, Sr., J. P. Morgan, and Bernard Baruch to help the war effort by growing guayule, a native Southwestern shrub that yields latex, the raw material for rubber. The group purchased 9,700 acres in the northern part of Canoa Ranch, in the middle valley south of Tucson, from Levi Manning in 1916. The new Intercontinental Rubber Company drilled deep wells for irrigation water, constructed processing facilities, and built housing for workers in the new village of Continental. When the war ended, guayule was no longer needed and production ended before rubber was successfully extracted in large quantities.

From 1926 to 1937, Continental Farm was leased to grow long-staple cotton. Itinerant workers were trucked in each fall from Texas, and then returned to Texas after the harvest. During World War II, a prisoner of war camp was built on the farm, and some 40 German POWs worked in the fields. Sometime prior to 1945, Queen Wilhelmina of The Netherlands purchased a controlling interest in the farm from the original trio of businessmen, and continued to cultivate cotton. In 1950, the queen sold her land to the Farmer's Investment Company (FICO), established by Keith Walden and Henry Crown in 1942. FICO doubled the cotton planting to 3,400 acres in 1952, and then rotated cotton with barley and corn, and experimented with Spanish peanuts, vegetables, and wine grapes. Between 1965 and 1969, Continental Farm

planted 400,000 pecan trees on 5,000 acres after a wind-borne fungus damaged the cotton fields. The trees first started to produce pecans in 1970. Today, FICO cultivates some 4,500 acres of pecan trees—the largest irrigated pecan orchard in the United States.

The Rise of Cotton Farming in Marana

Originally a ranching and mining community along the Southern Pacific Railroad, Marana became primarily an agricultural center after World War I. In 1920, newcomer Edwin R. Post drilled a number of wells and constructed an extensive irrigation system. Many families migrated to the area to cultivate cotton between 1920 and 1924, and for a short time, the growing community was called Postvale. Wheat, barley, alfalfa, and pecans have also been cultivated since the 1940s, although the majority of Marana farmland has always been devoted to cotton. Since the 1980s, the amount of farmland has declined as farms have been converted to housing developments, but the area still has about 15 cotton farms. Durum wheat is exported to Italy for making pasta and is increasing in importance.

Agricultural Research and Crop Conservation

Since the Hatch Act of 1887 created the agricultural experiment station program, the University of Arizona (UA) has conducted research on arid land crops, irrigation, and range management in the Santa Cruz Valley. Currently in this region, the UA College of Agriculture operates the 200-acre Marana Agricultural Center, the 185-acre Campus Agricultural Center in Tucson, the 72-acre West Campus Agricultural Center, and the 50,811-acre Santa Rita Experimental Range southeast of Sahuarita.

Since 1983, the nonprofit Native Seeds/SEARCH organization based in Tucson has worked to prevent loss of crop biodiversity by conserving, documenting, and distributing traditional varieties of crops and their wild relatives in the Greater Southwest. They currently maintain a seed bank of 2,000 varieties of arid land-adapted crops and operate a 60-acre conservation farm near Patagonia where seeds are regenerated and crop varieties are evaluated. The organization also promotes traditional desert foods to combat diabetes among Native Americans, and works with federal agencies on conservation research in the 2500-acre Wild Chile Botanical Area within Coronado National Forest west of Tumacácori National Historical Park.

Using part of its water allotment from the Central Arizona Project canal, the San Xavier District of the Tohono O'odham Nation has also begun cultivating tepary beans, squashes, and other traditional crops on its Farming Co-op. The Kino Fruit Trees Project—supported by the National Park Service, the Arizona-Sonora Desert Museum, Desert Survivors Nursery, and Native Seeds/SEARCH—is identifying and collecting fruit trees in southern Arizona and northern Sonora, Mexico, that are descended from stocks introduced during the Spanish Colonial period.

The project will eventually replant the historical orchards at Tumacácori National Historical Park and the gardens of the San Agustín Mission that are being reconstructed by the City of Tucson. A variety of grape introduced to the Southwest during the Spanish period is also being cultivated by wine vineyards near Sonoita and Elgin.

Distinctiveness of Theme

The development of desert farming in the United States is a unique theme among existing National Heritage Areas. With its 4,000-year history of agriculture that continues today, and its many active crop conservation and reintroduction programs, this region is well-suited to interpret this theme through the framework of a National Heritage Area. Such a designation will create new opportunities for preservation of traditional crops and education of residents and visitors about the long agricultural history of this region.

Related Resources

Santa Cruz Valley residents and visitors have many opportunities to experience and learn about the agricultural heritage of this region. A number of farmers markets, pick-your-own farms, and research and conservation farms are open to the public. Grocery stores, delis, and specialty shops sell local foods, including wines, pecans, Mexican spices, cactus fruit products, desert wildflower honey, and others. Annual harvest festivals are held at wineries in Elgin. The Town of Marana is currently planning a Marana Heritage Park to interpret the agricultural history of this region. The Tucson Origins Heritage Park, being developed by the City of Tucson, will also have exhibits and gardens highlighting this theme. Tumacácori National Historical Park is working with local nonprofit groups on a project to replant its historic orchard with fruit trees descended from Spanish period stock. Many local companies sell local foods, including wines, pecans, spices, cactus fruit products, mesquite honey, and others.

Farmers Markets in the Proposed National Heritage Area

- Community Food Bank Farmers' Market, Tucson, Saturdays and Tuesdays 8:00 a.m.-12:00 p.m.
- Downtown Farmers' Market and Arts and Crafts Mercado, Tucson, Wednesdays 8:00 a.m.-1:00 p.m.
- Fresh Fridays, El Con Mall, Tucson, Fridays 1:00 p.m.-5:00 p.m.
- Horse Country Farmers' Market, Tucson, Saturdays and Sundays 10:00 a.m.-4:30 p.m.
- Main Gate Square Sunday Farmers' Market, Tucson, First Sunday of each month, 10:00 a.m.-2:00 p.m.
- Oro Valley Farmers' Market, Oro Valley, Saturdays 8:00 a.m.-12:00 p.m.
- Plaza Palomino Saturday Market, Tucson, Saturdays 9:00 a.m.-1:00 p.m.
- Rincon Valley Farmers' Market, Pima County, Saturdays 8:00 a.m.-1:00 p.m.
- Sonoita Growers Market, Sonoita, Saturdays, 9:00 a.m.-12:00 p.m., May-August
- St. Phillip's Plaza Farmers' Market, Tucson, Sundays 8:00 a.m.-1:00 p.m.

Pick-Your-Own Farms in the Proposed National Heritage Area

- Agua Linda Farm, Amado
- Douglas Apple Orchard, Elgin
- Forever Yong Farm, Amado
- Howard's Orchard, Catalina

Wineries in the Proposed National Heritage Area

- Arizona Vineyards
- Callaghan Vineyards, Sonoita
- Charron Vineyard, Vail
- Dark Mountain Winery, Vail
- Sonoita Vineyards, Sonoita
- Village of Elgin Winery, Elgin

Research and Conservation Farms in the Proposed National Heritage Area

- Campus Agricultural Center, University of Arizona, Tucson
- Marana Agricultural Center, University of Arizona, Marana
- Native Seeds/SEARCH Conservation Farm, Patagonia
- San Xavier District Farmers Co-op
- Santa Rita Experimental Range, University of Arizona, Pima County
- West Campus Agricultural Center, University of Arizona, Tucson

Annual Planting and Harvest Festivals in the Proposed National Heritage Area

- Autumn Harvest Festival, Tucson
- Blessing of the Seeds, Native Seeds/SEARCH Conservation Farm, Patagonia
- Blessing of the Vineyards Festival, Elgin
- Blessing of the Harvest Festival, Elgin

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RANCHING TRADITIONS (1680 TO PRESENT)

Summary of Theme

Our common ground—our ranchlands—are what have best preserved, as well as shaped, the vast natural and cultural landscape of the Santa Cruz Valley. Sweeping open spaces, recreational areas, refuge from the city, and home to sensitive biological systems and traditional rural communities are all the result of ranching, an extensive rather than intensive use of the land in the arid Southwest. Since the introduction of cattle, horses, and other livestock in the 1680s and 1690s, with the first Spanish *entradas* to establish ranches, mission communities, and military forts in the Santa Cruz Valley, ranching and farming have continued to be two mainstays of the rural economy for more than 300 years.

Most of the earliest cattle ranches in the Santa Cruz Valley were established at mission communities, but the Spanish and later Mexican governments also offered substantial land grants to civilians in an attempt to create wealth and a tax base, by attracting settlers to increase the population and productivity of the region and to expand their claims. Despite these efforts to develop the ranching potential of the area, few settlers actually lived on their land grants for long due to the ongoing threat of Apache attacks. Instead, many ranchers lived in military or mission communities for defense, only venturing out occasionally to visit their ranches and to assess their livestock. This pattern of settlement and ranching persisted until the American Territorial period, when ranchers began to move onto their ancestors' land grants. With the opening of the West after the Civil War, American and Mexican ranchers established new ranches and homesteads throughout the region, often sharing labor and mutual assistance. Today, the interplay of Hispanic, American, Mexican, and Native American ranching continues this historical and living tradition, providing a link to the past and to the future.

Description of Theme

Spanish Colonial and Mexican Periods and Land Grants

Ranching traditions in the Santa Cruz Valley derive from ancient traditions of domesticated cattle and livestock raising, which originated in the Old World from nearly the dawn of history. Remarkably, little is known about early Old World cattle. While they became basic to the economy of Eurasian civilizations, few writers found much to record about these mundane beasts. One thing that can be said with certainty is that by the early modern era, European cattle, although only one species, had attained a great variety of regional variation.

It is to the Spanish, adapting to conditions of the New World, that we owe much of the character of ranching in the American West. Although changed in numerous ways, the ranching today that serves a modern American market is also shaped physically and culturally by traditions brought by those first Spanish settlers. The institution of cattle ranching developed quickly in New Spain. The Spanish government knew that by encouraging cattle raising, its colonies would have a strong economic base. By 1600, cattle in the New World numbered in the hundreds of thousands. The first cattle ranch in the Santa Cruz Valley was established about 1680, by José Romo de Vivar, near San Lázaro in what is now the Mexican state of Sonora.

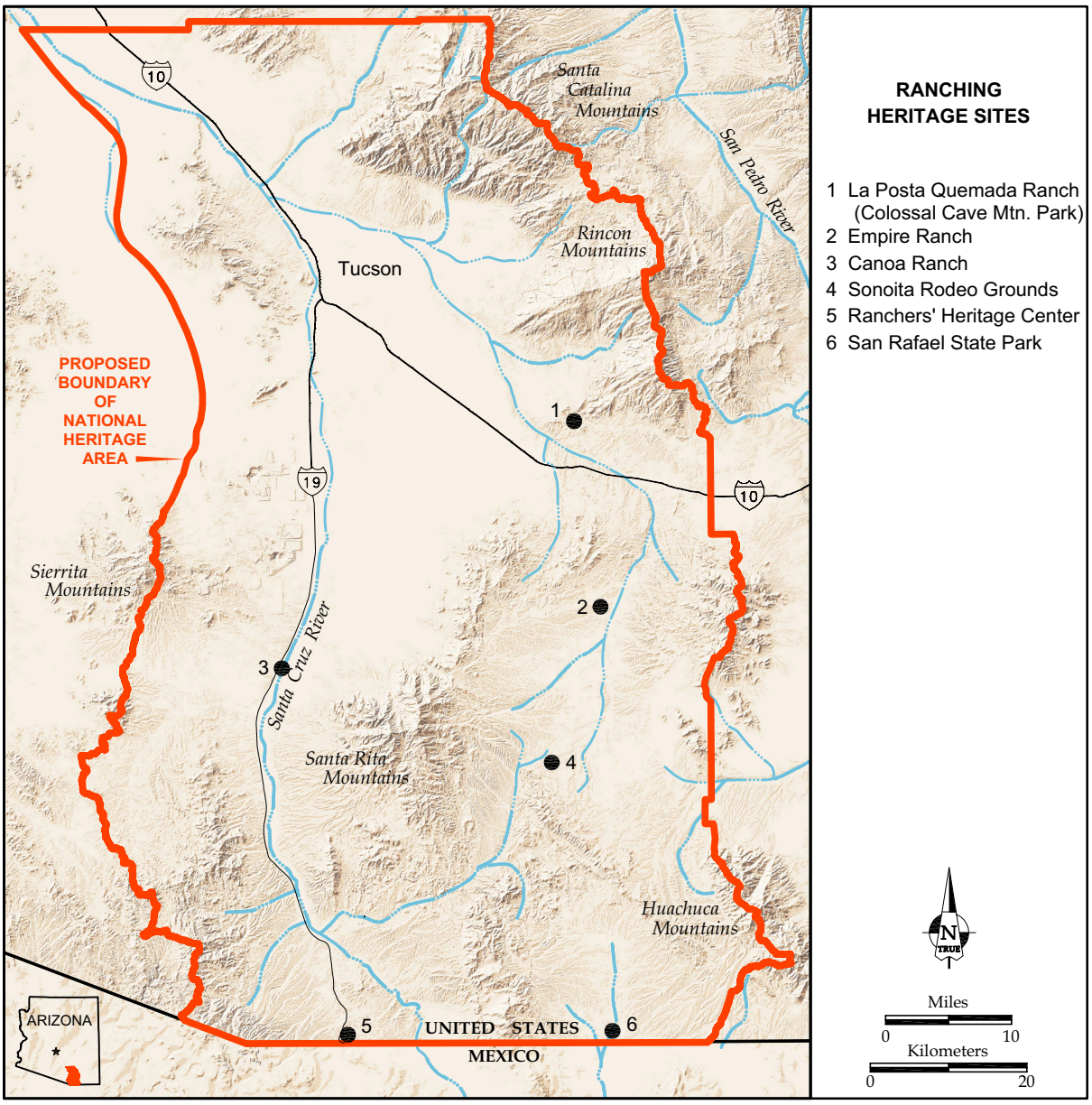
In 1591, missionaries of the Society of Jesus, the Jesuits, began their slow efforts at Christianizing the Indians in New Spain's northwestern frontier, also known as the Pimería Alta, which includes the Santa Cruz Valley. The most famous missionary in this region was Father Francisco Eusebio Kino, who brought cattle in large numbers to his missions. They would be the mainstays of the mission economies and a major attraction for Indian converts. He established numerous visitas (mission stations without resident priests) in northern Sonora and Arizona between 1687 and 1711, including Tumacácori**,** Guevavi, and San Xavier del Bac. Later, following the Piman Revolt of 1751, cattle ranching became focused at the military presidios of Tubac and Tucson.

In 1769, California was threatened by Russian settlement, and in 1773 and 1775, Juan Bautista de Anza led two expeditions to California from Tubac. Sixty-five cattle provided food on the hoof for the first expedition along the Camino del Diablo, or Devil's Highway. The second expedition included some 240 people, 695 horses and mules, and 355 cattle, who made the long journey to establish San Francisco along a different route, now commemorated as the Juan Bautista de Anza National Historic Trail.

Cattle ranching dominated other activities such as farming or mining in the Spanish colonial economy of this era. Large land grants helped establish the Elias, Ortiz, Herreras, and other Hispanic families permanently in southern Arizona. Petitions by settlers to both Spain and Mexico resulted in 18 land grants that would later become the focus of land ownership disputes following the Gadsden Purchase of 1854, which brought the Santa Cruz Valley into the United States. Tomas and Ignacio Ortiz received a large land grant at San Ignacio de la Canoa along the Santa Cruz River in 1821, and the Ortiz brothers acquired another grant at Arivaca in 1833, as shown in Table 4.4.

Table 4.4. Spanish Land Grants in the Santa Cruz Valley and other parts of Southern Arizona (from Walker and Bufkin 1986).

Name of Land Grant	Acreage Claimed	Acreage Approved or Rejected
Tumacácori/Calabazas	81,350	Rejected
San Ignacio de la Canoa	46,696	17,204
Buenavista (María Santísima del Carmen)	17,354	5,733
San José de Sonoita	7,593	5,123
El Sopori	141,722	Rejected
San Rafael de la Zanja	152,890	17,352
Aribaca	8,677	Rejected
Los Nogales de Elías	32,763	Rejected
San Bernardino	13,746	2,383
San Ignacio del Babocomari	123,069	33,792
Tres Alamos	43,385	Rejected
San Rafael del Valle	20,034	17,475
Agua Prieta	68,530	Rejected
Ranchos de las Boquillas	30,728	17,354
San Pedro	38,622	Rejected
Algodones	21,692	Rejected
Otero (Tubac Claim)	1,199	Claim not filed
Total	850,050	116,416



Ranching heritage sites in the proposed National Heritage Area.

The early years of the Mexican Republic saw turmoil throughout the country. Warfare continued, and by the 1840s, most Mexican ranches in the Santa Cruz Valley were abandoned and cattle herds grew wild. American travelers through Arizona in the 1840s reported vast herds of wild cattle, and range conditions were noted as excellent. However, by the 1850s, wild cattle were exterminated from the Arizona range. The cause was simply the continuous slaughter of wild cattle by Apaches, American soldiers, civilians, and gold-seekers crossing Arizona in the 1850s. These forces overwhelmed the natural ability of the animals to reproduce.

An era had literally come to an end, but it is clear that the introduction of cattle and other livestock during the Spanish and Mexican periods forever changed the Native population and created a legacy of cattle ranching and traditional land uses in the Santa Cruz Valley.

While the Spanish and Mexican land grants created numerous legal entanglements to be resolved under American rule, the land grants also shaped land ownership and tenure that continues today.

While ranching was in a period of transition, it was about to become an ever more critical industry that would affect even greater change in Territorial Arizona, with the advent of the American period.

American Territorial Period and Homesteading

Through the 1850s, Arizona was a little more than a passageway for gold seekers and emigrants traveling to California. In the late 1850s, the Butterfield Overland Stage Company opened regular services across the desert Southwest, followed, in 1880, by the completion of the Southern Pacific transcontinental railroad line through Tucson and Pima County. People trailed their cattle and oxen (steers) along with them.

Through the 1850s, until the start of the Civil War, herds of Texas longhorns passed annually across southern Arizona on their way to California. A popular writer, J. Ross Browne, traveled across Arizona in 1864, and commented that the Gándara or Calabasas ranch was

> . . .one of the finest in the country. It consists of rich bottom lands and rolling hills, extending six leagues up and down the Santa Cruz River by one league in width, embracing excellent pasturage and rich arable lands on both sides. . .At present, however, and until there is military protection in the country, it is utterly worthless, owning to the incursions of the Apaches.

Trailing Texas cattle across to California accounted for most of the industry's activities during the 1850s. One of the first Americans to establish a permanent ranch in the Santa Cruz Valley was Pete Kitchen. Realizing the potential of the grasslands along the Santa Cruz River, Kitchen decided to try ranching on Potrero Creek, which empties into the Santa Cruz just north of Nogales. The adobe headquarters he built were practically a small fortress, and defense against hostile Apaches proved a great challenge. When federal troops were withdrawn from the territory at the beginning of the Civil War, Kitchen, almost uniquely, managed to hold onto his ranch.

Along Cienega Creek, a tributary of the Santa Cruz River, is a broad expanse of rolling hills, and good grass and permanent water that attracted cattlemen and sheepmen early. D.A. Sanford and Tom Gardiner started some of the first small ranches in the area. Other names of early ranchers in the valley include Wakefield (1870s), Hilton (1877), and O'Leary (1880). In 1880, the Cienega Ranch ran 1,000 cattle and 23,000 sheep. Big money and big ambitions moved into this area in 1876, when Walter Vail, in partnership with two Englishmen, bought the 160-acre Empire Ranch and 612 cattle. Vail bought surrounding ranches until his spread lived up to its name. Up to 50,000 cattle grazed on the Empire at its height, and Vail controlled nearly 1000 mi^2 of range, stretching from the Mexican border to the Rincon Mountains. Vail understood that to get a good return in Western ranching, one had to make sizable investment in land, cattle, and improvements. The Empire and Cienega ranches continue as working ranches today.

Another of the great cattlemen of southern Arizona was Colin Cameron. He and his brother Brewster made a fortune in banking and railroading, and in 1882, they started ranching in the

Santa Cruz Valley in a big way, purchasing the San Rafael land grant. Cameron built a veritable palace on the range, and from it, he ruled over a ranch that dominated 600,000 acres. The San Rafael, also, continues as a working ranch today, with part of it being developed as San Rafael State Park and Natural Area.

It is important to note that the arrival of American ranchers into the Santa Cruz Valley did not end the importance of Hispanics in the ranching business. With the decline of Indian warfare, the Otero, Pacheco, Elías, Ruelas, León, Ortiz, Ramírez, Amado, and other old families returned to ranching. Newcomers from Mexico included the Carrillo, Aguirre, Robles, and Samaniego families. Many others earned their living working on ranches all across Arizona.

While there had been many relatively dry years from the 1860s through the 1880s, the great drought of the 1890s was particularly tragic and had a significant effect on the landscape. The number of cattle, as well as other forms of livestock, increased to record highs by 1890. After 1893, the number of cattle declined, but overgrazing had significantly changed the landscape.

The Start of the Modern Cattle Industry

The disastrous drought of 1891-1893 forced ranchers who wanted to stay in the business to reorganize and take a different approach to cattle raising. In the 1880s, ranchers tried to raise and feed the largest herds for sale to the beef markets of California and other parts of the nation. In the new cattle business, Arizona ranchers increasingly specialized in breeding superior beef animals and then shipping them to other states for fattening. On the range, a system of paying grazing fees for use of the public domain institutionalized the stockman's right to use the land. With long-term use of the land assured, ranchers could make capital improvements by building water tanks and fences. By limiting the number of cattle, investing in the land, and practicing good management, ranchers ultimately created the conditions for a gradual recovery of the land and their herds.

The open range gave way to stock raising as a modern business enterprise. Ranches in the Santa Cruz Valley continued in operation, despite earlier setbacks, by using a mosaic of grazing leases, including private homesteads, and Forest, State, and Bureau of Land Management lands. Numerous small ranches were consolidated, and some of the large ranches operating in the Santa Cruz Valley included the Empire and Cienega ranches, the Babocomari Ranch, Sopori, San Ignacio de la Canoa land grants, San Rafael, Buena Vista, El Potrero, Rhodes Ranch, Reventon, Amado, Moyza Ranch, Rancho Seco, Santa Lucia, Arivaca Ranch, McGee Ranch, Santa Rita Ranch, Steam Pump, and others. Many of these ranches continue in operation today.

Both World War II and the postwar years saw a great boom in the cattle industry. The typical ranch in the Santa Cruz Valley was a cow-and-calf outfit, producing calves and yearlings for fattening elsewhere in the country. On the land, both private and government efforts and ranchers themselves had developed springs, wells, concrete dams, and thousands of earthen tanks to assure a ready supply of water. Where range cattle in the pioneer era relied on natural sources of water, by 1950, it was said that cattle rarely had to travel more than 2 miles to find water.

When World War II ended, Tucson and the Santa Cruz Valley entered a new time of transition—from a small Southwestern city with an agricultural base to a growing metropolitan area,

Another unique theme for the National Heritage Area will be cattle ranching, one of the primary land uses in Santa Cruz Valley for more than three centuries.

whose growing population was estimated to increase at a rate of 1,000 people per month. From a population of 32,500 in 1930, the Tucson metropolitan area has grown to about 213,000 in the 1960s, or 555 percent in 30 years. The Tucson metropolitan area currently has about 850,000 residents; however, it is those remaining ranches, their grazing leases, and public land preserves that form the urban boundary and preserve our ranching traditions in the Santa Cruz Valley, as well as our natural and cultural landscape—our common ground.

Distinctiveness of Theme

While ranching is certainly a way of life that continues throughout the West, the high desert grasslands of the Santa Cruz Valley has always been a cultural crossroads on the frontier of settlement, where ranching has so profoundly shaped our cultural and natural landscape, land-use patterns, economic development, urban form, cultural composition and traditions, and self image. Deeply rooted in the Spanish Colonial, Mexican, and American Territorial periods, ranching has been the primary land use of the Santa Cruz Valley for 300 years, whether along the actual course of the Santa Cruz River or along its tributaries and mountain uplands. Ranching today persists as testimony to those Spanish missionaries who introduced cattle, horses, and other livestock, Hispanic and Mexican settlers who established land grant ranches, American families who homesteaded lands that continue in family ownership today, and to all those who endured the many hardships of ranching on the frontier in a harsh environment. Descendants of these explorers, pioneer settlers, adventurers, soldiers, and even the

descendants of Spanish horses and cattle, continue a living tradition and a living landscape in the Santa Cruz Valley that is like no other in the nation.

Related Resources

Santa Cruz Valley residents and visitors can learn about the long history of ranching in this region and experience working ranches by visiting the Empire Ranch in the Cienega Valley and La Posta Quemada Ranch at Colossal Cave Mountain Park near Tucson. Pima County is restoring historic ranch buildings and developing interpretive exhibits at Canoa Ranch, and Arizona State Parks is restoring the historic Cameron ranch house at the new San Rafael State Park. The Ranchers' Heritage Center in the 1904 Courthouse in Nogales has exhibits about the history of ranching in this region. The Sonoita Quarterhorse Show showcases the most famous horse breed of this region. The rodeo traditions of the Santa Cruz Valley are celebrated at the annual Fiesta de Los Vaqueros Rodeo and Parade, and also the Sonoita Rodeo, among the oldest rodeos in the country.

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MINING BOOMS (1680 TO PRESENT)

Summary of Theme

Historically, one of the most important economic activities in the proposed Santa Cruz Valley National Heritage Area was mining of precious metals. Gold and silver mining began with the arrival of the first Spanish colonists during the late seventeenth century. However, historians have concluded that the legends of lost mines and treasures of early missionaries are nineteenth-century fabrications, and that mining was not of major importance on this part of the Spanish and Mexican frontiers. Mining became more important after the region became part of the United States in 1854. Repeated mining rushes for gold and silver created boomtowns that briefly flourished and were then abandoned because of dangers of Apache attacks, sudden drops in the market values of the metals, or depletions of quality ores. Although a few gold discoveries received a great deal of interest, silver was the main metal that was mined.

At the end of the nineteenth century, a collapse in the value of silver and the new demand for electrical wire shifted the focus to copper mining. For more than 100 years, the region has been one of the most important producers of copper in the world. Copper mining in the Santa Cruz Valley has also experienced many up and down cycles, but it continues to be important today. While copper mines are increasing production again, ghost towns and old mines throughout the region are visible reminders of numerous mining booms and busts over several centuries.

Description of Theme

Spanish Period Mining

The search for precious metals was one of the drives behind the northward expansion of the frontier of New Spain, including the Santa Cruz Valley. Contrary to legends that have circulated since the mid-nineteenth century, the earliest missionaries who worked in the Santa Cruz Valley between the 1690s and the 1760s probably did not do any mining in this region or elsewhere in New Spain, because they were forbidden by their Jesuit order. The first Spanish miner in this region was probably José Romo de Vivar, who established a ranch at San Lázaro on the upper Santa Cruz River in about 1680; he also founded the mining town of Bacanuchi 50 miles to the southeast.

A large number of Spanish prospectors were attracted to the region in 1736, when the unusual Planchas de Plata (Slabs of Silver) discovery was made near the Tohono O'odham village of Arizonac (from which the territory of Arizona took its name in 1863). In this location—about 1 mile south of what became the United States-Mexico border, and not far west of the twin border cities of Nogales—156 arrobas, or a little over 2 tons of silver, were removed from the ground surface in a short amount of time.

Early historical documents also record that Spanish colonists were mining gold and silver deposits in the Santa Rita Mountains and in the area of the Guevavi mission before they fled during the Pima Revolt of 1751. Although colonists returned to the valley after a presidio was established at Tubac the following year, the Santa Cruz Valley was largely abandoned again during the 1760s, due to increasing Apache attacks. Some settlers returned during the 1770s,

and resumed work in some of the silver mines in the Santa Rita Mountains, introducing the amalgamation method of processing silver ore with mercury.

A presidio on the San Pedro River was moved to Soamca on the upper Santa Cruz River in 1787, providing increased protection to the region. Over the next 30 years, old silver and gold mines were reopened and new ones were started around Tubac and Tumacácori, as well as along Arivaca and Sonoita creeks. In 1814, Yaqui Indians were brought northward to work gold mines near the Guevavi Mission. Mining continued after Mexico won independence from Spain in 1821, although Apache raiding continued and prevented little further development.

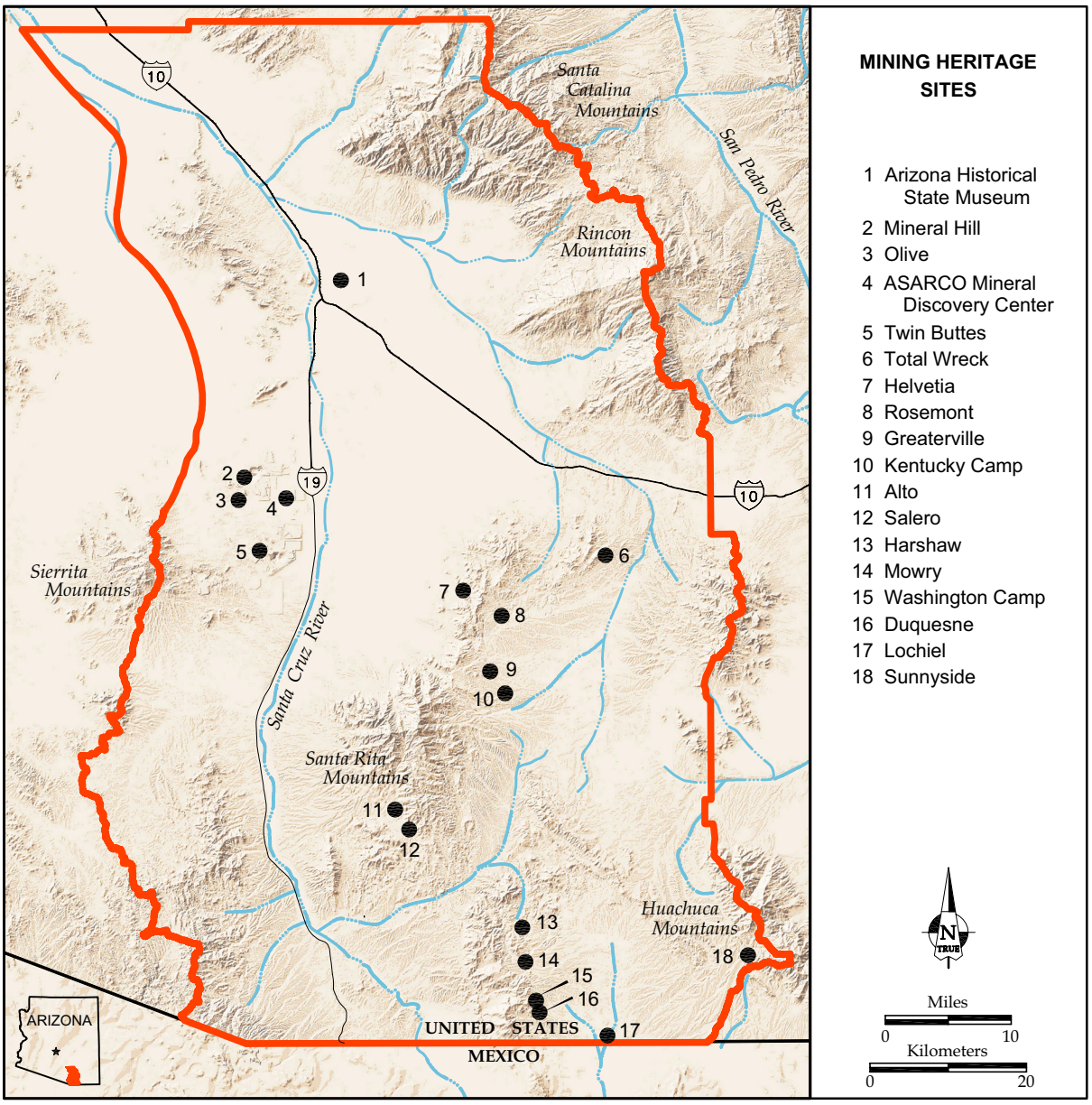
Despite all the mining activities documented in Spanish colonial, missionary, and early Mexican records, the Santa Cruz Valley was never a major mining region before it became part of the United States. The ore deposits were generally shallow, and there were many obstacles to mining in a frontier region vulnerable to Indian attacks and far from sources of mining supplies. While some discovered deposits were very valuable, the total amount of wealth obtained was relatively limited.

American Mining Before the Civil War

Embellished stories of the Spanish mines brought Anglo-Americans into the area following the Gadsden Purchase in 1854, when the region became part of the United States, and after the easily worked placer deposits in California were cleaned out during the California Gold Rush. In 1856, the Sonora Exploration and Mining Company was founded by Charles D. Poston (who would become known as the Father of Arizona) and Samuel P. Heintzelman. They established their headquarters in the abandoned ruins of the Tubac Presidio and reopened about 20 old silver mines in the Santa Rita Mountains along Sópori Wash, and in the Cerro Colorado area west of the Santa Cruz Valley. The following year, the San Xavier Silver Mining Company built adobe furnaces on the Santa Cruz River at Punta de Agua, approximately 3 miles south of the San Xavier Mission. The Salero Mining Company purchased a Spanish silver mine in the Santa Rita Mountains that was originally worked in the early 1700s.

In 1858, the Santa Rita Company split from the Sonora Exploring and Mining Company and took over the mines in the Santa Rita Mountains. It established headquarters at the Hacienda de Santa Rita near the abandoned mission at Tumacácori. The following year, a printing press was brought from Ohio to Tubac, and the first newspaper in Arizona, the *Weekly Arizonan*, began with the support of the two related mining companies. Also in 1859, the firearms inventor and manufacturer Samuel Colt became chief stockholder of the Sonora Exploration and Mining Company and replaced Heintzelman as president. Colt also invested in the Sopori Land and Mining Company and the Arizona Land and Mining Company in the Santa Cruz Valley.

During this same period, soldiers stationed at Fort Buchanan at the head of Sonoita Creek began prospecting in the Santa Rita and Patagonia ranges. Several of the soldiers joined together in 1858 to purchase the Corral Viego Mine from a Mexican prospector, and they sunk shafts and built furnaces at the renamed Patagonia mine. The following year, the Patagonia Mine was purchased by Lieutenant Sylvester Mowry from nearby Fort Crittendon. The renamed Mowry Mine eventually became an enormous success, with a population of several hundred and 12 blast furnaces reducing the rich silver and lead ore into bars.



Mining heritage sites in the proposed National Heritage Area.

United States troops were withdrawn from the region at the start of the Civil War in 1861, and many mines closed due to increased raiding by Apaches who thought they had defeated the troops, and because of rebellions by oppressed Mexican laborers who thought the United States government had collapsed. The Mowry Mine was one of the few mines that continued, and many miners went there seeking protection in numbers. However, when Union troops returned in 1862, Mowry was arrested under the charge of selling lead to make Confederate bullets. The mine was auctioned and then poorly managed by Union agents, and the mine never again reached levels of significant production. New owners brought the Mowry Mine back into production in the 1890s, and the population swelled to 200. This new boom only lasted a short time, and the camp was largely abandoned again by 1913.

Ghost towns are reminders of several gold and silver mining booms and busts in the Santa Cruz Valley since the 1860s.

Mining will be another distinctive theme of this National Heritage Area.

Gold and Silver Mining After the Civil War

More United States troops returned after the Civil War ended, and renewed military protection encouraged American prospectors to begin mining small placer gold deposits (places where native gold had weathered out of bedrock and become concentrated in nearby streambeds) in the Tucson, Sierrita, and Santa Rita mountains. Larger deposits were discovered in those and other mountain ranges through the 1870s. In 1874, a major gold discovery in the eastern Santa Rita Mountains led to the development of Greaterville, with about 500 residents, and nearby Kentucky Camp. However, these towns were abandoned when the gold played out in 1886.

A large vein of silver was discovered in the Santa Rita Mountains in 1877, giving rise to the boomtown of Harshaw. By 1880, the Hermosa Mining Company built a stamp mill and the town had about 2,000 residents, a mile-long main street with seven saloons, and its own newspaper. Damage from storms and a fire and decreasing ore quality forced closure of the Hermosa Mine in 1882, but mining began again on a smaller scale in 1887. In 1903, the new mine owner died, the price of silver dropped, and by 1909, the town was abandoned once again. A final period of occupation lasted from 1937 to 1956, when the Arizona Smelting and Refining Company (ASARCO) worked some nearby mines.

South of Harshaw in the same mountains, Washington Camp was settled by silver miners in the 1870s, but it did not prosper until it was purchased by the Duquesne Mining and Reduction Company in 1889. The company headquarters were established in nearby Duquesne, and a reduction plant was built in Washington Camp. During the 1890s, the towns of Duquesne and Washington Camp were headquarters for the owners of more than 80 mining claims covering 1,600 acres. By 1900, both towns reached their peak populations of around 1,000 each. The post office that served both communities was closed in 1920, but the two old mining camps still have a few residents today.

A little farther south, on the border with Mexico, the few residents of the town of Lochiel are all that is left of a thriving mining and ranching community that developed in the 1880s, and had two smelters and a peak population of 400. The Mexican revolutionary Pancho Villa and his men frequently came across the border in this area to rustle cattle.

Banks were needed to handle the money generated by the the mining rushes, and the first bank in southern Arizona, named the Pima County Bank, opened in Tucson in 1879. Many silver mines and banks in the Santa Cruz Valley and in the rest of southern Arizona closed when the Sherman Silver Act was repealed in 1893, as silver dropped from $1.25 to $0.25 an ounce, bringing an end to the post-Civil War mining boom.

Early Copper Mining

Mining in the Santa Cruz Valley and elsewhere in southern Arizona became focused on copper beginning in the late 1880s, and the advent of the electrical age and World War I increased the demand for copper during the next three decades. While some copper mines and associated settlements developed in the Santa Cruz Valley, the most important mines and all the smelters were opened in neighboring valleys between 1885, and the end of World War I. By 1900, copper production in southern Arizona had risen to three times the value of Arizona's combined gold and silver production, and this region led world copper production by 1907.

In the Santa Cruz Valley, Helvetia was one of the richest copper mines during the 1880s and 1890s, operated by the Helvetia Mining Company after 1891. Copper mining began in the Sierrita Mountains in the Twin Buttes region about 1870, and by 1903, the Twin Buttes Mining and Smelting Company was operating several shaft mines, and a major mining camp had sprung to life. Establishment of a post office and completion of the Twin Buttes Railroad branch connected the boomtown of Twin Buttes—with some 300 residents—to the Southern Pacific Tucson-Nogales line at Sahuarita in 1906.

During World War I, demand doubled the price of copper and stimulated another mining boom in southern Arizona. However, the fall in demand after World War I resulted in the closing of many copper mines, leaving another trail of ghost towns in the Santa Cruz Valley and other parts of southern Arizona.

Modern Copper Mining

World War II again increased the demand for copper, although it was not until the development of open-pit mining, in the 1960s, that copper mining resurged in the Santa Cruz Valley and other areas of southern Arizona. The Anaconda Mining Company began a large operation at

Twin Buttes during that decade. By 1976, the four open-pit mines in the Santa Cruz Valley produced 10 percent of the nation's copper and employed 5,000 workers. In the late 1970s, there were still several producing copper mines in the Santa Cruz Valley—all located in the Pima Mining District in the Sierrita Mountains.

During the 1980s, an extended depression in the copper mining industry began as a result of subsidized foreign competition and a deflated value for copper in world markets. By the mid-1980s, most of the copper mines in southern Arizona were idle, or working at greatly reduced capacities. During the same period, just south of international border, copper production was increased at Cananea, and a new major smelter was built at Nacozari. In 1999, the parent company of these facilities, Grupo México, bought ASARCO, which has operated mines and smelters in southern Arizona for more than 100 years. Today, copper mining is again on the rise in the Santa Cruz Valley in response to the climbing value of the metal in world markets.

Distinctiveness of Theme

The National Coal Heritage Area in West Virginia and three National Heritage Areas in Pennsylvania (the Delaware and Lehigh, Lackawanna Valley, and Schuylkill River Valley National Heritage Areas) have coal mining as a central theme. However, no other existing or planned National Heritage Area has precious metal mining as a theme or a working landscape, and this will be one of the distinctive features of the proposed Santa Cruz Valley National Heritage Area. Mining of gold, silver, and copper is an important part of the story of the western United States, with beginnings in the Spanish and Mexican periods.

Mining continues to be an important economic activity, shaping the landscape and lives of residents of the Santa Cruz Valley. Local residents and tourists can learn about the history of mining in this region by visiting well-preserved ghost towns and museums. Designation of a Santa Cruz Valley National Heritage Area will increase awareness about the important role of mining in the history and economy of this region, and it will encourage heritage tourism.

Related Resources

Residents and visitors can learn more about the history of mining in the Santa Cruz Valley at two local museums. The main **Arizona Historical Society Museum** in Tucson has a large permanent exhibit that includes replicas of a mine shaft, typical buildings, rooms, and furnishings in mining camps, as well as displays of mining artifacts. Near Green Valley, the **ASARCO Mineral Discovery Center** has exhibits of local mining artifacts, including a wooden headframe for a mineshaft, pumps, engines, hoists, and rail ore carts.

A number of mining ghost towns can be visited, although some are on private property, so "No Trespassing" signs must be obeyed. The Forest Service acquired **Kentucky Camp** (1874-1904) in 1989, as part of a land swap, and has worked with volunteers to stabilize the five remaining buildings. This historic mining camp is open to the public, and visitors can rent a restored three-room adobe building for an overnight stay (contact the Nogales Ranger District of Coronado National Forest). The 1887 brick home of James Finley in **Harshaw** (1873-present) has been carefully preserved. Some intact adobe buildings are occupied by current residents, and several crumbling adobe structures can be seen from the road. The remains of **Mowry**

(1857-1913), one of the oldest mining camps in Arizona, is on private property, but can be seen from the Forest Road that bisects the townsite. In the small community of **Lochiel** (1884-present), the historic cemetery is on a hilltop overlooking a church and the old United States Customs station; there is also an adobe one-room schoolhouse, built in 1918. All of these buildings are on private property, but can viewed from the road.

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UNITED STATES MILITARY POSTS ON THE MEXICO BORDER (1856 TO PRESENT)

Summary of Theme

The operations and posts of the United States military are an important part of the history of the Santa Cruz Valley. The first United States Army post was established here in 1856, soon after the region was purchased from Mexico. The first duty was to protect mines and ranches from Apache attacks, which escalated just before troops were withdrawn at the beginning of the Civil War to be redeployed in the East. For a few months in 1862, the Confederate flag flew over the region, until Union troops arrived from California and recaptured it following the westernmost skirmishes of the Civil War. In 1865, United States troops were moved closer to the border to defend it against French troops that had invaded Mexico and occupied Sonora. Between 1866 and 1886, several new posts were established, and this region was the frontline of major campaigns to pacify the Apaches.

A new post was established in Nogales in 1910, when the Mexican Revolution threatened to spill across the border. In 1916, this region was a staging area for the Punitive Expedition led by General John J. Pershing; it crossed into Mexico in pursuit of Pancho Villa after he attacked a town in southern New Mexico. Until the beginning of United States involvement in World War I, the military presence was swelled by National Guard units mobilized from western states to protect the border. From 1918 until 1933, the border was guarded by African-American cavalry and infantry regiments known as Buffalo Soldiers.

During World War II, airfields established in the region were important training bases. Due to the dry climate of the area, thousands of decommissioned aircraft have been stored here since the end of World War II. Bomber groups and intercontinental missiles deployed here were critical parts of the national defense during the decades of the Cold War. Today, Davis-Monthan Air Force Base continues to serve important roles for the United States military and the local economy.

Description of Theme

Securing New American Territory

The first expedition of the United States Army into the region was by the Mormon Battalion in 1846, passing through on its way to help seize California during the Mexican War. The Santa Cruz Valley was included in 30,000 mi^2 of northern Sonora that became part of the United States after the Gadsden Purchase was approved by Congress in 1854. American troops did not immediately take control of the new territory, which is now southern Arizona and southwestern New Mexico. It was two years later, when four companies of the 1st Dragoons cavalry regiment arrived from New Mexico to replace the small Mexican garrison that had remained at the Tucson Presidio to protect the residents.

The commander of the United States force, Major Enoch Steen, did not approve of the housing, water, pasture, or people in Tucson. Disobeying his orders to establish a post there, he led his men 60 miles south and set up Camp Moore near the recently reoccupied ranch at Calabazas. The hacienda there was built in the ruins of a Spanish period mission *visita* at the confluence

of Sonoita Creek and the Santa Cruz River, long abandoned due to Apache raids. Renovated ranch buildings served as quarters for Major Steen and his family.

With the arrival of military protection, the ranch, leased to the post by the ex-Governor of Sonora, quickly swelled with American squatters. Ignacio Pesqueira, the new governor, allowed quartermaster wagons to cross into Sonora for supplies. The following year, Steen received orders from Colonel Benjamin Bonneville, the departmental commander in Santa Fe, to move closer to Tucson. Deriding Tucson as inhabited largely by peddlers of whiskey and flesh, Steen instead moved his camp 25 miles northeast to the headwaters of Sonoita Creek. The new post was named Fort Buchanan in honor of the recently inaugurated President James Buchanan.

In May and June of 1857, a major campaign was conducted against the Apaches under the orders of Colonel Bonneville. A large detachment from Fort Buchanan was led by Captain Richard S. Ewell, as Major Steen was ill with malaria. Joined by troops from forts in New Mexico, the force searched the rugged mountains along the present Arizona-New Mexico line until it found and attacked an Apache camp on the upper Gila River.

Unhappy Outpost

Both health and morale were chronically low at Fort Buchanan, one of the most remote posts in the country. Malarial mosquitos bred in nearby marshy cienegas, making it an unhealthy place to live. In 1858, the post doctor reported that only two occupants of the fort remained free of malaria. Housing for the soldiers was also inadequate, consisting of crude huts constructed of upright logs, with the gaps chinked with mud and roofs of mud. Scattered over a half-mile area, the huts were not protected by a surrounding palisade, and Apaches often prowled through the post at night.

In 1858, two of the four companies of 1st Dragoons at Fort Buchanan left for California, and the following year, another company was relieved by a company of the 8th Infantry. A detachment of the Mounted Rifles also arrived from New Mexico. The new garrison was poorly equipped. For the 93 soldiers, there were only 56 horses, many of them worn-out steeds left over from the Mexican War. Mules were also used during field operations, and proved to be better suited to the long treks and rough terrain. The soldiers were issued variations of eight different types of firearms, but most of the ammunition was of one kind, so many weapons were useless. Despite these obstacles, under the command of Lieutenant Colonel Isaac V. D. Reeve of the 8th Infantry, the troops of Fort Buchanan conducted several campaigns in reprisal of Apache raids in the region, with the largest campaign being conducted in November 1860.

Escalation of Conflicts with Apaches

When a company of the 1st Dragoons returned in 1860, the 8th Infantry left to establish Fort Breckinridge on the nearby San Pedro River. The Dragoons at Fort Buchanan were soon relieved by the 7th Infantry, commanded by Lieutenant Colonel Pitcairn Morrison, for which the post became regimental headquarters. Shortly after this, Fort Buchanan became the focus of a famous incident that escalated hostilities between Apaches and Americans.

In January 1861, a group of Apaches attacked Johnny Ward's ranch on Sonoita Creek, stealing cattle and abducting Ward's stepson, Féliz Martínez. Under the impression that Chiricahua

Apaches were responsible, Ward traveled upstream to Fort Buchanan and asked the commander to send troops east to Apache Pass to retrieve the boy and the cattle. Morrison sent a company under the command of Second Lieutenant George Bascom, fresh from West Point. Under a flag of truce, Bascom met with Cochise, leader of a band of Chiricahuas camped nearby. Cochise told Bascom that a band of Coyoteros (White Mountain Apaches) had committed the raid. As insurance for the boy's return, however, Bascom seized and took prisoner Cochise and the six others in his group, which included three relatives. Witnesses report that an infuriated Cochise jumped up, slashed an opening in the tent wall with a knife, and escaped in a hail of gunfire. The six others were still hostages. Cochise stayed near and kept close watch on the military camp, and he was quickly joined by other Chiricahua Apaches and some warriors of the White Mountain band.

Over the next two months, a series of negotiations for hostage exchanges, more betrayals by Bascom, and violent reprisals on both sides resulted in the execution of Cochise's companions, the killing of 150 Americans, the destruction of five Butterfield Stage stations, and ambushes of a wagon train and a stagecoach. In February, more troops from Fort Buchanan and Fort Breckenridge reached Apache Pass and the Indians scattered. The kidnapped boy, Féliz, remained with the Indians and later became the noted United States scout Mickey Free, but the Bascom Affair had started a long war between the United States and the Apaches.

At the beginning of the Civil War later in 1861, United States troops in the Santa Cruz Valley and every other post in Arizona were ordered east. Fort Buchanan was burned to prevent it from being used by Confederate soldiers. Camp Lowell, established the previous year in what is now downtown Tucson, was abandoned. Thinking they had defeated the Americans, the Apaches scavenged for usable items at the abandoned forts and increased their raiding in the region. Almost every mine, ranch, and town had to be abandoned. The only holdouts against the Apaches were the town of Tucson; Sylvester Mowry's silver mine, swelled with miners from other claims seeking protection; and Pete Kitchen's ranch on Potrero Creek, just north of the United States-Mexico border. Kitchen described the stops on the dangerous road to Sonora as "Tucson, Tubac, Tumacácori, and to Hell."

The Civil War on the Border

The Confederate Territory of Arizona, including most of what is now southern Arizona and southern New Mexico, was designated in 1861 by Lieutenant Colonel John R. Baylor of the 2nd Texas Mounted Rifles. The Confederate government in Richmond, Virginia, quickly recognized the territory, defined as all of the Territory of New Mexico that lay south of the 34th parallel. General Henry H. Sibley, commander of the Confederate Army of New Mexico, ordered Captain Sherod Hunter from Baylor's regiment to Tucson to establish headquarters there.

Hunter arrived in Tucson with less than 70 men in February 1862, and raised the Confederate flag. Numerous southern sympathizers were among the Anglo residents. Many were from southern states, but there was also widespread anger against the United States for withdrawing all military protection from the Apaches. The few remaining Union sympathizers were rounded up, and those who did not swear an oath of allegiance to the Confederacy were forced to leave town and forfeit their properties. Gaining some recruits in Tucson, Hunter's Arizona Rangers were able to secure 3,000 percussion caps from Sylvester Mowry's mine, and additional supplies were obtained in Sonora.

Hunter traveled north to Ammi M. White's flour mill and surrounding Pima villages on the Gila River, where he captured an advance party of the approaching 1st California Cavalry. To slow the advance of the main force of 2,300 California Volunteers from Fort Yuma, Hunter sent detachments to burn the hay stockpiled at former Butterfield Overland Stage stations between Yuma and Tucson. Perhaps reaching the banks of the Colorado River, this was the farthest western penetration of the Confederate Army, and this action delayed the Union invasion of Arizona by more than a month. A skirmish was fought on 3 March 1862 between Hunter's men and a detachment from Fort Yuma at Stanwix Station, an abandoned Butterfield station on the Gila River. This incident was the westernmost skirmish of the Civil War. Afterward, Hunter sent a detachment of 10 men to Picacho Pass between Tucson and Phoenix to watch for the approaching California Column.

The second skirmish between United States and Confederate troops in what is now Arizona was fought at Picacho Pass on 15 April 1862, between a small number of Union troops and the 10 Confederate pickets. Several of the Confederates were killed or taken prisoner, and three Union soldiers were killed. Swayed by exaggerated reports of the size of the Confederate force in Tucson, the Union force withdrew to the Gila River. Receiving accurate reports of the large size of the approaching Union force, Captain Hunter ordered the evacuation of Tucson on 14 May, leaving only a small detachment behind to notify him of the arrival of Union troops. The Civil War in Arizona was over.

On 20 May 1862, Lieutenant Colonel Joseph R. West led four companies of infantry and cavalry of the California Volunteers into Tucson, and the remaining Confederate detachment fled. General James H. Carleton, overall commander of the California column, soon arrived with more troops. Carleton announced the creation of the Territory of Arizona, named himself Governor, and declared martial law.

Camp Lowell was reoccupied on the future site of the Santa Rita Hotel in downtown Tucson. The house of Confederate sympathizer Palatine Robinson was confiscated and used as headquarters. Under Major David Fergusson, military surveyors mapped the town and its agricultural fields along the Santa Cruz River so they could identify the properties of Confederate sympathizers for confiscation. Two companies of cavalry were sent south to Sylvester Mowry's silver mine, where they arrested Mowry and Palatine Robinson, who was visiting.

The Union soldiers established the Tucson Supply Depot, using confiscated buildings at the Plaza de las Armas, within the crumbling walls of the old presidio, and at the Plaza de la Mesilla to the south. Tucson became the major supply depot for posts between Fort Yuma and New Mexico garrisoned by the California Volunteers. In July and August of 1862, a temporary post was occupied at El Reventon, a ranch on the Santa Cruz River 35 miles south of Tucson. In 1864, El Reventon was reoccupied and one company of the 1st California Cavalry was stationed at the abandoned Calabazas Ranch.

Gold and silver strikes to the north and west during the early 1860s increased Washington's interest, and Arizona was declared a separate United States territory. A north-south line was chosen to separate Arizona and New Mexico because it broke up the pro-southern area that spanned the southern parts of both territories.

When the Civil War ended in 1864, the Tucson Supply Depot was moved north to Fort Whipple, the new military headquarters in Arizona. That same year, units of the 1st California Cavalry

were stationed at Tubac to provide protection from Apache attacks. The following year, the cavalrymen at Tubac were relieved by companies of the 7th California Infantry.

Defending the Border

In 1865, French forces supporting Napoleon III's puppet, the Emperor Maximilian, occupied Sonora as far north as Magdalena. Rumors spread that they might try to reclaim the Gadsden Purchase. General John S. Mason, the new commander of the District of Arizona, was ordered to transfer the Tubac garrison to Calabazas, 8 miles from the border. Leaving only a detachment at Tubac, companies of the 7th California Infantry were repositioned to build and garrison the new post, dubbed Fort Mason, located on the site of old Camp Moore. There, they were reinforced by a battalion of the Native California Cavalry. Ignacio Pesqueria, the new Governor of Sonora, fled the French troops and took refuge at Calabazas with his own troops. With arms and ammunition provided by the American commander, the governor took his troops back across the border, defeated the French troops, and regained control of Sonora.

When an epidemic affected one-third of the United States troops at Fort Mason and its Tubac outpost in the fall and winter of 1865, vacant houses at Tubac were used to quarantine the sick. Early in 1866, the California Volunteers headed west to be mustered out, leaving behind units of the 1st Cavalry and the 14th Infantry. In compliance of 1866 General Orders to rename unfortified forts in Arizona as camps, the commander changed the designation of Fort Mason to Camp McKee. When another epidemic struck in the fall of that year—about the same time the French forces began withdrawing—the post was abandoned and the garrison was moved to Camp Cameron, 15 miles northeast of Tubac, in the foothills of the Santa Rita Mountains.

Scouting, Escort, and Pursuit Duty

In 1866, a company of the 1st Cavalry arrived in Tucson and cleared trees for a new post in a location east of town, but which is now in the heart of the city. The new post was named Fort Lowell in honor of a Union officer killed during a Civil War battle in Virginia. Later that year, the designation changed from fort to camp in compliance with General Orders. Camp Lowell, occupied by companies of the 1st Cavalry and 32nd Infantry, was primarily a tent encampment, with ramadas built over the tents for shade, and a guardhouse, magazine, and ordnance storeroom built of adobe. Officers with families rented quarters in town, and Apache scouts lived in a settlement half a mile to the south. Papago scouts were stationed at Calabazas.

In 1867, a temporary convalescent camp was set up in the Cañada del Oro north of Tucson by troops from Camp Grant who were recovering from malaria. Apache raids were increasing in southern Arizona, and ranchers and residents of smaller towns asked for protection. Between May 1867, and March 1868, troops of the 1st Cavalry re-occupied the post at Tubac, using abandoned buildings, and guarded the Santa Rita mines.

By the time Fort Buchanan was abandoned at the beginning of the Civil War, work had already begun on moving the post about a half mile northeast. When troops of the 1st Cavalry moved from Camp Tubac to the selected location in 1868, they found enough neatly stacked adobe bricks, left in 1861, to construct the necessary buildings. The new post above Sonoita Creek was named Camp Crittenden after a colonel of the 32nd Infantry, then commanding the District of Tucson. The garrison actively scouted and pursued Apaches raiding ranches in the region, seeing much action during 1870 and 1871.

In 1870, Camp Lowell was expanded by claiming 367 acres to the east and south, in the area known today as Armory Park. A new guardhouse, adjutant's office, and an arsenal were constructed of adobe, but the soldiers continued living in tents. Between 1866 and 1873, various companies of 1st, 3rd, 5th, and 8th Cavalry, and of the 14th, 21st, 23rd, 32nd Infantry regiments were rotated through the post.

Incited by a series of editorials in the *Arizona Miner* newspaper, in April 1871, a party of approximately 150 Anglos, Mexican-Americans, and Tohono O'odham from Tucson ambushed a camp of Aravaipa and Pinal Apaches on Aravaipa Creek, where they were under the nominal protection of nearby Camp Grant. Most of the men were away from the camp, so the more than 100 Apaches killed were mostly women. Twenty-seven children were also captured, and the settlement was burned. Dubbed the Camp Grant Massacre by the eastern United States press, the perpetrators were put on trial by order of President Ulysses Grant. A jury of southern Arizona residents, who considered the attack justifiable revenge for every Apache depredation of the previous decades, acquitted all the defendants.

Subjugating the Apaches

The incident near Camp Grant convinced the President and military leaders in Washington that the conflict between Americans and Indians in the Southwest had to be resolved. Under orders to end the last Indian resistance in the region, General George Crook was assigned command of the Department of Arizona in June 1871. In the fall of 1872, he began a campaign to defeat the last groups of Yavapais and Western Apaches who resisted relocation to reservations.

Needing troops for this campaign, Crook ordered the abandonment of Camp Crittenden, but sent a troop of the 5th Cavalry to protect local farmers until after the harvest. This detachment left at the end of the year to participate in the campaign, leaving behind only a small garrison to remove government property. Crittenden was finally abandoned in June 1873. That same year, a military telegraph system connecting San Diego with Yuma, Tucson, and Prescott was completed, and was used during the campaign. Ultimately, Cochise's band of Chiricahua Apaches agreed to settle on a reservation in southeastern Arizona. With the considerable help of Apache scouts from other bands, the Yavapai and Western Apache were defeated, and the few survivors were forced onto reservations. The last holdouts surrendered by 1875.

As the edge of the growing town of Tucson reached Camp Lowell, officers became concerned about increasing illnesses among the troops and misbehavior of soldiers in town. In 1873, the post was moved 7 miles northeast of Tucson to the bank of the Rillito, where there was also better grazing, water, and wood. The new post retained the name of Camp Lowell, and troops of the 5th Cavalry replaced those of the 1st Cavalry and 23rd Infantry. The garrison occasionally responded to Apache attacks on ranches and logging camps, but mostly performed escort duty. The designation was changed to Fort Lowell in 1879, when all camps in Arizona were changed to forts in compliance with a new set of General Orders.

Front of the Last Apache Campaigns

Crook returned to Arizona in September 1882 to track down the last bands of Chiricahua Apaches who refused reservation life. After Mexico signed a treaty allowing United States troops to chase hostile Apaches into northern Mexico, Crook led about 50 soldiers and 200

Quechan, Mohave, and Western Apache scouts into Sonora to chase a Chiricahua band led by the shaman called Geronimo by Mexicans. Chased into the Sierra Madre, Geronimo's band agreed to return to the reservation at San Carlos, arriving in February 1884. However, tired of the hardships and humiliations of reservation life, some of the Chiricahuas deserted the reservation later that year, fleeing to Sonora. Crook led another expedition after them.

An agreement brokered by Crook and Geronimo for the Chiricahuas to return to the reservation following a two-year imprisonment in the East was rejected by President Grover Cleveland and General Philip Sheridan, and some of the Apaches escaped again. A furious Sheridan ordered Crook to stop using Apache scouts and to ship the remaining Chiricahuas by railroad to permanent exile in Florida. Crook asked to be relieved of command, and he was succeeded by General Nelson Miles.

Miles led 5,000 troops—a fifth of the United States Army—after Geronimo's band. He ordered the establishment of a heliograph network that connected United States military posts in the region. Using mirrors, the heliograph directed beams of sunlight up to 40 miles in any direction, and shutters interrupting the beam allowed messages to be sent using the dots and dashes of Morse code.

The impressive United States force, backed by this advanced military communication system, never engaged the renegade Apaches. Geronimo was tracked down by Chiricahua scouts and agreed to surrender for the fourth and last time. After the ceremony was held in Skeleton Canyon in southeastern Arizona on 4 September 1886, Geronimo, his companions, and even the loyal Apache scouts were shipped to exile and imprisonment in Florida, where many died of unfamiliar diseases. The Chiricahua Apaches were not allowed to return to the Southwest until 1913, when the few survivors were given a part of the Mescalero Apache reservation in central New Mexico.

Troops from Fort Lowell participated in the Apache campaigns of the 1880s, and the post served as the major supply depot to posts closer to the field of operations. During this time, the fort quartered companies of the 4th Cavalry and the 8th Infantry. With the final surrender of Geronimo in 1886, troops were gradually withdrawn from southern Arizona. In the late 1880s, Fort Lowell gained a reputation as a prestigious place to be stationed, and it was designated the regimental headquarters of the 6th Cavalry. The fort was abandoned in 1891, when troops were needed for General Miles' campaign against the Sioux in South Dakota.

Protecting the Border during the Mexican Revolution

In the fall of 1910, Mexican supporters of Francisco I. Madero revolted against the 30-year dictatorship of President Porfirio Diaz. Mexico became embroiled in a violent revolution, with opposing political and military forces struggling for control of the country. Wary of the violence spilling across the border, United States troops were stationed at Nogales, Naco, and Douglas in 1910, joining the previously established Fort Huachuca in a line of defense.

After the assassination of President Madero in February 1913, Sonorans refused to accept Victoriano Huerta as his successor. Huerta was the former Diaz general who had betrayed Madero. Sonora and the twin border towns of Nogales became a focus of the revolution. On 13 March 1913, rebels led by the Sonoran strongman, General Álvaro Obregón, attacked Nogales, Sonora, which was guarded by Huerta's troops under Colonel Bernardo Reyes and

rurales (rural police) under Colonel Emilio Kosterlitzky. Sightseers came from all over Arizona to witness the Battle of Nogales, picnicking while they watched. Outmatched, Kosterlitzky and his men fled across the border into Arizona and turned over their arms to the 5th United States Cavalry. Following his success in Nogales, Obregón won another battle a few days later in nearby Cananea.

In April 1914, the coastal city of Vera Cruz was seized by the United States Navy to protect important American-owned oil fields, and President Huerta was forced to resign and flee. Obregón called General Francisco "Pancho" Villa, the cattle rustler turned revolutionary leader of Chihuahua, to a meeting in northern Mexico to determine who would take over as president. Consensus could not be reached. Wary of Villa's power, Obregón decided to throw his support to Venustiano Carranza, the governor of Coahuila in northeastern Mexico. In another attempt to broker a peaceful solution between the warring factions, General John J. "Blackjack" Pershing, a veteran of Miles' Apache campaign, hosted a meeting in Nogales, Arizona, on 28 August 1914. On Pershing's staff was a young officer named Dwight D. Eisenhower. Villa arrived with 50 bodyguards, and Obregón arrived by train along with Sonora's Governor José María Maytorena and Carranza. This meeting was also inconclusive.

Mexico elected a new Constitutionalist government, with Carranza as president, in 1915. After receiving the support of Obregón, Carranza's major opponent was Villa. On 26 November 1915, a battle occurred in Nogales, Sonora, between Villa's famous Division del Norte and the united Constitutionalist force under the command of Obregón. Private Stephen B. Little and two other soldiers of the United States 12th Infantry were killed by Obregón's soldiers when they mistakenly directed gunfire at American troops guarding the nearby border. American soldiers then opened fire, but there was a ceasefire as soon as the mistake was recognized, and General Obregón and Colonel William H. Sage met at the border and exchanged apologies. Camp Nogales was renamed Camp Little on 14 December 1915.

Losing a series of battles, Villa was pushed northward by Obregón until his back was against the United States border, where the Villistas suffered a decisive defeat at Agua Prieta, the bordertown opposite Douglas, Arizona. Branded an outlaw by the Carranza government, Villa sought refuge in the mountains of Chihuahua. On 9 March 1916, Villa attacked the small border town and United States military camp at Columbus, New Mexico. this was after President Woodrow Wilson recognized the government of Carranza and allowed his troops to cross the border and use the Southern Pacific Railroad as transport to Nogales, Sonora, thereby gaining an advantage. Elements of the 13th Cavalry repulsed the attack, but there were 18 American casualties, including many civilians.

Chasing Pancho Villa

President Wilson ordered General Pershing to organize an expedition to pursue Villa into Mexico. The expedition force of almost 5,000 that entered Mexico in mid-March included the 7th, 10th, 11th, and 13th Cavalry regiments, 6th and 16th Infantry regiments, and part of the 6th Field Artillery. Soon joining were the 5th Cavalry, the 17th, 24th, and 25th Infantry regiments, and engineer units, expanding the size of the expedition force to about 12,000. This campaign represented the last time that United States horse cavalry went into action against an enemy. It was also the first mechanized military expedition, with motorcars used to transport troops. Airplanes were also used as spotters, marking the beginning of the Army Air Corps. A young officer named George S. Patton rode in a truck during the expedition, and foresaw the day when motor vehicles would replace horses on battlefields.

Over its 11-month duration, Pershing's Punitive Expedition never directly engaged Villa. Instead, the American force fought dozens of skirmishes with small bands of Villa's soldiers and also clashed with regular Mexican Army units, sent by President Carranza to prevent Pershing from penetrating too far south. The most serious battle with the Mexican Army in June nearly decimated a detachment of the 10th Cavalry Buffalo Soldiers, an African-American regiment based at Fort Huachuca near the Arizona-Mexico border.

In the summer of 1916, President Wilson ordered the states on and near the border to mobilize the National Guard and send them to the border. Some 160,000 guardsmen were soon bivouacked along the border from California to Texas. Camp Little in Nogales swelled from 900 to 12,000 troops. National Guard units from California and Idaho were stationed in Nogales and patrolled the Arizona-Mexico border. In March, 1917, the newly formed 35th Infantry was transferred from Douglass, Arizona, to Camp Little, relieving the 12th Infantry.

Due to the limited success of the expedition, the high cost of keeping United States troops on the border, and the escalation of World War I in Europe, President Wilson ordered the withdrawal of Pershing's force in January 1917. Pershing later commanded the Allied forces in World War I, and his Lieutenant Eisenhower eventually became commander of the Allies during World War II. General Obregón became president of Mexico twice during the 1920s, and initiated many important and lasting reforms before being assassinated. Pancho Villa retired to a ranch in Chihuahua, but was assassinated in 1923.

Guarding the Border during World War I

The 10th Cavalry Buffalo Soldiers were assigned the mission of guarding the United States-Mexico border during World War I, and companies were stationed at Nogales, Arivaca, and Lochiel. Tensions rose on the border at Nogales in 1918, when rumors spread about German "agents provocateurs" operating in the area, providing military training to Mexican soldiers. On 27 August 1918, a Mexican citizen crossing at the border station from the American side refused to stop for questioning. When a U.S Customs agent and a soldier of the 35th Infantry chased after him, shots were fired and the situation quickly escalated into a battle between regular troops and civilians on both sides. By the time it was over, three troops of the 10th Cavalry and three companies of the 35th Infantry were involved in what became known as the Battle of Ambos Nogales. Three days after the battle, more than 2,000 troops of the all-black 25th Infantry arrived to provide additional protection.

The Last Army Posts

After World War I, all army posts in Arizona were closed except Fort Apache and Fort Huachuca, while limited border patrol operations continued at Camp Little and Camp Newell. Camp Little, which had become very important to the economy of Nogales, was finally closed in January 1933. One of the last constructions related to the cavalry-era Army in Arizona was the R.O.T.C. stables at the University of Arizona, built in 1935. For the first time since 1856, there were no United States Army posts in the Santa Cruz Valley.

Training Flyers during World War II

During the 1930s, there was little military presence in the region except some training of military pilots at Davis-Monthan Field, the Tucson municipal airport dedicated in 1927, by Charles Lindbergh, after his famous transatlantic flight. In preparation for involvement in

World War II, Davis-Monthan was taken over by the military in 1940, for use as a training base. The field was expanded from 300 to 1,600 acres, and the runways were lengthened to handle the largest bombers.

During World War II, Davis-Monthan was a training base for bombers, including the B-18 Bolo, B-24 Liberator, and B-29 Superfortress. North and west of Tucson, Marana Field and Ryan Field were also established for civilian training of military flyers. From when it opened in August 1942, to its deactivation in September 1945, Marana Field was the largest pilot-training center in the world, training some 10,000 flyers.

At the end of the war, Davis-Monthan Air Force Base was selected as a storage site for decommissioned aircraft due to Tucson's dry climate and ample available space. The national aircraft storage site, nicknamed the Aircraft Boneyard, was initially used to store mothballed B-29s and C-47s, but all surplus military aircraft were eventually stored there.

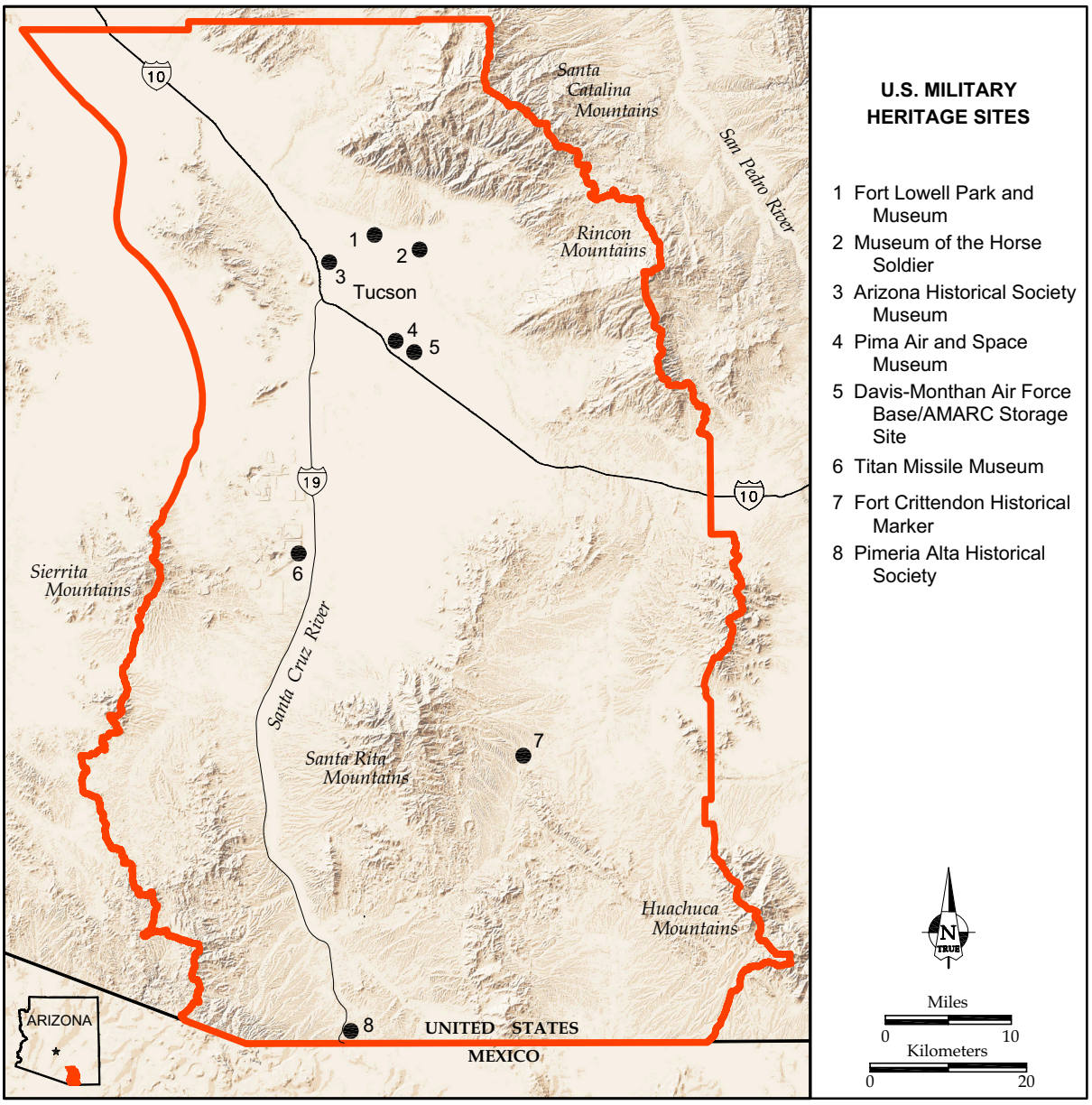
Cold War Bases

During the Cold War, starting in 1946, two B-29 Bomber Groups of the Strategic Air Command were based at Davis-Monthan until 1953, when the Superfortress was replaced by the new jet bomber, the B-47 Stratojet. That same year, a squadron of F-86A Sabre Jet fighters of the Air Defense Command were first based at the airfield. In the early 1960s, a wing of U-2 reconnaissance aircraft was transferred to Davis-Monthan, combat crew training for the F-4 Phantom was initiated, and 18 Titan II missile sites were built within 25 miles of Tucson and manned by the 390th Strategic Missile Wing.

In 1971, the 355th Tactical Fighter Wing was re-activated at Davis-Monthan Air Force Base, flying the A-7 Corsair II, and the F-4s moved to Luke Air Force Base near Phoenix. The U-2 Wing was transferred to Beale Air Force Base, California, in 1976. That same year, command of the base was transferred from Strategic Air Command to the Tactical Air Command, and the primary mission changed from bombers to attack fighters. With replacement of the A-7 by the A-10 Thunderbolt II in 1979, Davis-Monthan became the primary training location for flying and tactical manuevers, including use of the Goldwater Bombing and Gunnery Range, just to the west.

During the 1980s, the 836th Air Division was activated at Davis-Monthan to oversee multiple units. The 868th Tactical Missile Training Group was activated to train personnel in the Ground Launched Cruise Missile and deployed units to Europe that were so important in the United States position which secured the end of the Cold War. Also arriving during that decade were the 41st Electronic Combat Squadron and the 42nd Airborne Command and Control Squadron, both flying versions of the Lockheed C-130 aircraft, and the 602nd Tactical Air Control Wing was activated with subordinate units covering the western states. In 1992, the 836th Air Division was inactivated, and the 355th Fighter Wing was redesignated the 355th Wing.

Today, Davis-Monthan is one of the most important bases in the U.S. Air Force, with its variety of important missions, training facilities, proximity to the Goldwater Range, extensive size, aircraft storage facilities, good weather, and location away from heavy air traffic areas. It is a major unit of Air Combat Command, and is joined by Air Force Material Command, Air Force Special Operations Command, and Air Reserve Command. Headquarters 12th Air Force is the air component of United States Southern Command, with responsibility for the Caribbean



United States military heritage sites in the proposed National Heritage Area.

and Central and South America, where it exercises supervision of all U.S. Air Force assets in the counternarcotics mission in USSOUTHCOM area. Its supervision extends to all reserve wings in the western United States and eight active combat wings in the west. The Aerospace Maintenance and Regeneration Center provides temporary and permanent storage for all government aircraft, usually about 5,000 aircraft of all types. Flying HH-60 Pavehawk helicopters, the Reserve 305th Rescue Squadron, and the Special Operations Command 563rd Rescue Group are available to perform rescue missions worldwide.

Adjacent to Davis-Monthan is the headquarters of the U.S. Customs Service in this large area of the border. A significant portion of the aircraft ramp is set aside for use of a small unit from the 162nd Fighter Wing, the largest Air National Guard unit in the United States. Here, air

force units from all over the world can establish themselves for short periods of time and take advantage of the excellent flying weather in Tucson. Because most of the Air National Guard units are from colder northern states, it is known as the Snow Bird Ramp. The full 162nd Wing is stationed at Tucson International Airport, where pilots from all over the world are instructed in flying the F-16 aircraft.

United States Military Posts in the Santa Cruz Valley (in chronological order)

- Camp Moore, 1856
- Fort Buchanan, 1856-1861
- Post at Tucson, 1862-1864
- Tucson Supply Depot, 1862-1864
- El Reventon, 1862 and 1864
- Camp Tubac, 1864-1868
- Camp Lowell, 1866-1873
- Fort Lowell, 1873-1891
- Camp Crittenden, 1868-1873
- Fort Mason/Camp McKee, 1865-1866
- Camp Cameron, 1866-1867
- Camp Nogales/Camp Little, 1910-1933
- Davis-Monthan Air Force Base, 1940-present
- Titan II Missile Silos, 1963-1984
- Air National Guard base at Tucson International Airport, 1975-present

Distinctiveness of Theme

The Revolutionary War is the central theme of the proposed Crossroads of the American Revolution National Heritage Area, and Civil War battles are central themes of the Shenandoah Battlefields and Tennessee Civil War National Heritage Areas. However, the changing role of the United States military on the Mexican border is a unique theme among National Heritage Areas. The development of this theme in the proposed Santa Cruz Valley National Heritage Area will increase public recognition of the history of the United States military in southern Arizona, which represents an important part of the national story.

Related Resources

Many places can be visited to learn about the military history of the Santa Cruz Valley. Nineteenth century forts, military life, and Apache campaigns are interpreted at the Arizona Historical Society Museum on Second Street, the Fort Lowell Museum, and the Museum of the Horse Soldier in Tucson, and the Pimería Alta Historical Society in Nogales. A roadside sign on Highway 83 between Sonoita and Patagonia marks and interprets the site of Fort Crittenden. The third largest aircraft museum in the United States, the Challenger Space Learning Center, and the Arizona Aviation Hall of Fame are at the Pima Air and Space Museum**.** There can be seen exhibits about the most famous aircraft, from the Wright Flyer to the lastest combat planes. Escorted tours of the AMARC Storage site (Aircraft Boneyard) are also available from there. The Titan Missile Museum in Sahuarita is the only one in the world, and it is an

accurate copy of an active site. This National Historic Landmark highlights the role of Intercontinental Ballistic Missiles in national defense during the Cold War. Aerospace and Arizona Days is the annual base visitation displaying many historic and modern aircraft, civilian acrobatics flying, military precision demonstration teams, and parachute jumping.

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UNITED STATES-MEXICO BORDER CULTURE (1854-PRESENT)

Summary of Theme

The Santa Cruz Valley spans the United States-Mexico border, a line marked by fences, patrols, and inspection stations. Despite these barriers, however, residents of the valley find their lives are entwined with people on both sides of the boundary, whether through family ties, economic interaction, or common history. The region within the proposed Santa Cruz Valley National Heritage Area had long been viewed by the Spanish, Mexican, and United States governments as a frontier, a landscape considered open, sparsely populated, and full of potential. Each wave of settlement initiated interaction with Native Americans and previous immigrants. The Gadsden Treaty, ratified in 1854, transferred political control of the area from Mexico to the United States. Former Mexican nationals abruptly found themselves, their land, and their property incorporated into a different nation, one which spoke another language and practiced different cultural traditions. This exchange did not result in the decline of Mexican customs, but rather, the emergence of a vibrant culture associated with the border and the region, shared by residents with diverse backgrounds. The proposed Santa Cruz Valley National Heritage Area will celebrate this distinctive lifeway that has been shaped by the physical and political geography of the region.

Description of Theme

The creation of a boundary between Mexico and the United States in this area prompted new behaviors distinctive to the border. Shortly after Mexico and the United States declared an end to their hostilities, the border itself encouraged cooperation between the two nations. For example, the Apache strategy of raiding settlements and then quickly crossing the border motivated the recently adversarial nations to sign an agreement, in effect from 1882 to 1886, allowing pursuit of Apaches across the international boundary by either side. Commerce also linked the former antagonists in numerous ways. Nogales, Arizona, abuts Nogales, Sonora, on the border, and the two towns were founded together in 1882. Railroads from Guaymas in Mexico and Kansas City in the United States met in ambos (meaning both) Nogales. The cities grew together, sharing resources such as water, shops, and firefighters, and neither would have existed without the presence of the border. This cooperation extended up the Santa Cruz Valley, enabling the florescence of a border culture that embraced aspects of both Mexico and the United States.

Economic Interaction

Because the international boundary crosses an area that is geologically and ecologically unified by the Santa Cruz River, the Sonoran Desert, and mountain ranges, economic enterprises are also similar. Mining activity occurred on both sides on the border, with smelters processing ore from mines in both Mexico and the United States. Americans and Mexicans crossed the border to work in mines on the other side. Cattle ranching had long been practiced in the region, and Mexican vaqueros, or cowboys, remained a crucial part of ranch life in the Santa Cruz Valley of Arizona. Cattle drives routinely began in Sonora and ended in the United States. Americans bought ranches south of the border, and former Mexican nationals continued to ranch lands that had belonged to their families for generations. As cotton farming began to

flourish in the valley, Tohono O'odham workers on Anglo farms were joined by immigrants from Arkansas, Oklahoma, and Texas, and finally, by Mexicans recruited to work in the fields. These working-class, largely rural occupations are reflected in the art forms, expressive styles, food, and music of Santa Cruz Valley border culture.

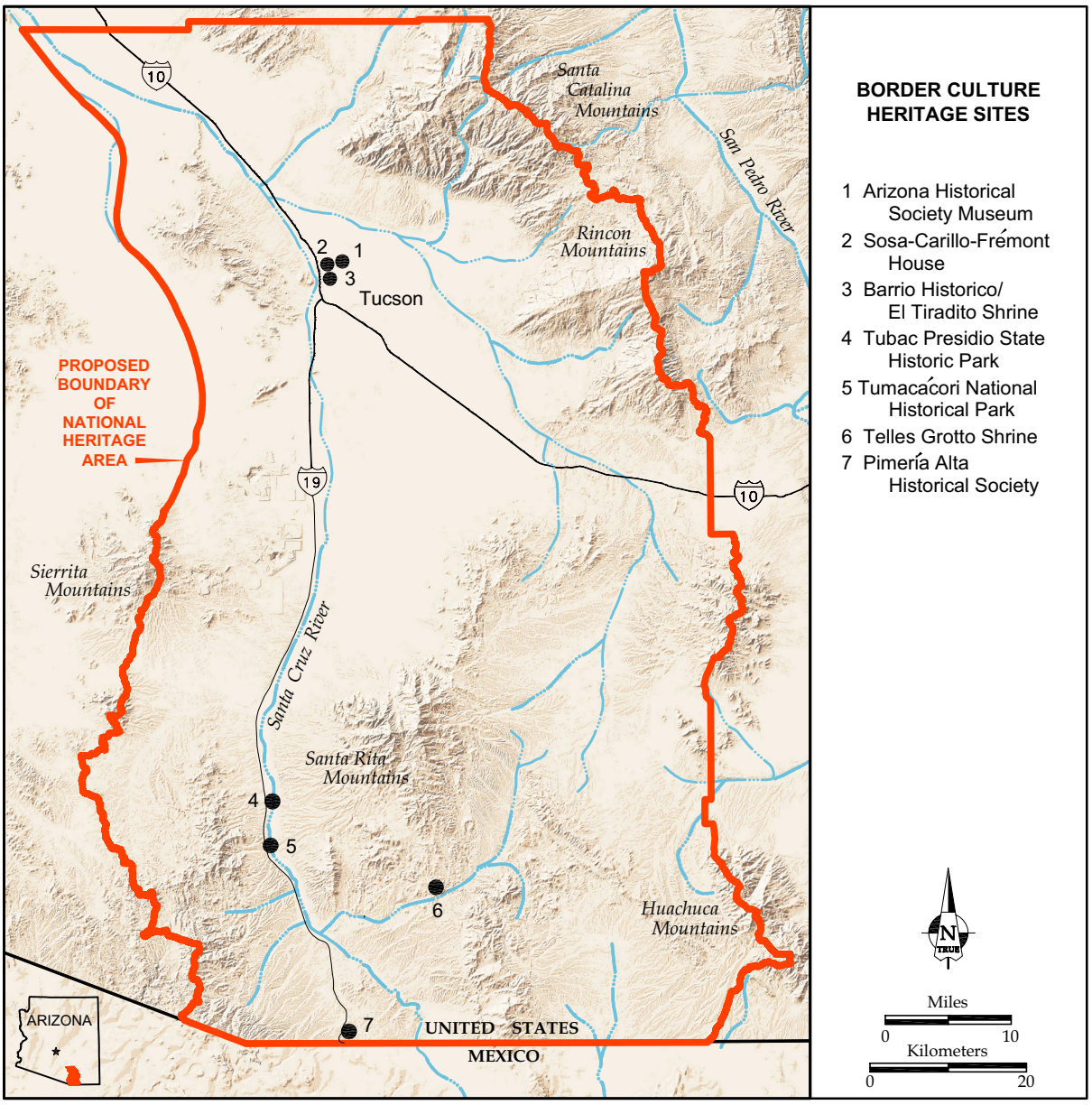
Beginning in the 1920s, Nogales became a major commercial port of entry for produce. Railcars and refrigerated trucks continue to supply the United States with fruits and vegetables in the winter months, when ambos Nogales are most lively. Products from the United States also make their way across the border. Morley Avenue in Nogales, Arizona, caters to Mexican shoppers, who comprise 80 percent of the clientele. The street features fashionable clothing and dry goods stores, which advertise in Hermosillo, 160 miles south, and Tucson. When Russian Jews and Lebanese merchants opened shops in Nogales, they learned to communicate with both Mexicans and Anglo-Americans. This commerce requires brokers who are proficient in both Spanish and English, and who are familiar with the cultural patterns of two nations. Consequently, economic interests in the region have encouraged residents of the Santa Cruz Valley to maintain language skills and social ties that span the international boundary.

Social Interaction

While economic interaction between people in the United States and Mexico are obvious along the border, these behaviors extend far up the Santa Cruz Valley. Unlike much of Arizona, the Santa Cruz Valley supported a nearly continuous occupation of Spanish-Mexican settlements and Native American communities. When the Gadsden Purchase was finalized, arriving Anglo-American settlers encountered residents of Tucson who could trace their connection back in the area for generations. As a result, the Santa Cruz Valley retained Hispanic and Native American traditions while other towns in Arizona took on a noticeably Anglo-American flavor. People in Phoenix and other parts of rapidly developing Arizona condescendingly referred to Tucson as a Mexican town, recognizing the distinctive cultural character of the community.

When new settlers arrived in Tucson, they found an established elite. Prominent Mexican families continued to be leaders in business and politics long after the arrival of Anglos. Tucson was the territorial capital between 1868 and 1878, and during this period, Pima County frequently elected men of Mexican descent to both houses of government, as well as their Anglo in-laws. Indeed, Anglo men who became leaders in the community had often married into important Mexican families, whose connections were crucial for newcomers. In the 1870s, almost 23 percent of marriages in Pima County were between Anglo men and Mexican women, although these numbers decreased dramatically in the next 40 years.

The children of these unions contributed to a bicultural and bilingual society in the region. Despite the fact that Anglos had much more power in the rapidly changing Santa Cruz Valley, many of the offspring of intermarriages, like Carlos Tully and Bernabé Brichta, chose to identify more strongly with the Mexican community. Their Anglo fathers had often been absorbed into Mexican society, rather than into Americanizing families of Mexican descent. Today, influential families of Mexican descent carry non-Hispanic surnames and emphasize their Mexican heritage. Unlike other areas in which intermarriage has been an agent of the eradication of previous cultural forms, in the Santa Cruz Valley, intermarriage played a role in the production of a culture that values bilingualism and biculturalism.



Border culture heritage sites in the proposed National Heritage Area.

Length of Residence

A related aspect of contemporary border culture in the Santa Cruz Valley can be heard in the repeated references of residents to the length of time their families have been in the area. Because the region continues to receive immigrants from other parts of the United States and from Mexico, long-term residents have turned to their heritage as a source of legitimacy. Heritage societies, such as *Los Descendientes del Presidio de Tucsón* and *Los Tubacqueños,* have formed to celebrate their long ties to the area. Those residents not of Mexican descent also follow this pattern, as the Tucson Chinese Historical Society and the Jewish Historical Society of Southern Arizona demonstrate. Politicians routinely make references to the number of

generations they have lived in the area. In Nogales, it is not uncommon to hear someone say, "I'm a newcomer—I've only lived here for 40 years." The Santa Cruz Valley, compared with the rest of Arizona and much of the United States, tends to celebrate connections to the landscape that span many generations.

A steady flow of immigrants encourages this trend, as a means of distinguishing recent arrivals from Mexico and families who have been in the region for generations. However, these same immigrants also help to maintain Mexican traditions, social ties that cross the border, and the regular use of Spanish. Family networks connect northern Mexico and communities in the Santa Cruz Valley, providing newcomers with the support they need to prosper in an unfamiliar nation.

Neighborhoods and Border Culture

These networks promoted the creation of distinctive neighborhoods and architectural styles. Much of this discussion will focus on Tucson because, historically, it has been the most densely populated portion of the Santa Cruz Valley. Indeed, prior to 1886, settlement away from presidios was severely constrained due to the threat of Apache attack. Even after this period, many of the Tucson neighborhoods and homes also housed the families of valley ranchers, who kept residences in town to facilitate access to school, church, and shopping.

The early Anglo-American settlers in the Santa Cruz Valley utilized Sonoran materials and architectural designs. Adobe and wood structures were economical and suitable for the climate. As the railroads allowed the acquisition of industrial materials, new homes included bricks, glass windows, and milled lumber but kept a Sonoran form. Other American changes soon followed. For example, houses began to feature a sleeping porch at the back, to access the cool night air in the extreme summer heat, rather than using a courtyard or the roof. Architecture reflected a combination of Spanish-Mexican and American traits, as did much of the population.

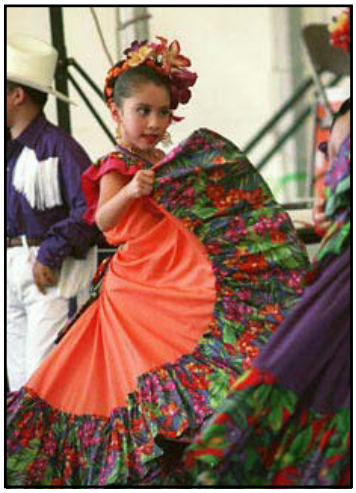
At the turn of the twentieth century, however, adobe houses were only seen in low-income, largely Mexican-origin enclaves, as Anglo turned to brick for their homes. Nonetheless, several of these early homes exist today, included in the many National Register Historic Districts in Tucson and Nogales. They stand as reminders of a persistent, vibrant border culture.

Tucson's south side continues to embrace new arrivals from Mexico. This neighborhood features carnicerías (butcher shops), tortillerías, panaderías (bakeries), and Sonoran-style restaurants. Colorful murals on buildings or fences portray symbols originating on both sides of the United States-Mexico border. Homes display religious shrines in their front yards. This neighborhood remains a place where border culture is expressed in a wide variety of forms.

Expressive Forms of Border Culture

The food, music, dance, and art of the Santa Cruz Valley have all been influenced by the border and the distinctive landscape and cultural mixing found in the region. For example, flour tortillas and beef dishes are particularly common in this area due to the prevalence of cattle ranching and the introduction of wheat by the Spanish. Unlike other parts of the Spanish frontier, wheat could be grown successfully in the Santa Cruz Valley, and a preference for

This will be the first National Heritage Area to celebrate cross-border connections between the United States and Mexico.



Native American, Spanish, and Mexican heritages that span the border will be distinguishing themes of the National Heritage Area.

wheat flour over corn tortillas developed. A local specialty, carne seca (literally dried beef), is also suited to the desert climate.

Norteño music, popular all along the border, is a product of Mexican inspiration on both sides of the border. Originally developed in northern Mexico—as the name implies—the style became influenced by conjunto music, a form dominant north of the border until the 1960s. Mexican immigration to the Santa Cruz Valley brought a taste for the norteño tradition, but the border transformed the music.

Another musical tradition brought by recent migrants is the mariachi band. Although the first mariachi group in Tucson was established after World War II, the city today hosts a large

annual festival celebrating the music. Another mariachi festival is held farther south in the Santa Cruz Valley, at Patagonia Lake State Park. Similarly, folklórico dancers perform in costume in the style of several Mexican states, celebrating the traditions of immigrants at festivals throughout the year.

Some of these festivals commemorate Mexican patriotic holidays, such as Cinco de Mayo and Diesiséis de Septiembre (September 16, Mexican Independence Day). Others are held in observance of Catholic religious holidays, such as el Día de San Juan, which is widely celebrated in the Santa Cruz Valley. Because this is the day of John the Baptist, water is a significant part of the celebration, and the day has special meaning in such a dry land. Día de los Muertos, or the Day of the Dead, is observed with vigor, as is Halloween. In fact, many festivals marking Mexican holidays simultaneously demonstrate strong allegiance to the United States, using flags, military processions, and American patriotic music. These events are not simply copies of Mexican events; they take on a unique character that comes from the United States-Mexico border and the Santa Cruz Valley.

Other notable art forms in the Santa Cruz Valley include piñatas, hollow papier-mâché figures filled with candy and featured at children's parties, and cascarones, decorated eggshells filled with confetti. Artificial flowers, usually made from paper, adorn high school parade floats, homes, and gravesites on the Day of the Dead. Murals frequently combine secular and religious symbols of the border region, portraying Yaqui deer dancers, the Virgin of Guadalupe, and prickly pear cactus.

The history and geography of the region have produced a vibrant culture that celebrates a deep, long-term connection to the land. Far from being a remnant of the past, United States-Mexico border culture continues to grow and transform with the economic and social interactions of different ethnic groups drawn to this area. Border culture has been embraced by residents without Hispanic roots, and Anglos in the region regularly use Spanish words, value local cuisine, and attend fiestas, claiming border culture as their own. Rather than contributing to the dilution of this distinctive cultural form, newcomers tend to enhance the richness of border culture. The proposed Santa Cruz Valley National Heritage Area will celebrate this theme, strengthening already existing cross-border connections.

Distinctiveness of Theme

Cane River National Heritage Area in Louisiana highlights the multicultural legacy of that region. However, no other National Heritage Area is on an international boundary, nor do any make border culture a theme. United States-Mexico border culture is unique as a theme among National Heritage Areas. The impact of cross-border interaction has been powerful along the entire border region, but the distinctive history of the Santa Cruz Valley has led to an especially vibrant legacy, which is active today.

Many opportunities for experiencing border culture exist in the area now, through festivals, restaurants, neighborhood tours, and museums. Heritage tourism will increase, however, as designation of a Santa Cruz Valley National Heritage Area boosts awareness and education about cultural events, art forms, and the distinctive character of this region.

Related Resources

The Santa Cruz Valley hosts numerous annual events related to the border culture theme. A partial list includes Cinco de Mayo celebrations in Nogales and Tucson, the Día de los Muertos Parade, La Fiesta de San Agustín, and the Día de San Juan Festival in Tucson, and the Fiesta Navidad in Tubac. The Folklorico Festival Extravaganza and the International Mariachi Conference and Fiesta de Garibaldi, both in Tucson, draw participants and audiences from across the United States and Mexico. The City of South Tucson holds the Norteño Music Festival, which also brings artists from around the border region.

A number of shrines built by residents of Mexican descent dot neighborhoods in Tucson—the best known being El Tiradito (The Wishing Shrine) in the Barrio Historico, which itself includes the National Register Historic Districts of Barrio El Hoyo and Barrio Libre. Barrio Historico contains examples of Sonoran architecture, discussed above. Another well-known shrine, the Telles Grotto Shrine, lies outside Patagonia.

Several museums and historical societies celebrate regional border culture. The Pimeria Alta Historical Society in Nogales houses a small museum and library. The Sosa-Carillo-Frémont House (circa 1858), on the National Register of Historic Places, is a branch museum of the Arizona Historical Society. It features period furniture and stands as an example of a Sonoran row house. Tubac Presidio State Historic Park and Tumacácori National Historical Park both include border culture in their exhibits.

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