

# Summary



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*A herd of bull elk on Baca National Wildlife Refuge.*

We, the U.S. Fish and Wildlife Service, have completed a comprehensive conservation plan (CCP) for the management and use of the San Luis Valley National Wildlife Refuge Complex (refuge complex, the refuges) in Colorado. The CCP is the result of extensive public input and working closely with several cooperating agencies: Bureau of Land Management, National Park Service, Natural Resources Conservation Service, Bureau of Reclamation, Colorado Parks and Wildlife, and Colorado Division of Water Resources. Other governmental agencies, tribal agencies, nongovernmental organizations, businesses, and private citizens contributed substantial input to the plan.

The refuge complex includes Monte Vista, Alamosa, and Baca National Wildlife Refuges, and it covers parts of Rio Grande, Alamosa, and Saguache counties within the San Luis Valley in Colorado. The San Luis Valley is about 80 miles long, and runs from Poncha Pass to the north and south into New Mexico. It is about 50 miles wide at its widest point. The foothills of the San Juan Mountains lie directly west of the Monte Vista National Wildlife Refuge, immediately south of where the Rio Grande enters the San Luis Valley. Across the valley, the linear Sangre de Cristo Range rises sharply from the eastern boundary of the Baca National Wildlife Refuge, reaching heights of over 14,000 feet.

Wildlife habitat within the three refuges includes diverse wetlands, riparian areas, playas, grasslands,

and shrublands that provide important resources for many migratory birds, elk, deer, and a variety of other wildlife. About 18,000 to 20,000 greater sandhill cranes migrate through the valley every spring and fall, where they spend several weeks resting and foraging for food on and around the Monte Vista National Wildlife Refuge. The federally endangered southwestern willow flycatcher breeds along the Rio Grande on the Alamosa National Wildlife Refuge. Baca National Wildlife Refuge has one of two aboriginal (natural) populations of Rio Grande suckers found in the State.

Visitors take part in a variety of wildlife-dependent recreational activities on the refuge complex. Every year, the Monte Vista Crane Festival attracts thousands of visitors who come to see sandhill cranes and waterfowl. The Monte Vista and Alamosa National Wildlife Refuges are also open for waterfowl hunting and wildlife observation. Over the next 15 years on Monte Vista and Alamosa National Wildlife Refuges, we are expanding opportunities for visitors to see portions of the refuge that were previously open only to hunters. We are also opening these two refuges to limited big game hunting. We will also open Baca National Wildlife Refuge to wildlife-dependent experiences such as hunting, wildlife observation, photography, and other interpretive and education programs. Generally, opportunities to explore the refuges will be more limited during critical breeding periods.

Over 12,000 years of prehistory and history have been recorded in the San Luis Valley, and all three national wildlife refuges contain significant cultural resources.

We could not accomplish our conservation mission without the many partner organizations who we work with in the valley, including the Friends of the San Luis Valley National Wildlife Refuges; The Nature Conservancy; local land trusts; schools; Federal, State and local governmental agencies; Native American tribes; and interested citizens.



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*Large colonial birds, sandhill cranes find rest and food during their long migration.*

## The San Luis Valley National Wildlife Refuge Complex

The Monte Vista National Wildlife Refuge was established in 1952 as the first national wildlife refuge in Colorado, and its approved acreage is about 14,834 acres. The Alamosa National Wildlife Refuge was established in 1962, and its approved acreage is about 10,291 acres. Both refuges were established under the authority of the 1929 Migratory Bird Conservation Act (45 Stat. 122; 16 U.S.C. §715d) “...for use as inviolate sanctuaries, or for any other management purposes, for migratory birds.”

The Baca National Wildlife Refuge was authorized by Public Law 106-530 on November 22, 2000, as part of the Great Sand Dunes National Park and Preserve Act of 2000, and its authorized boundary is about 92,500 acres. It was established in 2003 with the acquisition of the first parcel. The purpose of the refuge is to “restore, enhance, and maintain wetland, upland, riparian, and other habitats for native wildlife, plant, and fish species in the San Luis Valley.” Additionally, in administering the refuge, we are to

“(A) emphasize migratory bird conservation; and (B) take into consideration the role of the Refuge in the broader landscape conservation efforts; and (C) [subject to any agreement in existence as of the date of enactment of this paragraph, and to the extent consistent with purposes of the refuge] “use decreed water rights on the refuge in approximately the same manner that the water rights have been used historically.”

The Sangre de Cristo Conservation Area and the proposed San Luis Valley Conservation Area are also part of the refuge complex. Except for any staff administration of the conservation areas, the priorities for any future land acquisition are identified under separate land protection plans.

## Vision

We developed a vision for the refuge complex at the beginning of the planning process. The vision describes the focus of refuge complex management and portrays a picture of the refuge complex in 15 years.

*The San Luis Valley National Wildlife Refuge Complex, set in a high expansive desert valley, is cradled between the snowcapped peaks of the San Juan and Sangre de Cristo Ranges. Mountain snowmelt feeds the Rio Grande, numerous streams, and a dynamic ground water system, creating a diverse mix of playas, wet meadows, and willow and cottonwood riparian corridors that are in stark contrast with the surrounding arid landscape. As reflected by 12,000 years of human history in the valley, the refuge complex attracts many people. Visitors experience the ancient song of the sandhill crane, witness evening flights of thousands of waterfowl, and listen to bugling elk. Through ever changing conditions like climate change, the refuges support and foster a collaborative spirit between their neighbors and partners to conserve the valley’s treasured resources.*

## Management Direction

The CCP directs the management of the San Luis Valley National Wildlife Refuge Complex to meet the purposes of the refuges, address issues, and guide management to meet the refuge vision. The plan is a broad umbrella of general concepts and goals, with specific objectives for habitat, wildlife, water resources, visitor services, partnerships and refuge operations, cultural resources, and research, science, and wilderness for the next 15 years (refer to Figure 1 and Chapter 4). As the plan is implemented, we will develop stepdown plans with details for carrying out the objectives.



FWS/Dewhurst

*Waterfowl such as the green-winged teal breed and nest on the Alamosa and Monte Vista Refuges.*

## Goals

We developed six goals for this CCP.

### **Habitat and Wildlife Goal**

*Conserve, restore, and enhance the ecological diversity and function of the San Luis Valley ecosystem to support healthy populations of native fish and wildlife, with an emphasis on migratory birds.*

We will approach management with an emphasis on maintaining or restoring the composition, structure, and function of the natural and modified habitats within the refuge complex. We will consider the ecological site characteristics and wildlife species needs on our refuge lands by developing sound and sustainable management strategies that preserve and restore ecological (biological) integrity, productivity, and biological diversity. We will apply strategic habitat conservation principles (a structured,

science-driven, and adaptive approach) in determining how to best manage our lands for native fish, wildlife, and plant species, with a particular emphasis on migratory birds, waterfowl, and declining or listed species. Compatible wildlife-dependent public uses will be enhanced and expanded to include all three refuges. We will facilitate the protection, restoration, and conservation of important water resources through partnerships, public education, and stewardship.

We will manage wetland areas within the refuge complex to achieve a variety of wetland types and conditions to support a diversity of migratory birds and other wildlife, with a specific focus on focal species that represent the Service's and other partners' larger conservation goals. To maintain the biological integrity, productivity, and function of our wetland habitat, we will restore historical water flow patterns in specific areas through more effective water management practices. A top priority will be to restore riparian habitat along streams in the Baca National Wildlife Refuge as well as specific areas along the Rio Grande in the Alamosa National Wildlife Refuge. We will manage our upland habitats to create a variety of seral stage conditions that provide habitat for a diverse array of wildlife species, particularly nesting and migratory focal birds. To manage our habitats, we will continue using tools such as prescriptive grazing, haying, fire, mowing, and herbicides.

We will use public hunting to complement the State's management, working together to keep elk populations at levels that will allow us to sustain



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*Western chorus frogs provide an important food source for migratory birds.*

healthy plant communities both in the refuge complex and on neighboring lands. This will include opening portions of Baca National Wildlife Refuge to public hunting and opening parts of Alamosa and Monte Vista National Wildlife Refuges to a limited public hunt. We will work with our agency partners (Colorado Parks and Wildlife, National Park Service, USDA Forest Service, Bureau of Land Management, and other conservation organizations) in managing elk populations.

We will work with other Federal and State agencies as well as other conservation partners to improve habitats for threatened and endangered species and other species of concern. Particular focus will be on riparian areas, which provide essential habitat for southwestern willow flycatcher, and riverine systems, which are habitat for Rio Grande sucker and Rio Grande chub. In addition, habitats for other native species of concern, such as Gunnison's prairie dog and northern leopard frog, will be protected, restored, and enhanced where practical and necessary.

The existing arrangement with The Nature Conservancy for bison management on former State lands within the Baca National Wildlife Refuge will be phased out. Since bison are important to other stakeholders and partners, we will research the feasibility, potential, and suitability of introducing semi-free-ranging bison year-round to effectively maintain and enhance certain refuge habitats.

We will continue to grow limited amounts of small grain on the Monte Vista National Wildlife Refuge (about 190 acres) to provide necessary food for the Rocky Mountain population of greater sandhill cranes, as specified in the management plan of the

Pacific and central flyways for Rocky Mountain greater sandhill cranes.

We will control and reduce the incidence of invasive weeds such as tall whitetop, Russian knapweed, Canada thistle, saltcedar, and reed canarygrass through more effective management and by using chemical, mechanical, prescribed fire, and biological control methods. We will make every effort to increase weed control in sensitive habitats or where there is a risk of weeds spreading to neighboring private land.

We will strengthen the fire program within the refuge complex by improving fire management planning and by increasing coordination with partners. We will use prescribed fire to achieve habitat management objectives, and we will conduct prescribed fires at a more acceptable and reliable frequency. We will pursue more funding to protect property and human safety under the wildland-urban interface guidelines, and, where possible, we will reduce the number of individual facilities that will require fire protection.

## **Water Resources Goal**

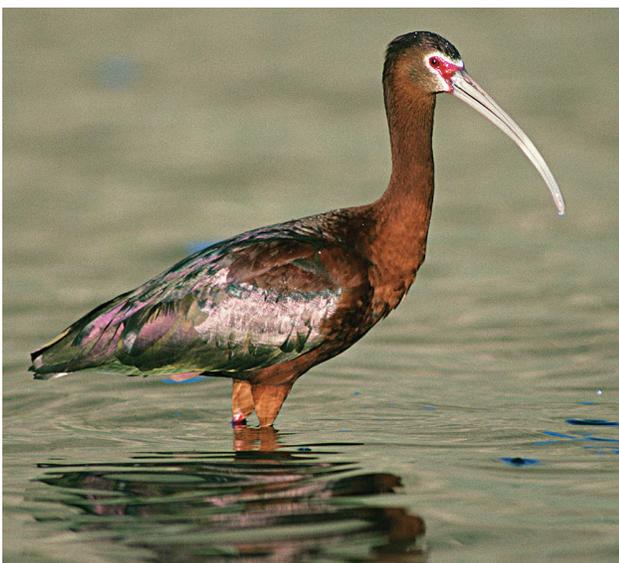
*As climate patterns change, protect, acquire, and manage surface and ground water resources to maintain and support management objectives.*

We will continue to work with other landowners and agencies throughout the watershed to maintain flexibility as well as to protect and, if necessary, augment our water rights as State regulations evolve. Water quality standards will be established, and studies will be initiated to help protect water rights, prioritize habitat management and planning, and develop concise water use reporting methods. Our ground water use will comply with new State ground water rules and regulations through augmentation plans or by working with others and contracting with ground water management subdistricts.

We will achieve our habitat management objectives while providing for quality visitor experiences. Our water infrastructure, delivery, and efficiencies will require upgrades to make sure that habitat and visitor services objectives are met.

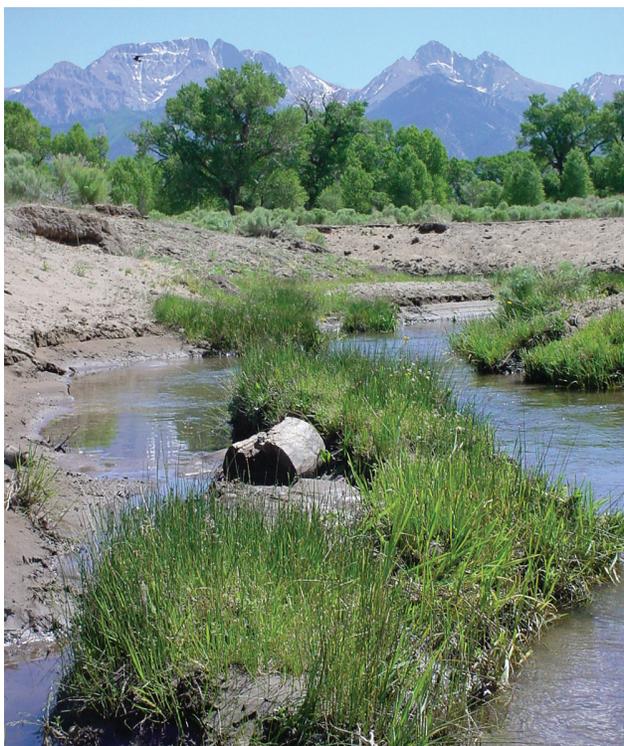
## **Visitor Services Goal**

*Provide safe, accessible, and quality wildlife-dependent recreation and perform outreach to visitors and local communities to nurture an appreciation and understanding of the unique natural and cultural resources of the refuge complex and San Luis Valley.*



FWS\Menke

*Tall-emergent vegetation on the refuges provides favorable nesting conditions for colonial waterbirds such as the white-faced ibis.*



FWS

*Riparian habitat along the creek drainages on the Baca Refuge will be restricted.*

We will continue to offer waterfowl and limited small game hunting on the Monte Vista and Alamosa National Wildlife Refuges. We will open the Baca National Wildlife Refuge for big game and limited small game hunting, and we will offer limited big game hunting on the Monte Vista and Alamosa National Wildlife Refuges. This will provide recreational opportunities while enabling us to manage the numbers and distribution of elk or other ungulate species. Access points and parking areas will be developed on the Baca National Wildlife Refuge.

General public access will be improved on the Monte Vista and Alamosa National Wildlife Refuges and established on the Baca National Wildlife Refuge. On the Monte Vista and Alamosa National Wildlife Refuges, we will allow for more access outside the critical period from mid-July to the end of February for wildlife viewing and interpretation on roads that are currently open only to hunters during the hunting season. Modes of access such as cross-country skiing and bicycling that facilitate wildlife-dependent uses will be favored on all three refuges. Portions of the Baca National Wildlife Refuge will be opened for limited public use, and nonmotorized access, including seasonal walking, biking, and horseback riding, will be allowed. An auto tour route will be built on the Baca National Wildlife Refuge. The construction of more trails or viewing platforms on the Monte Vista and Alamosa National Wildlife Refuges will be considered. Limited commercial oppor-

tunities such as photography could be considered. We will seek funding to build a visitor center and refuge complex staff offices at either Monte Vista or Alamosa National Wildlife Refuge to better serve the public, provide for safer access to our offices, and provide a modern work environment for our employees. In coordination with the Friends of the San Luis Valley National Wildlife Refuges, which leads this event, we will continue to host the Kid's Fishing Day on the Monte Vista National Wildlife Refuge. On Alamosa Refuge, we will allow limited fishing access on the banks of the Rio Grande just above and below the Chicago Dam.

## **Partnerships and Refuge Complex Operations Goal**

*Secure and effectively use funding, staffing, and partnerships for the benefit of all resources in support of the refuge complex purposes and the mission of the National Wildlife Refuge System.*

*Actively pursue and continue to foster partnerships with other agencies, organizations, the water community, and private landowners to conserve, manage, and provide for the long-term sustainability of working landscapes within the San Luis Valley.*

When the Baca National Wildlife Refuge was established under the Great Sand Dunes National Park and Preserve Act of 2000, operations funding did not come with the added management responsibilities. We absorbed these added responsibilities across the refuge complex, which has affected our operations. In order to meet our future needs, we will seek more funding for the refuge complex for habitat conservation, visitor services, and maintenance.



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*Monte Vista Refuge is a popular area for wildlife viewing.*

Overall, refuge complex offices are inadequate and provide for little visitor contact. We will seek to increase our staff levels of both full-time and seasonal employees, as well as seek funding for safe access and accessible offices for our staff and visitors.

We will continue to collaborate with Colorado Parks and Wildlife and other agencies to effectively manage elk, which hopefully will result in an improved distribution across the local game management units. We will continue to work closely with the San Luis Valley Interagency Fire Unit to achieve habitat management objectives while minimizing risk to sensitive habitats and human structures. We will seek funding for a more dependable prescribed fire program. We will develop working relationships with neighboring landowners and others to address interface issues such as invasive species control, shared fence management, elk management, and other concerns.

On the Baca National Wildlife Refuge we will work extensively with owners and developers of third-party-owned mineral rights to find ways to reduce the effects of any future exploration activities on visitors and wildlife and to locate exploration and production facilities away from visitors.

### **Cultural Resources**

*Protect significant cultural resources within the San Luis Valley National Wildlife Refuge Complex.*

Under Section 106 of the National Historic Preservation Act, we will continue to conduct cultural resource reviews for projects that disturb the ground or affect buildings or structures over 50 years of age. We will avoid disturbing significant cultural resources unless disturbance is required by unusual



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*Researchers and volunteers examine a cultural resource site on Monte Vista Refuge. There are 12,000 years of history and prehistory in the San Luis Valley.*

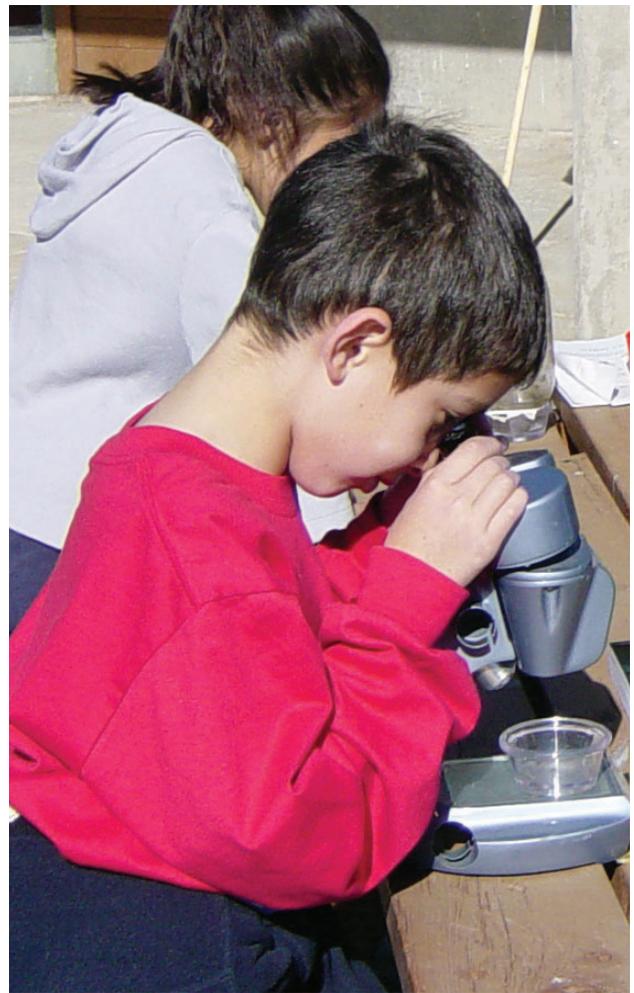
circumstances. In addition we will continue to conduct law enforcement patrols and monitor sensitive sites. As required, we will consult with the Colorado State Historic Preservation Office and Native American tribes and adhere to cultural resource laws.

We will increase our efforts toward identifying and protecting significant resources.

### **Research, Science, and Wilderness Review Goal**

*Use sound science, applied research, monitoring, and evaluation to advance the understanding of natural resource functions, changing climate conditions, and wilderness characteristics in the management of the habitats within the San Luis Valley ecosystem.*

We will increase monitoring efforts, in part to gain an increased understanding of the effects of our



FWS

*Environmental education programs on the Alamosa Refuge provide opportunities for children to learn about nature.*

management actions on habitat conditions, wildlife populations, and water resources, but also to learn more about the effects of drought and climate change on our wildlife and habitat resources. We are recommending protection of the wilderness values and characteristics found along the eastern boundary of Baca National Wildlife Refuge and adjacent to proposed wilderness on Great Sand Dunes National Park and Preserve (about 13,800 acres). We will manage this area as a wilderness study area to be considered for eventual wilderness designation.



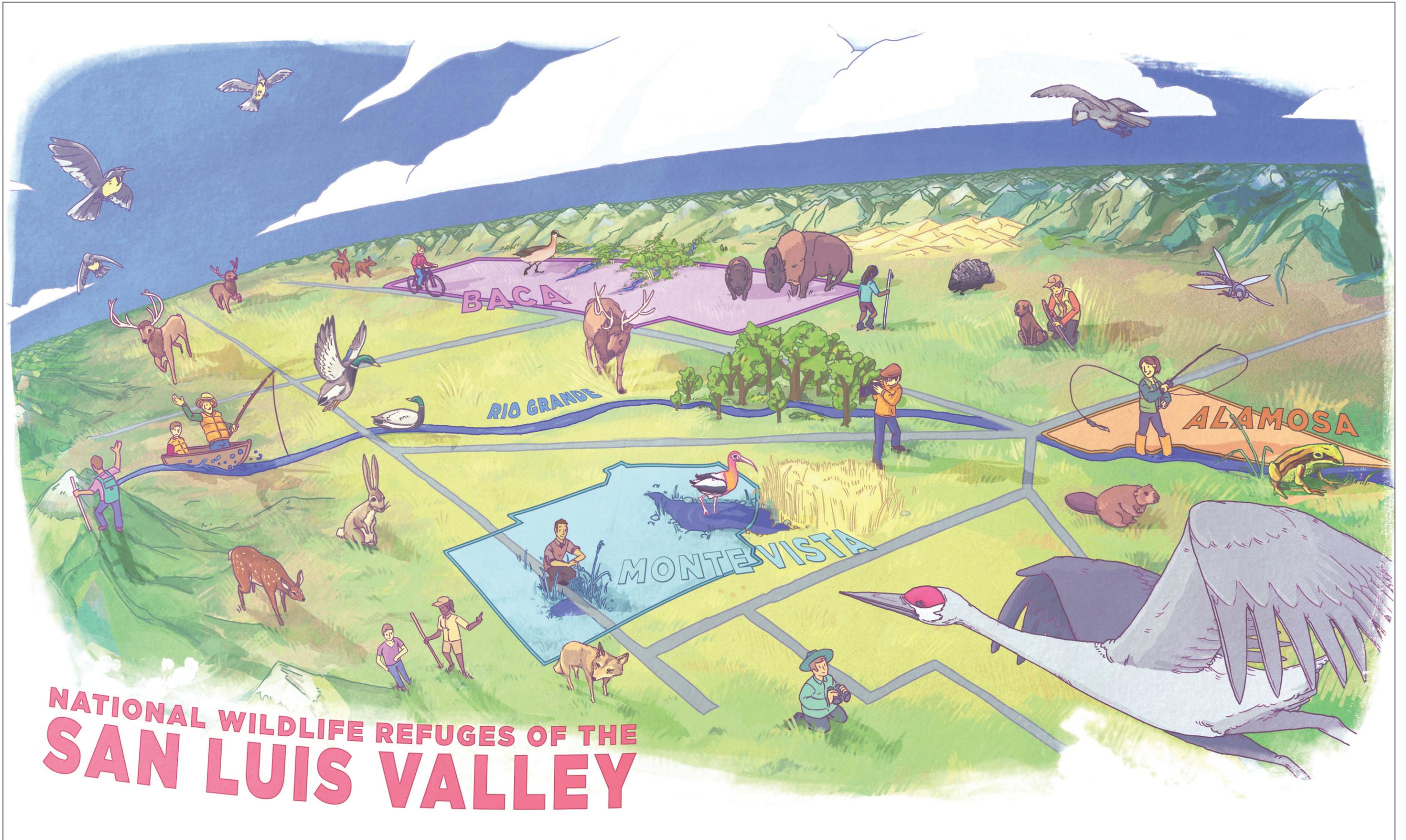


Figure 1. National Wildlife Refuges of the San Luis Valley, Colorado.



# Abbreviations

<b>ACEC</b>	Area of Critical Environmental Concern
<b>AFY</b>	acre-feet per year
<b>Alamosa Refuge</b>	Alamosa National Wildlife Refuge
<b>ATV</b>	all-terrain vehicle
<b>AUM</b>	animal-unit month
<b>Baca Refuge</b>	Baca National Wildlife Refuge
<b>BCR 16</b>	Southern Rockies Bird Conservation Region
<b>BLM</b>	Bureau of Land Management
<b>BOR</b>	Bureau of Reclamation
<b>CCP</b>	comprehensive conservation plan
<b>CFR</b>	Code of Federal Regulations
<b>cfs</b>	cubic feet per second
<b>CNEL</b>	Community noise equivalent level
<b>CO<sub>2</sub></b>	carbon dioxide
<b>CPW</b>	Colorado Parks and Wildlife; formerly Colorado Division of Wildlife (CDOW)
<b>dB</b>	decibel
<b>dBA</b>	A-weighted decibel
<b>DOI</b>	U.S. Department of the Interior
<b>EIS</b>	environmental impact statement
<b>FWS</b>	U.S. Fish and Wildlife Service
<b>GIS</b>	Geographic Information System
<b>GMO</b>	genetically modified organism
<b>GMU</b>	game management unit
<b>gpm</b>	gallons per minute
<b>GPS</b>	Global Positioning System
<b>GS</b>	General Schedule employment type
<b>HCP</b>	habitat conservation plan
<b>HMP</b>	habitat management plan
<b>HPP</b>	habitat partnership program

<b>IMPLAN</b>	Impact Analysis for Planning
<b>Improvement Act</b>	National Wildlife Refuge System Improvement Act of 1997
<b>Ldn</b>	day-night level
<b>Leq</b>	equivalent energy noise level
<b>MBCC</b>	Migratory Bird Conservation Commission
<b>Monte Vista Refuge</b>	Monte Vista National Wildlife Refuge
<b>NAGPRA</b>	Native American Graves Protection and Repatriation Act
<b>NEPA</b>	National Environmental Policy Act
<b>NPS</b>	National Park Service
<b>NRCS</b>	Natural Resources Conservation Service
<b>Refuge complex</b>	San Luis Valley National Wildlife Refuge Complex; Alamosa, Monte Vista, and Baca National Wildlife Refuges; Sangre de Cristo Conservation Area; and San Luis Valley Conservation Area
<b>Refuge System</b>	National Wildlife Refuge System
<b>Region 6</b>	Mountain-Prairie Region of the U.S. Fish and Wildlife Service
<b>RLGIS</b>	Refuge Land Geographic Information System
<b>RRS</b>	Refuge Revenue Sharing
<b>SEL</b>	sound exposure limit
<b>Service</b>	U.S. Fish and Wildlife Service
<b>TMDL</b>	Total Maximum Daily Load
<b>TNC</b>	The Nature Conservancy
<b>U.S.C.</b>	United States Code
<b>USDA</b>	U.S. Department of Agriculture
<b>USFS</b>	USDA Forest Service
<b>USGS</b>	U.S. Geological Survey
<b>WG</b>	wage grade employment type
<b>WSA</b>	wilderness study area
<b>WUI</b>	wildland-urban interface

*Definitions of these and other terms are in the glossary.*