



1 Introduction

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The Arapaho National Wildlife Refuge is located in northwestern Colorado. The refuge is part of the Arapaho National Wildlife Refuge complex, which also includes four satellite refuges in Wyoming: Bamforth, Hutton Lake, Mortenson Lake, and Pathfinder National Wildlife Refuges (figure 1–vicinity map).

This comprehensive conservation plan (CCP) addresses management of the Arapaho National Wildlife Refuge. A future planning effort will result in a CCP for the satellite refuges.

This chapter includes the following topics:

- area description
- purpose of and need for the CCP
- refuge overview
- refuge vision
- legal and policy guidance

Area Description

The Arapaho National Wildlife Refuge is located in an intermountain, glacial basin south of the town of Walden, the county seat of Jackson County. The 8,200-foot elevation basin is approximately 30 miles wide and 45 miles long. The basin is commonly known as “North Park” since it is the most northerly of three such “parks” in Colorado. Jackson County is contained within the basin that lies in the northern tier of Colorado counties (figure 2–North Park).



Everett and Nancy Collin

Sunset View From the Refuge

Forming the headwaters of the North Platte River, the basin opens north into Wyoming and is rimmed on the west by the Park Range, on the south by the Rabbit Ears Range, and on the east

by the Medicine Bow Range (figure 3–physical features of North Park). Elevation ranges from 7,800 to 12,965 feet above sea level. The floor of the basin is interspersed with many slow, meandering streams that come together in the north-central part of the county to form the North Platte River. Main tributary rivers are the Michigan, Illinois, Canadian, and Grizzly (figure 4–Platte River watershed).

A major portion of the bottomland along the streams is irrigated hay meadow and pasture. The low rises between streams are dry grassland and sagebrush uplands. The picture changes rapidly on the edges of the basin, where the land pitches abruptly upward to the mountaintops. Aspen, spruce, pine, and fir cover the slopes up to timberline at about 11,000 feet, then tundra and rock up to the mountain summits.

The ecosystems in North Park have developed through hundreds of years in a fire-dependent system, with fire as an important, dominating influence. High elevations and a short growing season, with a cool, often moist, climate influences the fire regime. The area’s class 4 fire regime consists of combined crown fires and severe surface fires (with a 25- to 100-year return interval). Most woody vegetation or stand elements were killed over large areas.

The fire regime in North Park has been altered, which subsequently changed the cultural activities, e.g., grazing patterns over a 100-year period. Early explorers noted tall grasses found in North Park. Native Americans dubbed North Park the “bullpen,” referring to the bison inhabiting the area. This gives an indication that the area may have been more dominated by grasses and, thus, likely was more influenced by fire than the present sagebrush-dominated condition. Records for North Park indicate little significant wildfire activity in the past 50 years.

Native Peoples and European Settlement

Prior to 1820, the Ute peoples spent their summers in North Park, living on mule deer, bison, pronghorn, and many other kinds of game. The severity of the winters forced both the Native Americans and the game down to lower altitudes in the fall.

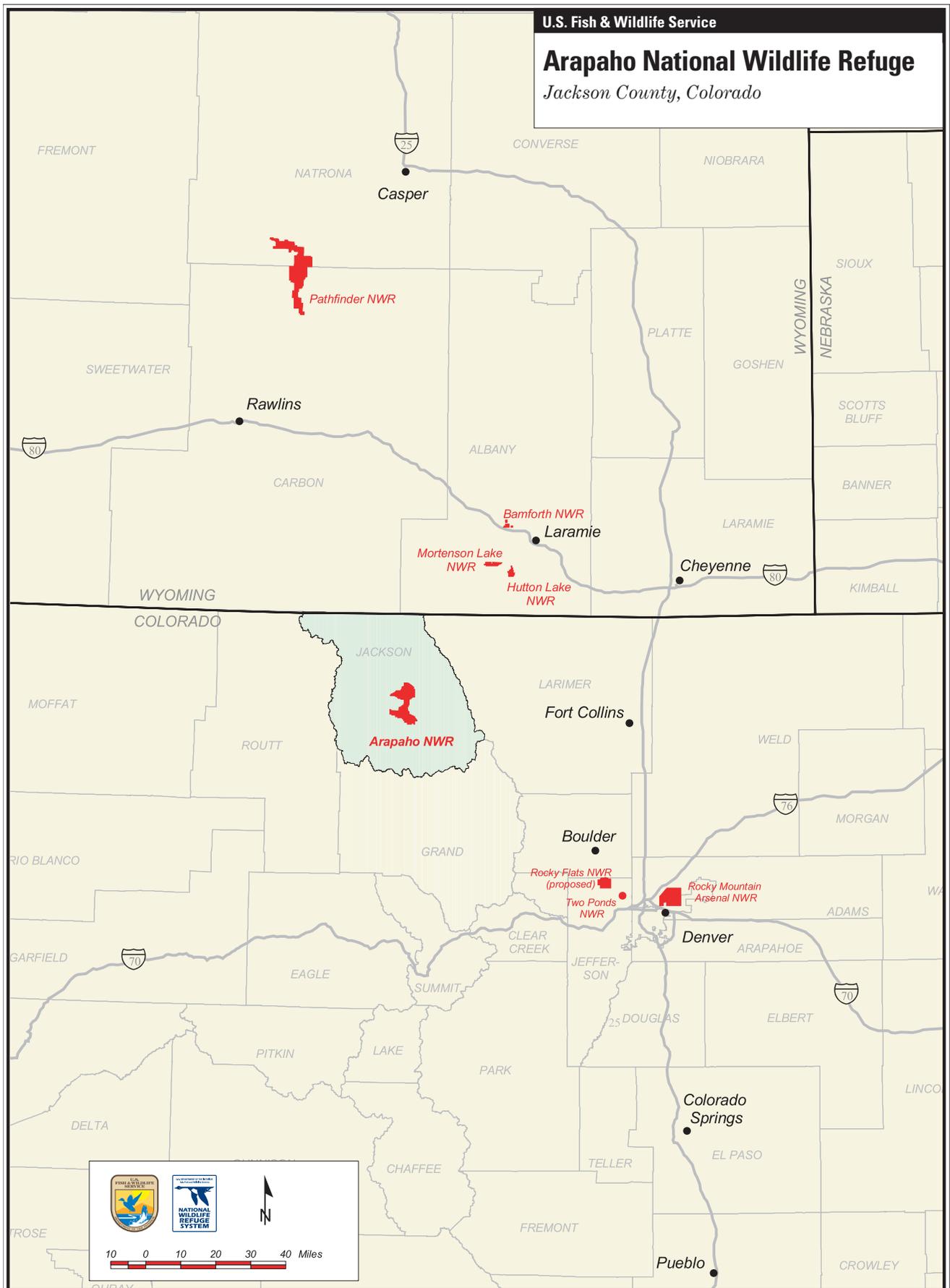


Figure 1. Vicinity map for Arapaho National Wildlife Refuge, Colorado

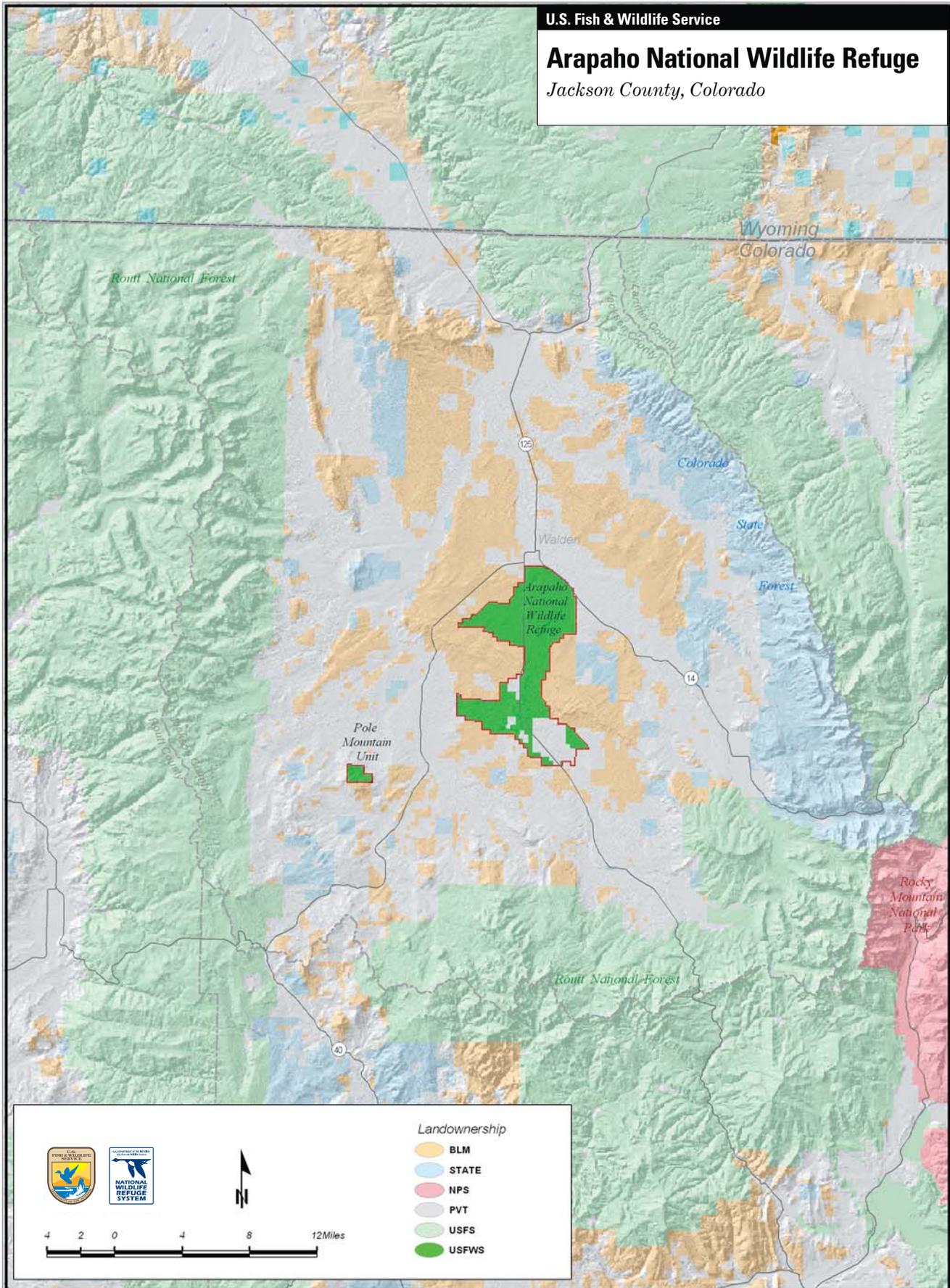


Figure 2. North Park area of Colorado

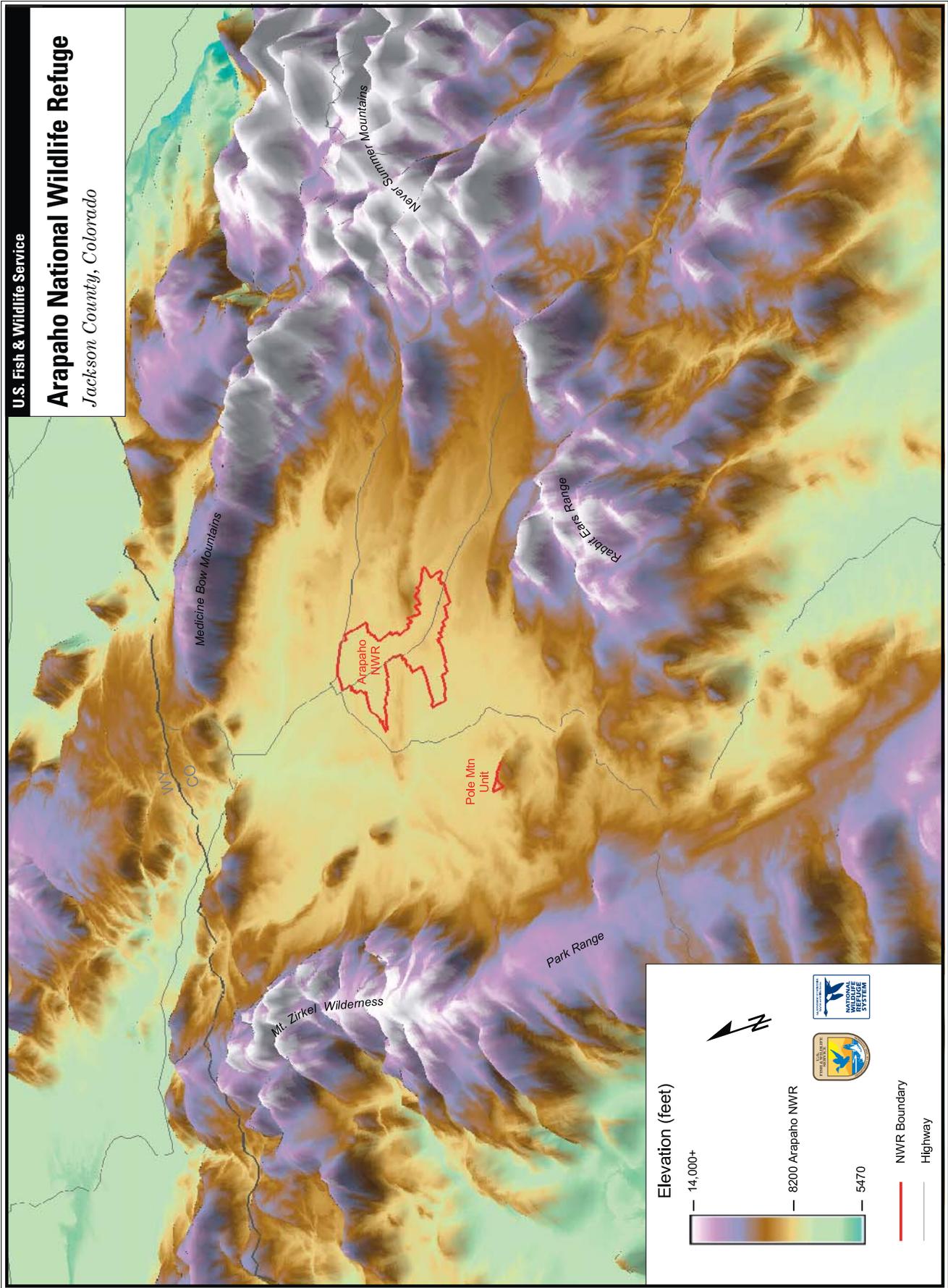


Figure 3. Physical features of North Park, Colorado

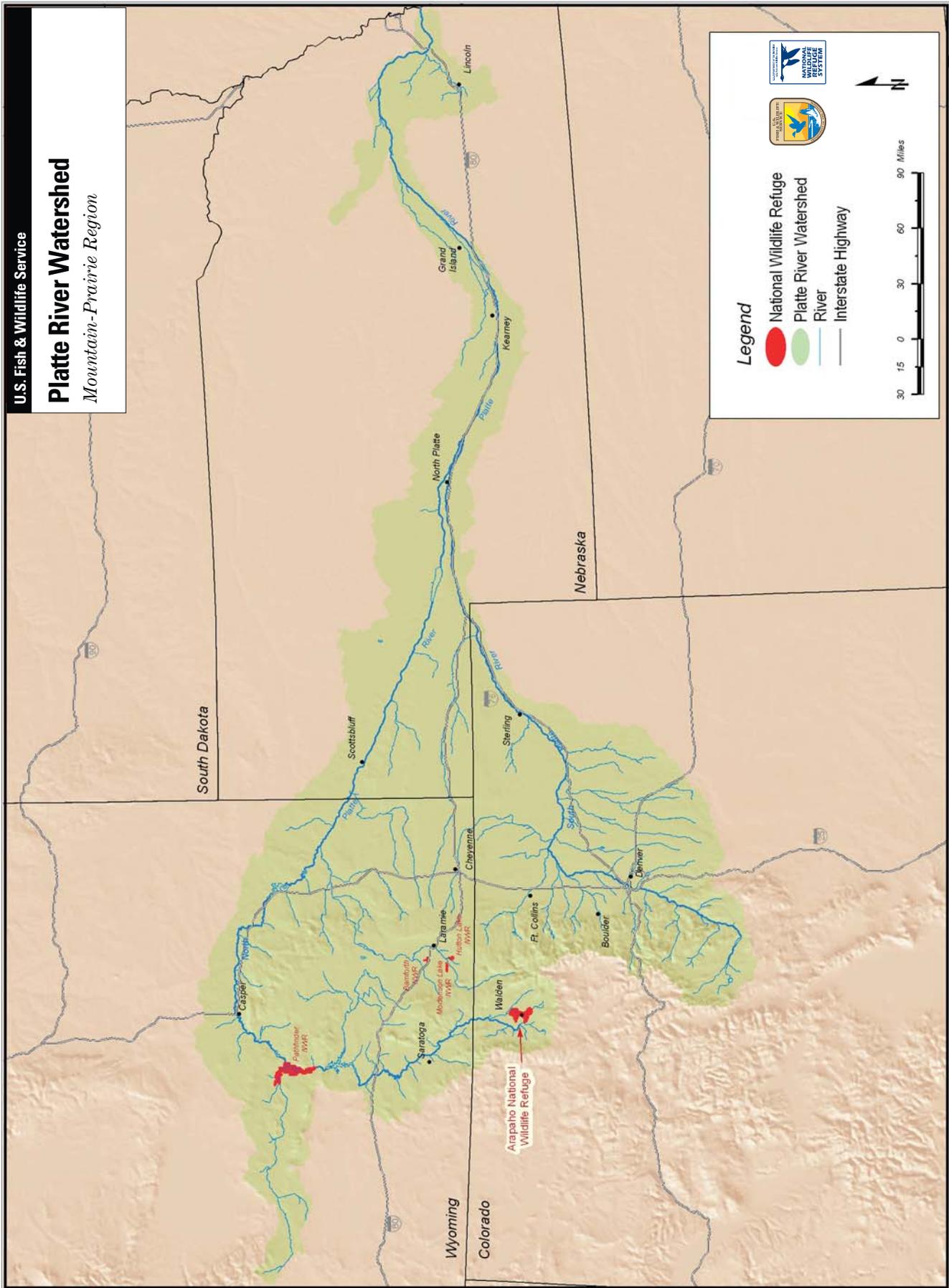


Figure 4. Platte River watershed of Colorado

The Arapaho peoples also made frequent hunting trips into North Park, coming in from the southwest over a pass described by Lt. John F. Fremont, as one of the most beautiful he had ever seen. The Utes and Arapahos were bitter enemies and many battles occurred when they chanced to meet. Besides their well-worn trails, other mute evidence of Native American life of pre-settlement time still exists in North Park. A band of Utes who participated in the 1879 massacre in Meeker, Colorado, fled to North Park after the incident. Several large, log tepees left by this band of Utes still stand in a sheltered, secluded spot.

The first Europeans to visit and explore North Park were probably trappers, who were in northwestern Colorado as early as 1819. Beaver were particularly abundant along North Park's streams. In 1820, Joseph Bijeau told of the good trapping he had experienced in North Park a few years prior, while with the Chateau and DeMunn expedition. Jacques Laramie trapped in North Park in 1820 for the Northwest Fur Company. He was followed by a party of trappers headed by Alexander Sinclair and Robert Bean, who trapped beaver in 1825. A number of trappers visited North Park into the 1840s, including Peg Smith, John Gantt, Kit Carson, Henry Fraeb, Calvin Jones, Bill Williams, Jim Baker, Jim Bridger, Sublette, Gervais, and Vasquez. In 1855, the famous Irish hunter, Sir George Gore, made a spectacular hunting trip through North Park, killing thousands of mule deer, bison, and pronghorn.

Miners and prospectors followed the trappers and hunters to North Park. James O. Pinkham was one of the first prospectors in North Park and began panning gold in the area in the early 1870s. Pinkham spent the long, cold winters in Laramie, Wyoming, and the summers in North Park. He believed that North Park was the richest and finest country in the world, and built a home there in 1874. Mr. Pinkham interested others in North Park through his tales of rich placer land. By 1875, nearly 100 men were prospecting for placer gold around the Rabbit Ears, Independence, and Owl Mountains.

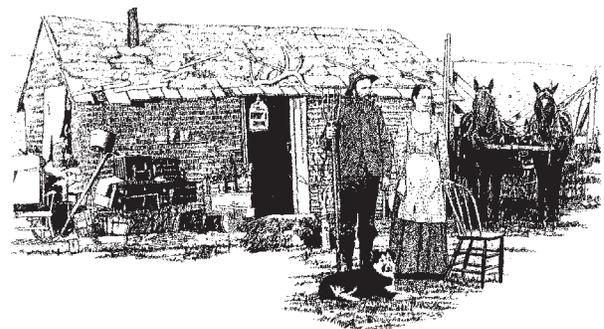
During August and September 1879, George Bird Grinnell—naturalist, writer, and hunter—entered North Park to collect museum specimens. Traveling by horse from the train station in Laramie, Wyoming, this 29-year-old Yale graduate noted, "The country at this point had been burned over and was black and extremely desolate in appearance. I inquired the cause of the fire and learned from the owner of the ranch (Pinkham) that the burn had been made to clear off the sagebrush which takes up so much room that might be occupied by grass." Several days later, while camped on a meadow along the North Platte River, Grinnell writes, ". . . was perhaps a mile and a half

wide, a superb level meadow, covered with fine grass, on which in the morning and evening from two to five hundred pronghorn were in sight at one time. Sage and dusky grouse, ducks, and jackrabbits abounded here also . . . It is only necessary to get back from the road to find both mule deer and elk."

The first settlers lived on wild game, and hunting was as important for the men as attending to their ranch work. North Park, in the late 1880s, was a paradise of game. Thousands of pronghorn summered in there before migrating to the lower valleys in Wyoming during the winter. Hundreds of mule deer and elk were in North Park, but their numbers diminished after the arrival of settlers. Few bison remained in the area when the first settlers came, and they soon disappeared. Many bears, mountain lions, mountain sheep, and beaver existed in North Park in the early days, along with thousands of sage grouse, blue grouse, and ducks.

No trout existed in any North Park streams when the first settlers came; however, in the 1880s, settlers stocked the streams with eastern brook trout and rainbow trout.

In 1880, large numbers of cattle were driven down from the railroad lines in Laramie, Wyoming. However, the winter of 1883–84 was severe, and half of the stock died. As a result, most of the ranchers purchased mowers and rakes prior to the following summer's haying season in preparation for putting up wild hay for winter feed. Hay has historically been the main agricultural crop in Jackson County, with about 100,000 acres being in native mountain hay and only 370 acres in other crops. For years, all the hay was fed inside North Park; in 1914, ranchers began to bale and sell the hay outside North Park.



By the early 1890s, North Park was fairly well settled in every direction and was a central point when securing supplies became necessary. As a result, the town of Walden (elevation 8,100 feet) was established in the middle of North Park. Walden was located near two wagon roads from Laramie to Teller City and from Albany to Granby. The town was named after Marcus Walden, postmaster of the nearby settlement of Sage Hen Springs.

Today in North Park

Since the 1890s, North Park has been known for high waterfowl productivity. Historically, high, river flows in the spring flooded meadows, which provided suitable nesting habitat for a host of nesting bird species, especially waterfowl. Today, North Park serves as the second most productive waterfowl area in Colorado.

Jackson County is rural and sparsely populated with a population of only 1,577 individuals (2000 census data). Approximately 900 individuals live within the Walden city limits. The economy of Jackson County is based primarily on agriculture and recreation. Additionally, mining and logging have provided economic stimulus to the county. The economic base has been fairly stable throughout the history of Jackson County, with some fluctuations caused by the instability of the mining and logging industry.

Ranching, including both hay production and cattle, continues to be the dominant land use of North Park. Fortunately, the traditional ranching history of North Park has not only produced hay and cattle, it has preserved and protected thousands of acres of wildlife habitat.

Recreation is becoming more and more economically important to Jackson County. The county's many streams, lakes, uplands, forests, and mountains are mostly open to public access. These areas offer unusual opportunities for outdoor recreational activities such as hunting, fishing, bird watching, backpacking, camping, snowmobiling, cross-country skiing, bicycling, and horseback riding.

The U.S. Fish and Wildlife Service

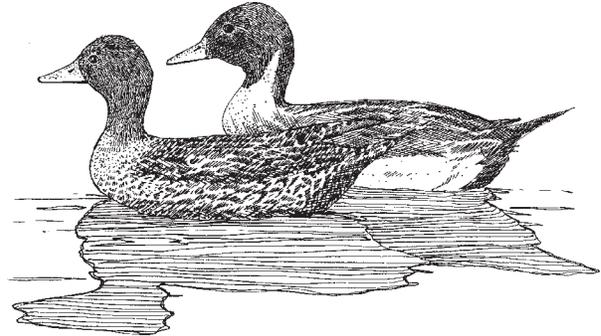
To fulfill the mission of the U.S. Fish and Wildlife Service, Congress has charged the agency with conserving and managing migratory birds, endangered species, anadromous and inter-jurisdictional fish, and certain marine mammals.

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.

The Service enforces federal wildlife laws, manages migratory bird populations, restores nationally significant fisheries, conserves and restores wildlife habitat such as wetlands, administers the Endangered Species Act, and helps foreign governments with their conservation efforts. It also oversees the Federal Aid Program, which distributes hundreds of millions of dollars (from excise taxes on hunting and fishing equipment) to state wildlife agencies.

The Service operates more than 540 national wildlife refuges and waterfowl production areas, 70 national fish hatcheries, 64 fishery resource offices, and 78 ecological services field stations.

The National Wildlife Refuge System of the Service is the world's largest collection of lands set aside specifically for the protection of wildlife. The first unit of the refuge system was created in 1903, when President Theodore Roosevelt designated 3-acre Pelican Island, a pelican and heron rookery in Florida, as a bird sanctuary.



Northern Pintail
© Cindie Brunner

The mission of the National Wildlife Refuge System is to administer a network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Today, the refuge system encompasses more than 95-million acres, located in all 50 states and a number of U.S. Territories.

The refuge system provides habitat for native mammals, birds, reptiles, amphibians, fishes, invertebrates, and plants "trust resources" for which the Federal Government is ultimately responsible. It plays a vital role in preserving endangered and threatened species, preventing species from becoming endangered, and offers wildlife-dependent recreation for over 34 million visitors annually.

Purpose of and Need for the Plan

Initiated by the National Wildlife Refuge System Improvement Act of 1997, comprehensive conservation plans (CCPs) will be developed for all units of the National Wildlife Refuge System of the U.S. Fish and Wildlife Service. Plans must include public involvement in their development, and must set forth strategies to fulfill the refuge

system mission, as well as the purposes for which the refuge was established.

This CCP provides a 15-year guidance for the management of Arapaho National Wildlife Refuge. Management goals and objectives were developed for the refuge (chapter 4—management direction).

Based on the life requirements of selected wildlife species, these goals and objectives provide specific targets toward which refuge staff will manage. Future management efforts will focus on achieving these goals and objectives for the benefit of wildlife and the American people.

Wildlife has first priority in the management of refuges. Recreation or other uses are allowed if they are compatible with wildlife conservation. Six wildlife-dependent recreational activities will be emphasized—wildlife observation and photography, hunting, fishing, environmental education, and interpretation.

Platte/Kansas Rivers Ecosystem

The U.S. Fish and Wildlife Service has divided the country into 53 watershed-based ecosystem management units. The Platte/Kansas Rivers ecosystem unit encompasses approximately 182,000 square miles of the central Great Plains of the United States (figure 5—Platte/Kansas Rivers ecosystem). The Platte/Kansas Rivers ecosystem covers portions of Colorado, Kansas, Nebraska, and Wyoming.

Ecosystem Vision

The vision of the Platte/Kansas Rivers eco-team is to provide partnership-based, landscape-level conservation for the diversity and abundance of natural resources within the ecosystem. The team envisions

- landscapes that exhibit natural, healthy, ecological processes
- ongoing protection of threatened, endangered, and endemic species
- protection and promotion of native prairie vegetation
- involvement of all stakeholders in decision-making processes
- recognition that partnerships are the key to success

Ecosystem Description

This diverse area begins at the headwaters of the North and South Platte Rivers, high in the Rocky Mountains. It includes the sagebrush uplands of north-central Colorado and southeastern Wyoming,

short-grass prairie regions of eastern Colorado, and mixed-grass prairie regions of Nebraska and Kansas. The primary ecological processes affecting this system are climate, cultivation, grazing, and fire. The ecosystem is arid with an average annual precipitation between 8 to 16 inches per year.

Approximately 85 percent of the Platte/Kansas Rivers ecosystem is privately owned. The remainder is primarily owned and managed by State and Federal agencies.

The Platte/Kansas Rivers ecosystem planning team, with input from partners and field stations, identified and prioritized three primary geographic sub-units: mixed-grass prairie, mountain, and short-grass prairie. Arapaho National Wildlife Refuge falls within the mountain sub-unit of the ecosystem plan and plays a vital role in uplands management and protection. Within each geographic sub-unit, priorities were established based on significance in the ecosystem, species diversity, risk or threat to the entire ecosystem, public benefits, and trust resources. Also considered were legal mandates, opportunity for partnerships, likelihood of success, and cost effectiveness.

Refuge Overview

On August 15, 1967, the Migratory Bird Conservation Commission approved the first land acquisition project for the establishment of the refuge. The original land purchase was the Allard Ranch of 4,433.07 acres. Subsequently, nine additional land tracts were purchased, and land exchanges completed with the U.S. Bureau of Land Management and the State of Colorado.

On September 26, 1967, the Migratory Bird Conservation Commission, acting under the authority of the Migratory Bird Conservation Act, approved the established area known as the Arapaho National Wildlife Refuge. The refuge is 23,243 acres in size and is located in Jackson County (figure 6—base map). Purchased acres total 18,451, while 4,792 acres were withdrawn.

Refuge complex staff administers an additional 21,717 acres on the Wyoming satellite refuges, for a total of 44,960 acres under complex management.

Purposes

National wildlife refuges are established for a particular purpose. Formal establishment is generally based on a statute or executive order that specifies a purpose for that refuge. However, refuges can also be established by the Service using the authorization found within laws such as the Endangered Species Act, Migratory Bird Conservation Act, and the Fish and Wildlife Act of 1956.

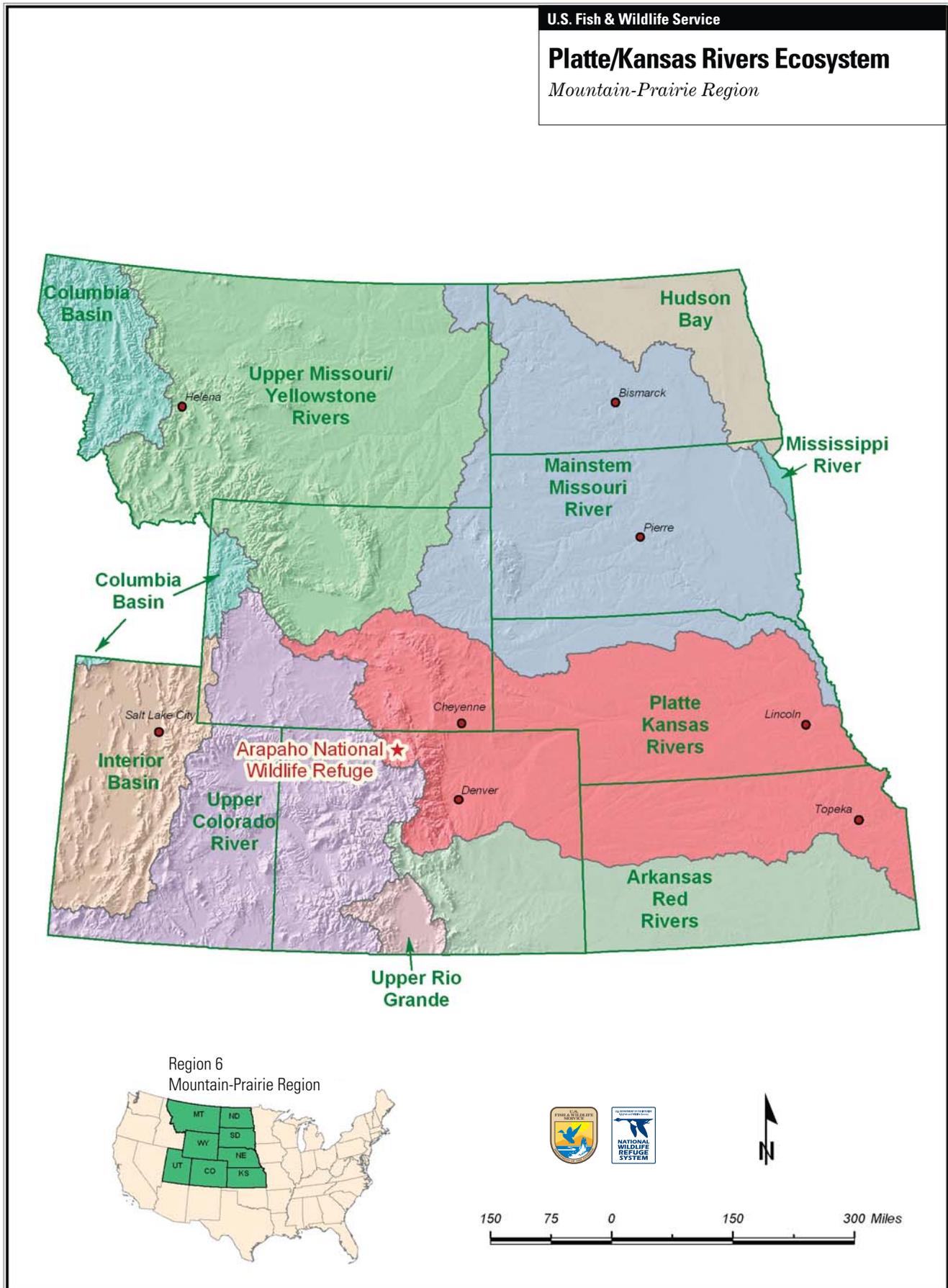


Figure 5. Platte/Kansas Rivers ecosystem

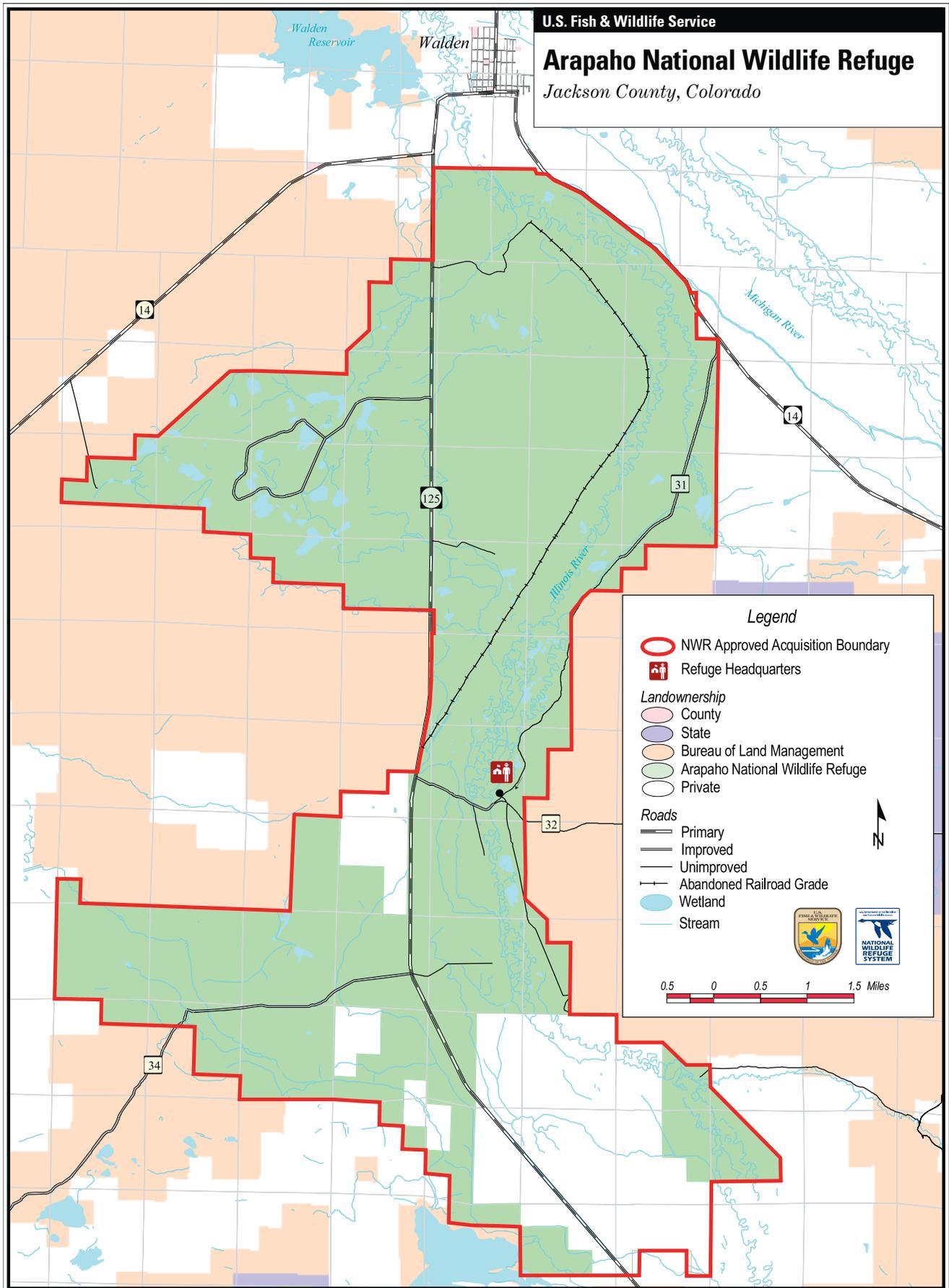


Figure 6. Base map of Arapaho National Wildlife Refuge, Colorado

Arapaho National Wildlife Refuge was established for the following purposes:

- “. . . for uses as an inviolate sanctuary, or for any other management purpose, for migratory birds.” (16 U.S.C. § 715d, Migratory Bird Conservation Act)
- “. . . for the development, advancement, management, conservation, and protection of fish and wildlife resources . . .” [16 U.S.C. § 742f (a)(4)] “. . . for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude . . .” (Fish and Wildlife Act of 1956)

These two broad statements provide the sideboards to guide future management of the refuge.

Management and Use

Since 1967, the refuge has been managed primarily for waterfowl nesting and production. Using existing irrigation ditches for the water-delivery system, the refuge staff constructed or enhanced 72 wetland impoundments in the Illinois River. These impoundments, and associated wet-meadow habitats, provide the habitat necessary to produce waterfowl.

The refuge provides quality habitat for many mammals and other birds common to high-mountain, sagebrush-steppe environments. The willow riparian area alone supports more than 40 species of songbirds (Neotropical migrants) during part of their migration or nesting cycle. Sage grouse are common on the refuge, and wet-meadow habitats provide critical feeding areas for sage grouse young.

Moose, mule deer, elk, and pronghorn are common wildlife species on the refuge. These big-game species migrate on and off the refuge; however, an average of 1,200 elk, 200 pronghorn, and 20 moose may inhabit the refuge at any one time.

Managing invasive plants and limiting their impact on vegetative resources of the refuge is a priority. The refuge falls within the invasive plant management area of the North Platte headwaters.

Refuge staff work closely with the Jackson County weed coordinator to ensure adequate control of invasive plants.

Grazing is the primary management tool used to manage meadow and upland habitats. Seven grazing cooperators help maintain and enhance grassland habitats. Water-level manipulation, irrigation, fire, mowing, harrowing, and disking are additional tools used to improve grassland and wetland habitats.

The refuge headquarters is located 8 miles south of Walden, on Highway 125. A full-time staff of six employees and four seasonal employees works to manage the refuge wetlands, irrigation system, wildlife habitats, and visitor facilities.

The refuge accommodates approximately 7,200 visitors annually (5-year average 1998–2002). The 6-mile auto tour route, the walking trail, and Brocker Overlook account for the majority of visitor use. Approximately 500 recreation days are provided to hunters and anglers. The refuge is open to limited hunting opportunities for small game, waterfowl, sage grouse, and pronghorn. The lower one-third of the refuge provides fishing opportunities for brown and rainbow trout.

Partnerships

The refuge promotes partnership opportunities to accomplish natural resource-related goals both on and off the refuge. Existing partnerships include groups and agencies shown in table 1 (next page).

Refuge Vision Statement

As part of the planning process, the refuge staff and planning team reviewed past national, regional, and complex planning documents and current planning guidance. Using the legislation and plans, the planning team developed the following vision statement for the refuge.

- Arapaho National Wildlife Refuge is managed to benefit the diversity of plants and wildlife found in this high mountain valley of the southern Rocky Mountains. The refuge and its resources are also managed for the benefit of the citizens of the United States.
- The refuge includes wetland, meadow, sagebrush uplands, and riparian communities that provide habitat for large animals, Neotropical migratory birds, nesting waterfowl, fishes, and species of concern from national and regional conservation plans. In particular, efforts by refuge staff to restore the Illinois River channel hydrology, riparian areas, and sagebrush uplands, and to effectively manage wetlands and meadows, contribute to the ecological integrity of the refuge, North Park, and the overall North Platte River system.
- Through wildlife-dependent recreation and education, people have opportunities to learn of the wonder and significance of North Park's fauna and flora. Firsthand experiences with the refuge encourage people to participate as stewards, not only of the refuge, but also of the natural resources in their own communities.

Table 1. Existing partnerships, Arapaho National Wildlife Refuge, Colorado

<i>Name</i>	<i>Partnership</i>
Colorado Division of Wildlife (CDOW)	wildlife and fishery habitat improvement, resource sharing, law enforcement
CDOW Habitat Partnership Program	reduction of cattle and big-game conflicts throughout North Park
Colorado Scenic Byways	overlooks and roads development, interpretation
Colorado State Forest Service	natural resources improvement projects, forest management plans, fire management
Colorado State University	assistance with planning, wildlife research, and habitat management
Jackson County	invasive plant management, fire support
Natural Resource Conservation Service	assistance with soils and vegetative management
Owl Mountain Partnership	land health improvement projects on public and private lands, grazing management plans, wildlife watering areas, and sagebrush management projects
Platte/Kansas Rivers Eco-team	assistance with funding and planning natural resource projects
National Center for Atmospheric Research	research snowpack characteristics to create reliable snowpack models
Sage Grouse Working Group	sage grouse habitat protection and enhancement
U.S. Bureau of Land Management	partner in several programs, equipment sharing, resource sharing
USDA Forest Service	partner in several programs, equipment sharing, fire management, resource sharing
U.S. Geological Survey	cooperative wildlife research, planning, and water monitoring projects

- Working in collaboration with the local community and other agencies and organizations helps the U.S. Fish and Wildlife Service manage the refuge as a contributing ecological, cultural, and economic component of the unique mountain valley within which it sits.

National Wildlife Refuge System. Use of any area within the refuge system was permitted, provided such uses were compatible with the major purposes for which such areas were established.

Appendix A contains descriptions of other laws and policies that are related to national wildlife refuges.

Legal and Policy Guidance

National wildlife refuges are guided by

- the mission and goals of the U.S. Fish and Wildlife Service and National Wildlife Refuge System
- the legal purpose of the refuge unit as described in the enabling legislation or executive orders
- international treaties
- federal laws and regulations
- Service policies

The National Wildlife Refuge System Administration Act of 1966, as amended, provides guidelines and directives for administration of the

National Wildlife Refuge System Improvement Act

The National Wildlife Refuge System Improvement Act of 1997 amends the Refuges System Administration Act by including a unifying mission for the refuge system, a formal process for determining compatible uses on refuges, and a requirement that each refuge be managed under a comprehensive conservation plan. Specific details regarding additional amendments are available through the refuge or regional Service offices.

This Act states that wildlife conservation is the priority of refuge system lands and that the Secretary of the Interior shall ensure that the

biological integrity, diversity, and environmental health of refuge lands are maintained. Each refuge must be managed to fulfill both the specific purposes for which it was established and the mission of the refuge system.

Lands within the refuge system are different from other public lands in that they are closed to all public uses unless specifically and legally opened. Unlike other federal lands that are managed under a multiple-use mandate (e.g., national forests administered by the USDA Forest Service and public lands administered by the U.S. Bureau of Land Management), the refuge system is managed specifically for the benefit of fish and wildlife resources.

The Act defines six priority wildlife-dependent recreational uses.

- wildlife observation
- wildlife photography
- hunting
- fishing
- environmental education
- interpretation

Use Compatibility

Compatibility is a legal requirement of all refuge uses. By federal law, all uses of national wildlife refuges, including wildlife-dependent recreational activities, must be formally determined to be compatible.

A compatible use is “a use that, in the sound professional judgment of the refuge manager, will not materially interfere with or detract from the fulfillment of the mission of the refuge system or the purposes of the refuge.” Sound professional judgment is further defined as “a finding, determination, or decision that is consistent with the principles of sound fish and wildlife management and administration, available science and resources (funding, personnel, facilities, and other infrastructure), and adherence with applicable laws.” No use of a national wildlife refuge may be allowed unless determined to be compatible.

Uses that have been determined to be compatible for Arapaho National Wildlife Refuge include the following:

- wildlife observation and photography
- hunting
- fishing
- environmental education
- interpretation

Additionally, habitat management tools include, but are not limited to, fire, mowing, grazing, invasive plant control (chemical, mechanical, and physical methods), Dixie harrowing, fencing, water management, routine refuge maintenance activities, and public use related structures (appendix B).



Cow Moose With Twins

