National Park Service
U.S. Department of the Interior

Great Sand Dunes National Park and Preserve

Final
General Management Plan/Wilderness Study/ Environmental Impact Statement

April 2007

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General Management Plan / Wilderness Study / Environmental Impact Statement
Great Sand Dunes National Park and Preserve

Alamosa and Saguache Counties, Colorado

April 2007

This document is the Final General Management Plan / Wilderness Study / Environmental Impact Statement for Great Sand Dunes National Park and Preserve. A general management plan describes the general path the National Park Service intends to follow in managing a park over the next 15 to 20 years. The general management plan (GMP) portion of this document (chapters one and two) presents four alternative ways to manage natural and cultural resources, visitor use and opportunities, and facilities at Great Sand Dunes National Park and Preserve. One of the four GMP alternatives is a "no-action alternative" that provides a baseline against which to consider the other alternatives; it describes continuation of current management practices into the future. The National Park Service preferred alternative is the management strategy the National Park Service intends to implement. It has been modified to reflect applicable comments on the draft GMP during public review in 2006 (see appendix E). Issues addressed by the GMP relate to protection of fundamental park resources and values, management of new park lands, public access, crowding/overuse, wilderness, wild and scenic rivers, and development and uses in and around the park.

The wilderness study portion of this document provides a public forum for evaluating new lands within the expanded Great Sand Dunes National Park and Preserve boundary for possible recommendation to Congress for inclusion in the National Wilderness Preservation System. This document provides a formal evaluation of those lands by studying wilderness eligibility, wilderness alternatives, and impacts of those alternatives. The wilderness alternatives are matched to the four GMP alternatives.

The environmental impact statement portion of this document (chapters three, four, and five) provides background information about conditions in and around Great Sand Dunes National Park and Preserve (e.g., for natural and cultural resources, the socioeconomic environment, and agency operations), and describes the environmental consequences that would be expected from implementing each of the four GMP/wilderness alternatives.

Signed,

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SUMMARY

The purpose of this conceptual plan is to describe the general path the National Park Service (NPS) intends to follow in managing Great Sand Dunes National Park and Preserve over the next 15 to 20 years. The approved plan will provide a framework for proactive decision making on visitor use, natural and cultural resource management, and park facilities. Although a general management plan (GMP) provides the analysis and justification for future funding, the plan in no way guarantees that the level of future funding will be sufficient to fully implement the plan. Requirements for additional data for legal compliance and competing national park priorities can delay implementation of actions. Full implementation of a plan could lie many years in the future.

ALTERNATIVES

Four alternatives have been developed for managing visitor use and resources at Great Sand Dunes National Park and Preserve. Each alternative provides a different management approach. The alternatives were based on the park's purpose and significance, fundamental resources and values, legal mandates, public views, and information on visitor use and park resources.

The **no-action alternative** was developed to provide a baseline for evaluating the changes and impacts of the three action alternatives. This baseline is characterized primarily by conditions in December 2004, roughly two months after ownership and management of the Baca Ranch was transferred to the U.S. government, and by continuation of current management practices into the future. (There are funded projects planned for very near term; these are included in the no-action alternative). Most visitor use would continue to be focused in or near the eastern part of the dunefield. The developed area east of the dunes (main park road, visitor center, and campground) would remain essentially the same. Some visitors would continue to explore backcountry areas of the park and preserve via designated trails and roads, and cross-country horse and hiking use would also continue. Some people would enter the north part of the park on foot from the Baca Grande subdivision, via the two county roads that end at the park boundary.

No new areas would be recommended for wilderness. New park lands that were not open to public use before December 2004 would be managed in a very conservative manner. That is, there would be no new development and visitor use would be managed so as to not establish new practices for camping, types and routes of access, etc.

New park areas would be inventoried for natural and cultural resources and managed according to NPS policies that emphasize natural processes (for example, nonnative species, interior pasture fences, and artificial water holes and sources would be removed). Existing trails and trailheads in the park and preserve would be maintained, but there would be no new trails or trailheads. The Nature Conservancy would continue to manage Medano Ranch, including the Medano Ranch headquarters. There would be no public use of Medano Ranch. Bison grazing would continue within the park on lands leased or owned by The Nature Conservancy. Leashed dogs would generally be allowed

within the national park (in the front-country, dunes play, and backcountry access zones, and the Liberty Road administrative zone only), and within the national preserve.

The **NPS preferred alternative** was developed with substantial public, inter-agency, and NPS staff participation between 2003 and 2006 (see Appendix E: Development of the General Management Plan and "Wilderness Recommendation" section). This is the alternative the National Park Service proposes to implement over the next 15 to 20 years. It was modified in response to comments on the draft GMP during public review in 2006. Options would be created for dispersed hiking and horseback riding; a few new trails would be provided. Cooperative or joint facilities (such as access routes, trailheads, and ranger stations) with neighboring management agencies or private partners would be emphasized.

A large portion of the park expansion lands would be recommended for future designation as wilderness. To address existing and growing congestion in parking areas near the high dunes and visitor center, the park would pursue traffic management and possible transportation solutions, rather than building additional parking or limiting use. The park's entrance station would be removed and a new one would be located closer to the park boundary. Bike lanes would be added to the main entrance road from the park boundary to the dunes parking lot. A hiking/biking path would connect the Pinyon Flats campground to the dunes parking lot and visitor center.

The National Park Service would seek to acquire Medano Ranch and adaptively use the ranch headquarters for administrative purposes (offices, housing, storage, research support) and scheduled, guided public activities (interpretive programs, environmental education, a base for guided hiking or horseback tours, special events). Most historic Medano Ranch structures would be retained. Leashed dogs would be allowed within the national park (in the frontcountry, dunes play, backcountry access zones and the Liberty Road administrative zone only) and within the national preserve.

A trailhead would be provided in the north part of the park to provide a closer access point for backcountry recreation on the nearby national forest, the preserve, and new lands within the national park. Assuming neighboring entities find a way to provide vehicle access, the trailhead would be accessed via the Baca Grande subdivision, and then via an existing primitive road within the north portion of the national park. Also, the U.S. Forest Service (USFS), in consultation with the National Park Service, may study the need for (and impacts of) providing public vehicle access to USFS lands via Liberty Road or via an extension of an existing primitive road; these options would be studied in a separate NPS/USFS environmental analysis study.

In the **dunefield focus—maximize wildness alternative**, most visitor use and visitor activities would be focused in or near the eastern edge of the dunefield. Most of the rest of the park and preserve would remain wild and undeveloped, allowing natural processes to continue with minimal human influence. Backcountry areas would be primitive and rugged, providing outstanding opportunities for solitude and adventure. A large portion of the park expansion lands would be recommended for future designation as wilderness.

Existing trails and trailheads would be maintained. Most visitors would continue to visit the main dunefield area (main park

road, visitor center, dunes parking lot, and picnic area). Parking and related support facilities, such as restrooms, could be expanded in the frontcountry zone if dunes parking lots filled too often. A new multi-use trail for bicyclists and pedestrians would extend from near the park's main entrance to the visitor center, dunes parking lot / picnic area, and to Pinyon Flats campground. A gate for horse access would be provided on the north boundary of the national park, and pedestrian access from the Baca Grande subdivision would continue.

The National Park Service would seek acquisition of Medano Ranch and would manage it as a natural/wild zone. Ranch structures would not be maintained (or would be removed after documentation). Leashed dogs would be restricted to parking areas, picnic areas, and car campgrounds within the national park—they would not be permitted in the national preserve.

In the **three public nodes alternative**, most visitors would gain access to the park and preserve via three areas or "nodes." Visitor facilities and trails would be concentrated in or near the three nodes, and the rest of the park and preserve would remain largely undeveloped. This alternative would provide diverse options for visitors to experience different portions of the dunes system.

The first node, located at the existing developed area east of the dunes, would remain essentially the same. The second node would be located at the Medano Ranch headquarters. The National Park Service would seek acquisition of Medano Ranch and would manage the ranch headquarters as a public day-use area, most historic ranch structures would be maintained, and guided hiking and horseback tours to nearby high interest areas could be provided. The third node, located in the north part of the park, would include a backcountry trailhead and a primitive campground if an appropriate public vehicle access route could be identified via the Baca National Wildlife Refuge or Baca Grande subdivision. Dogs would not be permitted in areas where there is increased potential for or a history of conflicts with visitors or with wildlife; otherwise leashed dogs would be allowed. No new wilderness would be recommended in this alternative. The USFS, in consultation with the National Park Service, may study the need for (and impacts of) providing public vehicle access to USFS lands via Liberty Road or via an extension of Cow Camp Road to the mountain front; these options would be studied in a separate NPS/USFS environmental analysis study.

BOUNDARY ADJUSTMENTS

Due to the Great Sand Dunes Act of 2000 and the major park boundary expansion that followed, the *General Management Plan / Wilderness Study / Environmental Impact Statement* addresses only minor, technical boundary adjustments. The National Park Service would pursue, through legislation or administrative action, minor boundary corrections, including one to address boundary discrepancies near San Luis Lakes State Park.

ENVIRONMENTAL CONSEQUENCES

For all alternatives, most impacts on natural resources (vegetation, wildlife, wetlands, etc.) and cultural resources (e.g., archeological sites) would result from visitor use in new park areas and growth in visitor use over the life of the plan. The action alternatives would also have direct

and indirect natural and cultural resource impacts from limited new facilities such as trails, trailheads, and (in one alternative) a primitive campground. Some such facilities would affect scenery and traffic in and around the park. In the NPS preferred and three public nodes alternatives, NPS adaptive use of the Medano Ranch headquarters would help protect historic structures, and the guided learning zone would allow visitors to learn about and enjoy sensitive resources while protecting those resources. Under the three action alternatives, an NPS-managed bison herd would not be feasible, but if additional bison habitat becomes available in the future, this option may be reconsidered. If and when The Nature Conservancy ceased agricultural uses of Medano Ranch, irrigation of meadows would be discontinued and bison fences removed. Wilderness recommendations in the NPS preferred and dunefield focus-maximize wildness alternatives would affect park resources, visitor experiences, and operations of the National Park Service and other agencies. Providing a trailhead in the north end of the national park (NPS preferred and three public nodes alternatives) would improve access to new NPS and USFS lands and have other beneficial and adverse impacts on neighboring communities and agencies.

For a detailed summary table of environmental consequences (including type, intensity, and duration), see chapter four, table 26.

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Chapter One: Purpose and Need for the Plan

PURPOSE AND NEED FOR THE PLAN

OVERVIEW OF THE PARK AND PRESERVE AND THE REGION

Great Sand Dunes National Monument was established in 1932 by presidential proclamation "for the preservation of the Great Sand Dunes and additional features of scenic, scientific, and educational interest." The Great Sand Dunes Wilderness Area, established in 1976, includes most of the original monument. In November 2000, the Great Sand Dunes National Park and Preserve Act authorized expansion of the national monument into a national park and preserve almost four times the size of the original monument. Some of the land within the expanded national park boundaries is in private or state ownership. The national preserve includes some 40,000 acres of wilderness formerly managed by the U.S. Forest Service (USFS).

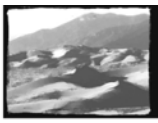
> In this document, Great Sand Dunes National Park and Preserve is referred to collectively as "the park" or "the Great Sand Dunes." Great Sand Dunes National Preserve (only) is referred to as "the preserve" or "the national preserve." Great Sand Dunes National Park (only) is referred to as "the national park."

The park is located in the high San Luis Valley of south-central Colorado at an elevation of 8,175 feet (~2500 meters) (see "Region" and "Vicinity" maps). The San Luis Valley ("Valley") is bordered by Poncha Pass on the north, the San Juan Mountains on the west, and the Sangre de Cristo Mountains on the east. To the south, the San Luis Valley extends into New Mexico along the Rio Grande. The Valley is a discrete cultural region rich in Hispanic culture and place names. Cattle ranching and irrigated agriculture (especially potatoes and alfalfa) are two main land uses in the Valley. Blanca Peak, the fourth-highest mountain in Colorado and sacred to some native peoples, towers over the Valley, southeast of the park.

The park straddles the Saguache-Alamosa county line. Alamosa, population 8,545, is located about 25 miles southwest of the park. Several smaller settlements (Moffat, Hooper, Mosca, and Crestone) lie closer to the park.

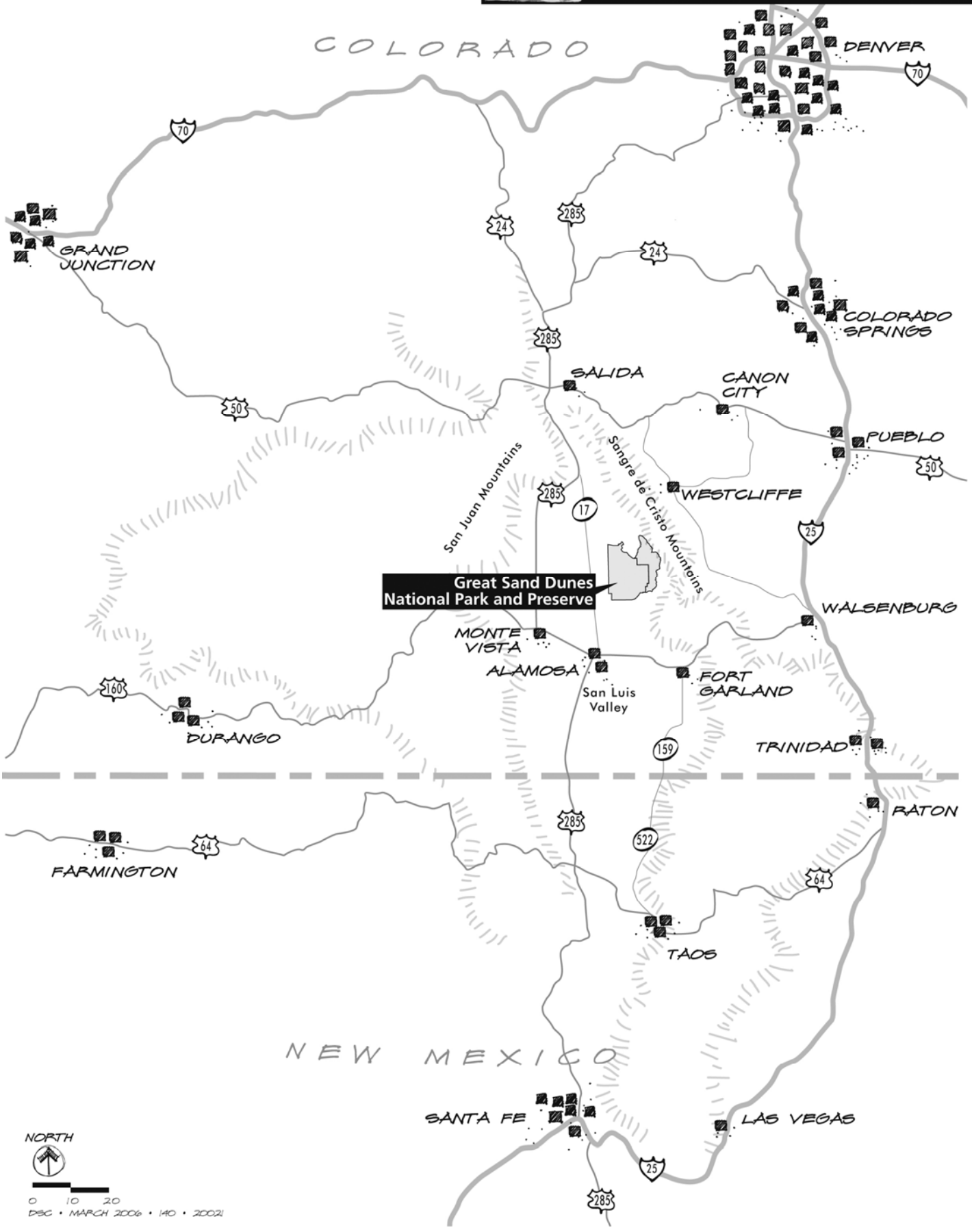
Sand, sun, wind, and water provide a land of elemental contrasts at the dunes. Early and late in the day, shadows lengthen and muted colors melt into one another. Sand ridge shadows paint striking patterns across the dune mass. At midday, intense solar radiation unimpeded by the thin atmosphere can heat sand to scorching temperatures. At the foot of the dunes, Medano Creek's surging waters provide a delightful contrast to the barren sand surface in the spring and early summer. In the springtime, strong winds can blow for days; countless sand grains scour everything in their path.

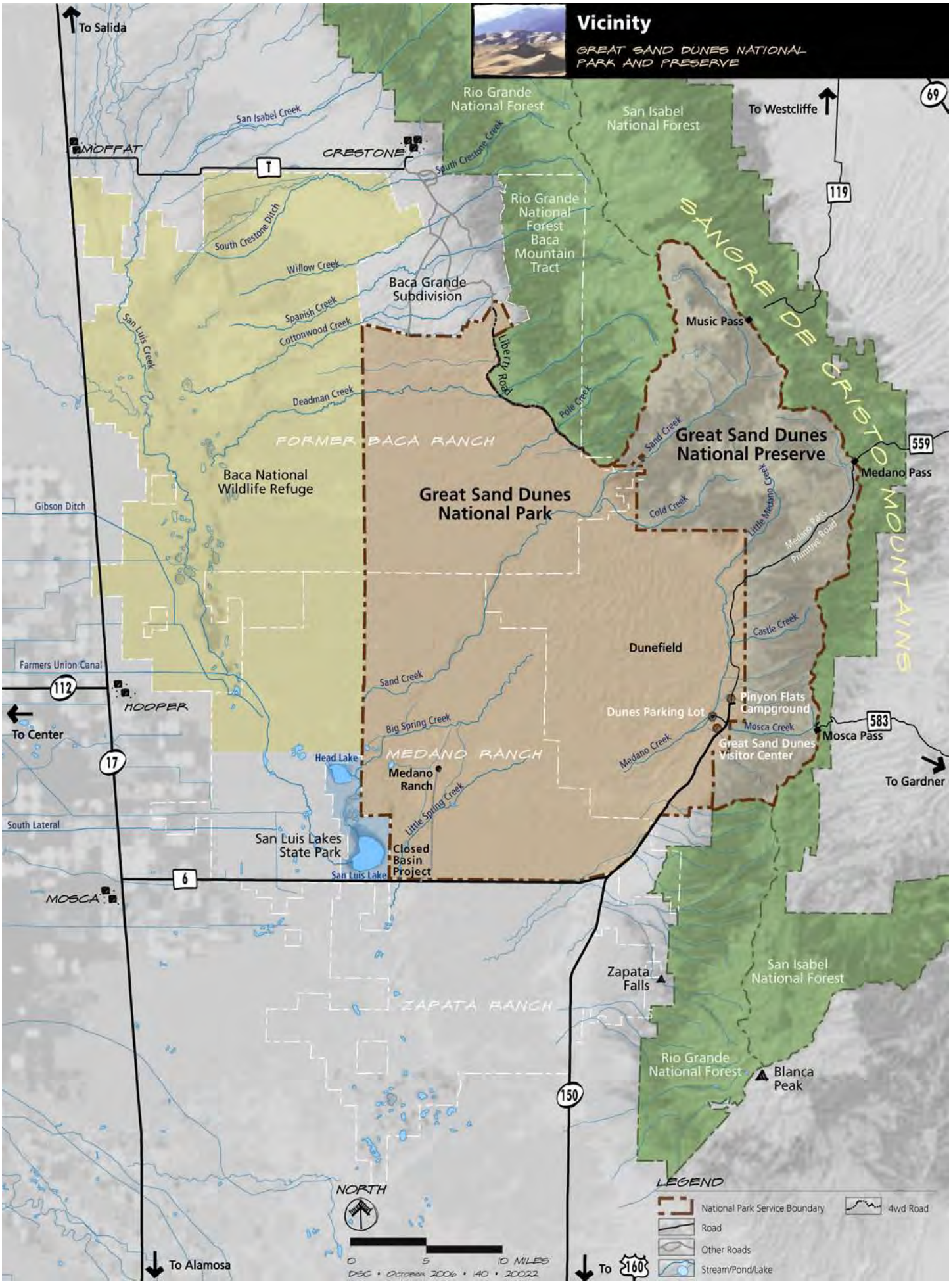
The park is part of a fragile, dynamic system that influences and sustains the dunes. The dune mass is a huge deposit of pure sand nestled against the Sangre de Cristo Mountains. The sand sheet surrounds the dune mass and is stabilized by grasses and other low-growing plant life.



Region

GREAT SAND DUNES NATIONAL PARK AND PRESERVE




Vicinity
GREAT SAND DUNES NATIONAL PARK AND PRESERVE
To Salida
MOFFAT
CRESTONE
San Isabel Creek
South Crestone Creek
Rio Grande National Forest
San Isabel National Forest
To Westcliffe
69
119
Rio Grande National Forest Baca Mountain Tract
South Crestone Ditch
Willow Creek
Baca Grande Subdivision
Spanish Creek
Cottonwood Creek
San Luis Creek
Liberty Road
Music Pass
SANGRE DE CRISTO MOUNTAINS
Deadman Creek
Pole Creek
FORMER BACA RANCH
Sand Creek
Great Sand Dunes National Preserve
559
Medano Pass
Baca National Wildlife Refuge
Great Sand Dunes National Park
Gibson Ditch
Cold Creek
Little Medano Creek
Medano Pass Primitive Road
Castle Creek
Dunefield
Farmers Union Canal
112
HOOPER
To Center
Sand Creek
Pinyon Flats Campground
Dunes Parking Lot
Mosca Creek
583
Mosca Pass
Big Spring Creek
Great Sand Dunes Visitor Center
Medano Creek
17
Head Lake
MEDANO RANCH
Medano Ranch
To Gardner
Little Spring Creek
South Lateral
San Luis Lakes State Park
Closed Basin Project
San Luis Lake
6
MOSCA
Zapata Falls
San Isabel National Forest
ZAPATA RANCH
Rio Grande National Forest
Blanca Peak
150
NORTH
LEGEND
National Park Service Boundary
4wd Road
Road
Other Roads
Stream/Pond/Lake
To Alamosa
To
160
0
5
10 MILES
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The sabkha (a sand deposit hardened by minerals) is located west of the sand sheet, and is cemented by minerals deposited by seasonal wetlands. Streams born high in the Sangre de Cristo Mountains recycle wind-blown sand back to and around the dunes. Over time, sand, wind, and water combine and join forces to shape the ever-changing dunefield.

From valley floor to the crest of the Sangre de Cristos, a dramatic variety of life zones provides distinct communities of plant and animal life. Just above the dunefield, at the base of the mountains, short shrubs give way to sparse pinyon-juniper woodland. With rising elevation, the pinyon-juniper forest transitions into denser montane forests of fir, pine, and aspen. Higher still is the subalpine life zone, where hardy stands of spruce and fir mingle with rocky talus slopes. Near the crest of the mountains is the rocky, snowy alpine zone. Each life zone supports specially adapted plant, animal, and insect life.

American Indian groups hunted and camped near the Great Sand Dunes as early as 10,000 to 12,000 years ago. Beginning around AD 1400, several Indian groups, including the Apaches, Arapahos, Cheyennes, Comanches, Kiowas, Navajos, and Utes, migrated to the San Luis Valley and other areas of the Southwest. The Spanish arrived in the San Luis Valley in the late1500s—their cultural influence remains today. In 1807, Zebulon Pike and his men climbed over the crest of the Sangre de Cristo Mountains and into the Valley. Pike documented the expedition's first glimpse of the Great Sand Dunes. Today, the park bears evidence of past human use and occupation in many forms: archeological sites and artifacts, historic homesteads and trails, "culturally peeled" trees, and wickiups (temporary shelters made from tree saplings).

GENERAL MANAGEMENT PLANNING

Park planning is a decision-making process, and general management planning is the broadest level of decision making for parks. General management plans are required for all units of the national park system and are intended to establish the future management direction of a park. General management planning is the first phase of tiered planning and decision making for national park units. It focuses on why the park was established (purpose), why it is special (significance and fundamental resources and values), and what resource conditions and visitor experiences should be achieved and maintained (desired future conditions). General management plans look years into the future and consider the park holistically, in its full ecological and cultural context and as part of a surrounding region.

Although a general management plan provides the analysis and justification for future funding, the plan in no way guarantees that the level of future funding will be sufficient to fully implement the plan. Requirements for additional data or legal compliance and competing national park system priorities can delay implementation of actions. Full implementation of a plan could lie many years in the future.

This *General Management Plan / Wilderness Study / Environmental Impact Statement* (GMP) was developed by an interdisciplinary team in consultation with relevant National Park Service (NPS) offices; the Great Sand Dunes National Park Advisory Council; tribal, federal, state, and local agencies; other interested parties; and the general public. Establishment of the advisory council was mandated by the Great Sand Dunes National Park and Preserve Act of 2000, which authorized the expansion of the national park. The role of

the advisory council is to advise the Secretary of the Interior (generally via the Great Sand Dunes superintendent) regarding development of the Great Sand Dunes GMP. The backgrounds and experience of the advisory council members reflect the purposes of the park and the interests of persons who will be affected by the planning and management of the Great Sand Dunes. More information about the advisory council and its contributions to this GMP effort can be found in appendix E.

PURPOSE AND NEED FOR THE GENERAL MANAGEMENT PLAN

This GMP provides comprehensive guidance for perpetuating natural systems, preserving cultural resources, and providing opportunities for quality visitor experiences at Great Sand Dunes National Park and Preserve. Its purpose is to ensure that park managers and the public share the same vision of how best to achieve the park's purpose and protect its resources unimpaired for future generations.

The GMP describes the general path the National Park Service intends to follow in managing the Great Sand Dunes over the next 15 to 20 years. The GMP does not provide specific and detailed answers to every issue facing the park and preserve, but rather, is a framework to assist NPS managers in making decisions in today's and future contexts. The GMP:

- Provides general guidance for how to manage resources and provide for visitor use.
- Presents a general approach for facilities and access.
- Supports the park's purpose and significance and protects its fundamental resources and values.
- Clearly defines the resource conditions and visitor experience opportunities to be achieved.
- Ensures that the foundation for decision making has been developed in consultation with an interested public and adopted by NPS leadership after sufficient analysis of the benefits, impacts, and economic costs of alternative courses of action.

The park is currently operating under a master plan approved in 1977. The National Park Service initiated development of a new GMP in the mid-1990s, but this effort was halted in 1999, when it appeared that Congress would greatly expand the national monument. In the year 2000, the Great Sand Dunes National Park and Preserve Act enlarged the national monument almost four-fold, authorized conversion of the national monument to a national park, and established the Great Sand Dunes National Preserve (also managed by the National Park Service). The 1977 master plan is outdated and does not provide background information, a foundation for planning, or management guidance for the expanded national park and preserve.

The park is located adjacent to the newly established Baca National Wildlife Refuge (managed by the U.S. Fish and Wildlife Service [USFWS]), Rio Grande and San Isabel national forests (managed by the USFS), San Luis Lakes State Park (managed by Colorado State Parks), San Luis Lakes State Wildlife Area (managed by Colorado Division of Wildlife [CDOW]), and land owned by private entities and individuals. This situation creates remarkable

opportunities for the National Park Service to work cooperatively with others toward long-term stewardship of the dunes and the San Luis Valley.

PURPOSE AND NEED FOR THE WILDERNESS STUDY

This wilderness study provides a public forum for evaluating new land within the expanded park boundary for possible recommendation to Congress for inclusion in the National Wilderness Preservation System. Wilderness, which can be designated only by Congress, provides for permanent protection of lands in their natural condition.

Lands within Great Sand Dunes have been part of the National Wilderness Preservation System since 1976. The 35,955-acre Great Sand Dunes Wilderness Area is located within the former Great Sand Dunes National Monument. About 40,000 acres of wilderness located within the national preserve (part of the Sangre de Cristo Wilderness Area established in 1993) were added by the Great Sand Dunes National Park and Preserve Act of 2000. Most remaining lands within the expanded national park boundary, including former Baca Ranch and Medano Ranch lands, have not previously been evaluated for wilderness.

The wilderness study is included as part of this GMP because of legislation, public interest, and timeliness. The Great Sand Dunes Act (2000) cites wilderness as one of several important resources for which the park was expanded. The wilderness review process for the park expansion lands began with a *Federal Register* notice and a wilderness suitability/eligibility assessment conducted during the early phases of GMP planning. Since initial scoping of this plan, the public has been interested in protecting natural systems and wilderness values. A wilderness study may be a separate document accompanied by an environmental impact statement (EIS), or it may be part of a general management plan / environmental impact statement. Including the wilderness study with the general management plan and EIS provides efficiencies of time and money, as the two processes have similar environmental compliance and public involvement needs.

The first step of this wilderness study was to conduct a wilderness suitability / eligibility assessment, which determined that some areas within the expanded park boundary possess wilderness characteristics. The next step was to conduct a formal evaluation of those lands by studying alternatives and impacts to see if the lands should be recommended for wilderness. With a general management plan, the wilderness alternatives are matched to various general management alternatives. A wilderness study results in a recommendation to Congress to designate all, some, or none of the lands possessing wilderness character as part of the National Wilderness Preservation System. Based on the wilderness study, the National Park Service may prepare a wilderness proposal to forward to the Department of the Interior.

FOUNDATION FOR PLANNING AND MANAGEMENT

The foundation for planning and management identifies what is most important about the park. It consists of two parts. Part I outlines the intentions of Congress or the president in creating the park as a unit of the national park system. These intentions, which take precedence over all other considerations, include the park's purpose, significance, mission, primary interpretive themes, and special mandates. Part II documents the fundamental resources and values that deserve primary consideration during planning and management.

PART I: PURPOSE, SIGNIFICANCE, MISSION, PRIMARY INTERPRETIVE THEMES, AND SPECIAL MANDATES

Park Purpose

Park purpose statements convey the reasons for which the park was set aside as part of the national park system. They are grounded in a thorough analysis of park legislation and legislative history, and provide fundamental criteria against which the appropriateness of plan recommendations, operational decisions, and actions are tested. The purpose of Great Sand Dunes National Park and Preserve is to:

- Preserve spectacular and unique sand dunes and their high elevation watersheds, and perpetuate the entire system for the benefit and enjoyment of present and future generations. Protect the sand deposits associated with the dune mass and the groundwater system on which the sand dune and wetlands systems depend.
- Provide long-term protection of the geological, hydrological, ecological, scenic, scientific, cultural, wilderness, educational, wildlife, and recreational resources of the area. Preserve the remarkable biodiversity evident in the landscape from the valley floor to the mountain crest.
- Provide opportunities for visitors to experience, understand, enjoy, and gain a sense of stewardship of the park's natural and cultural resources.
- Facilitate research to support park management and to promote scientific knowledge and education.

Park Significance

Park significance statements capture the essence of the park's importance to the nation's natural and cultural heritage. They describe the park's distinctiveness and describe why an area is important within regional, national, and global contexts. This helps park managers focus their efforts and limited funding on protection and enjoyment of attributes that are directly related to the purpose of the park.

Great Sand Dunes National Park and Preserve:

- Contains the tallest dunes in North America and one of the most fragile and complex dune systems in the world.
- Protects a globally significant water- and wind-driven system, which

includes creeks that demonstrate surge flow, a rare hydrologic phenomenon.

- Provides tremendous scenic settings that, for many, provoke strong emotional responses. These settings (including massive dunes surrounded by alpine peaks, a desert valley, creeks flowing on the surface of the sand, pristine mountains, and rural rangeland) offer spacious relief from urban America, exceptional opportunities for solitude and quiet, and a remarkably unspoiled day and night sky.

- Hosts a great diversity of plants and animals, including insect species found nowhere else on earth. The system, which spans high desert to alpine life zones, supports rare biological communities that are mostly intact and functional.

- Contains some of the oldest (9,000+ years before present) known archeological sites in America. The dunes have been identified as having special importance by people of various cultures, and the area is recognized for the culturally diverse nature of human use.

- Provides special opportunities for recreation, exploration, and education in the highly resilient dune mass and adjoining creek environments.

Mission

The mission statement is a visionary summary that conveys the essence of park qualities to be protected and understood, forging an intellectual and emotional connection between people and their national heritage.

Majestic and austere, the Great Sand Dunes rise from a high mountain valley flanked by some of the tallest peaks in the Rocky Mountains. Great Sand Dunes National Park and Preserve celebrates the entire natural system of the Great Sand Dunes, as well as a rich and living connection with ancient and modern peoples. Our mission is to offer visitors opportunities for enjoyment, learning, solitude, and a growing sense of stewardship in an accessible and undeniably enticing natural setting. The National Park Service works with park partners, neighbors, and the American public to protect this treasure forever.

Primary Interpretive Themes

Primary interpretive themes are the most important ideas and concepts communicated to the public about the park. They are the core of all interpretive programs and media provided to park visitors.

- The unexpected combination of massive dunes surrounded by alpine peaks, a desert valley, and creeks flowing on the surface of the sand makes Great Sand Dunes National Park and Preserve a unique landscape that inspires awe, mystery, and wonder.

- Although the active dunefield appears stark, in reality Great Sand Dunes National Park and Preserve is a rich and complex environment ranging from desert valley floor to snow-capped mountain peaks where many different plants and animals live in a variety of distinct natural communities.

- The towering dunes and the life they support are the most visible indicators of the health of the natural system that extends beyond park boundaries. To protect the ecological health of the park, the National Park Service must partner with the larger community.

- Just as human survival is dependent upon water, this complex, dynamic dune system, with its distinctive geological and biological character, is dependent on the area's unusual, fragile, and near-pristine water system for its continued existence.

- The same physical characteristics that influenced the formation of the sand dunes created a cultural crossroads, resulting in a landscape of special significance to many people over thousands of years.

- The wilderness areas within Great Sand Dunes National Park and Preserve offer spacious relief from urban America, exceptional solitude and quiet, and a remarkably unspoiled day and night sky.

Special Mandates

Special mandates are legal requirements and administrative commitments that apply to a specific unit of the national park system. They are mandated by Congress or by signed agreements with other entities. Special mandates for Great Sand Dunes National Park and Preserve are listed below. The Great Sand Dunes National Park and Preserve Act of 2000 is referred to herein as the "Great Sand Dunes Act of 2000" for brevity.

Advisory Council

The Secretary of the Interior has responsibility for establishing a "Great Sand Dunes Advisory Council." The council is to advise the secretary with respect to preparation and implementation of a management plan for the national park and preserve. The advisory council is to dissolve upon completion of the GMP (Great Sand Dunes Act of 2000*,* Public Law 106–530).

Water Resources

The Secretary of the Interior is to obtain and exercise water rights required to fulfill the purposes of the national park and preserve, provided:

1. Such water rights are appropriated and administered pursuant to the procedural requirements of Colorado state law.

2. The purposes and other substantive characteristics of water rights are established according to state law, except that the Secretary of the Interior is specifically authorized to appropriate water exclusively for maintaining groundwater levels; surface water levels; and stream flows on, across, and under the national park and preserve; to accomplish the purposes of the national park and preserve; and to protect park resources and park uses.

3. Water rights are established without interfering with: (a) any exercise of a water right for a nonfederal purpose in the San Luis Valley that existed when the Great Sand Dunes Act of 2000 was

passed, and (b) the Closed Basin Project.

4. Except for those rights already established for the national monument and for the Rio Grande National Forest, no federal reservation of water may be claimed or established for the national park or preserve.

Two irrigation ditches in the headwaters of Medano Creek are associated with water rights senior to those of the park. The Hudson Ditch was constructed in 1886, and the Medano Ditch in 1892. Since no easement was issued for these ditches by the USFS prior to passage of the Great Sand Dunes Act of 2000, the legislative authority for issuing easements and establishing terms and conditions for such easements on these ditches now falls to the National Park Service. However, since the USFS was in the process of issuing easements for these ditches prior to the passage of the Great Sand Dunes Act of 2000, the National Park Service may be required to issue an easement pursuant to the Colorado Ditch Bill (Public Law 99–545, October 27, 1986) despite the fact that this legislation would not normally pertain to an NPS area.

Wilderness

The Great Sand Dunes Wilderness Area, comprised primarily of the main dunes within Great Sand Dunes National Park, was established in 1976 by Public Law 94–567 and amended in 1978 by Public Law 95–625. It is 35,955 acres in size. The Sangre de Cristo Wilderness Area was established by the Colorado Wilderness Act of 1993 (Public Law 103–77). It is 226,420 acres in size. In 2000, 39,686 acres of the Sangre de Cristo Wilderness Area was administratively transferred from the USFS to the National Park Service (Great Sand Dunes Act of 2000). Total designated wilderness in Great Sand Dunes National Park and Preserve amounts to 75,641 acres. Nothing in the Great Sand Dunes Act of 2000 alters the wilderness designation of any lands within the national park or preserve.

Hunting, Fishing, and Trapping

- **National Preserve:** Hunting, fishing, and trapping[1] shall generally be permitted on land and water within the preserve, in accordance with applicable federal and state laws. Areas may be designated where, and limited periods established when, no hunting, fishing, or trapping are permitted for reasons of public safety, administration, or compliance with applicable law (Great Sand Dunes Act of 2000).

- **National Park:** Fishing is allowed in the national park. Hunting and trapping are not allowed in the national park.

Domestic Livestock

On former state or private land where grazing was permitted when the Great Sand Dunes Act of 2000 was passed, and which is acquired for the national park or preserve, the Secretary of the Interior, in consultation with the lessee, may permit continued grazing by the lessee at the time of acquisition. Where grazing was permitted on federal land when the Great Sand Dunes Act of 2000 was passed, the secretary may

[1] A state constitutional amendment was passed in 1996 that made it generally unlawful to take wildlife with any leghold trap, any instant kill body-gripping design trap, or by poison or snare in the state of Colorado (*Colorado Revised Statutes* 33-6-203).

permit continued grazing unless it would harm the resources or values of the national park or preserve. Permits for grazing are subject to applicable law and regulations. The secretary may accept voluntary termination of leases or permits for grazing within the national park or preserve (Great Sand Dunes Act of 2000).

Closed Basin Project

The Closed Basin Division, San Luis Valley project (Closed Basin Project) is located in a topographic depression (the Closed Basin) in the San Luis Valley. The purpose of the project is to pump and deliver unconfined groundwater and available surface flows in the Closed Basin to the Rio Grande River via a 42-mile conveyance channel. The project helps Colorado meet its water delivery commitment to New Mexico and Texas under the Rio Grande Compact of 1939, and helps the United States meet its water delivery commitment to Mexico under a treaty dated May 21, 1906. The project also delivers water to the Alamosa National Wildlife Refuge.

Features of the Closed Basin Project within the national park are not to be affected by the park expansion. Management responsibility for the Closed Basin Project features within the national park is to remain with the U.S. Bureau of Reclamation (Great Sand Dunes Act of 2000).

PART II: FUNDAMENTAL RESOURCES AND VALUES

Fundamental resources and values are systems, processes, features, visitor experiences, stories, and scenes that deserve primary consideration in planning and management because they are critical to maintaining the park's purpose and significance. Fundamental resources and values are subject to periodic review and updates based on new information or changing conditions. The planning team, with assistance from the Great Sand Dunes National Park Advisory Council and the public, has identified the following fundamental resources and values for Great Sand Dunes National Park and Preserve.

Dunes System

The dunes system is complex, fragile, and dynamic due to the interactions of sand, wind, streams, groundwater, vegetation, and mountains. The main components of the dunes system must be protected to ensure that the system remains intact. The main components that can be feasibly managed are listed below. Sand particles, wind, and the geologic setting are important components, but were not included in the list because they cannot be managed.

- **dunefield (complex, tall, inland dunes)**
  –natural transport of sand by streams must be protected
- **sand sheet (relatively flat sand sheet stabilized by vegetation)**
  –natural vegetation patterns must be protected
- **sabkha (sand deposit hardened by minerals)**
  –groundwater aquifer must be protected
- **Sand Creek (transports and recirculates sand)**
  –watershed and groundwater aquifer must be protected

- **Medano Creek and its surge flow (transports and recirculates sand)**
  –watershed and groundwater aquifer must be protected

- **groundwater aquifers (integral to sabkha, vegetation on sand sheet, surface water flows)**
  –natural water table levels must be maintained

- **balanced and sustainable populations of native wildlife and plants**
  –important habitat and natural processes, including fire, must be protected

- **tundra**
  –highly erosive, fragile (highly vulnerable to damage from visitor use)

Natural Diversity

Great Sand Dunes National Park and Preserve contains remarkable natural biological diversity, which is due largely to its range of elevation zones and mix of wet and desert habitats. The following key resources help contribute to the dunes' unusual species diversity:

- **insects that are endemic to the Great Sand Dunes**
  –there are at least seven known endemic species

- **Medano Creek's outstanding water quality and closed system**
  –serves as a genetic refuge/breeding area for native fish such as the state-endangered Rio Grande sucker and the Rio Grande cutthroat trout, a state species of special concern

- **un-hybridized narrowleaf cottonwoods**
  –located along creeks (e.g., Sand Creek)—trees up to 340 years old, oldest cored, which conserve a native plant gene pool

- **sand sheet wetlands**
  –(e.g., interdunal ponds, Big Spring Creek, Little Spring Creek)
  –increases the variety of flora and fauna

Human Connections

The Great Sand Dunes have served as a prominent visual and cultural marker, drawing people physically and spiritually for thousands of years. Cultural resources and values that are key to maintaining the park's purpose and significance include the following:

- **early archeological sites**
  –associated with Folsom Early Man, ~9,000 years before present

- **dunes area—important to American Indians and other people**
  –e.g., traditional hunting and gathering place, sacred and spiritual place

- **scarred ponderosa pines**
  –inner bark of peeled trees used by native peoples for food (mid-1800s)
  –one cluster of trees (Indian Grove) is listed in the National Register of Historic Places (NRHP)

- **contemporary community ties to the dunes**
  –emotional connection, support for park expansion

Visitor Opportunities

The Great Sand Dunes are attractive, inviting, and approachable. These qualities and certain inspirational, recreational, and educational opportunities must be managed and protected to maintain the park's purpose and significance:

- **climbing and descending the high dunes**
- **experiencing surge flow, playing in Medano Creek near the foot of the dunes**
- **seeing the heavens (Milky Way, stars, planets, comets, etc.) at night**
  –dark night sky must be protected
- **viewing the dune mass with backdrop of the high peaks and from the mountains**
  –key elements: views from west and south, viewing the dunes from the mountains, changing light conditions
  –shadow and contrast especially impressive in early morning and evening
  –air quality and undeveloped mountain slopes must be protected
- **seeing wildlife in its natural setting (e.g., elk, pronghorn, deer)**
  –important habitat must be protected
- **learning about the dunes system—its components and dynamic nature**
  –includes research, education, and stewardship opportunities
- **experiencing quiet, solitude, isolation in a wilderness environment**
- **driving in sand on Medano Pass primitive road (high clearance four-wheel drive required)**

RESOURCE OPPORTUNITY AREAS

Differences in resource values and visitor opportunities generally exist within different areas of a park. Resource opportunity areas are a way of organizing and describing these differences—especially fundamental resources and values—so they can be considered during management planning. Resource opportunity areas are often documented with a map that shows where in the park they occur and a table that lists the characteristics or qualities of each resource opportunity area (appendix C).

The resources and values of Great Sand Dunes National Park and Preserve have been organized into the following resource opportunity areas: Sangre de Cristo Mountains and Foothills, Mountain Lakes and Streams, Lower Medano and Sand Creeks, Dunefield, Sand Sheet and Sabkha, Spring Creeks and Wetlands. The map on the following page shows where the resource opportunity areas occur in the park and preserve. Appendix C characterizes the different resource opportunity areas, focusing primarily on fundamental resources and values because these are a primary consideration in general management planning.

DESIRED CONDITIONS AND STRATEGIES

This section focuses on parkwide desired conditions and strategies that guide management of the Great Sand Dunes in all alternatives, including the no-action alternative. They guide actions taken by park staff on such topics as natural and cultural resource management, wilderness management, park facilities, and visitor use management. Each topic discussed below has two parts: (1) desired conditions for that topic, and (2) strategies that may be applied to achieve those desired conditions.

Desired conditions describe the ideal conditions that the National Park Service is striving to attain. "Desired conditions" is used interchangeably with "goals." Desired conditions provide guidance for fulfilling the park's purpose and for protecting the park's fundamental resources and values. To emphasize this, the desired conditions listed below (in italics) are organized by fundamental resource and value type (dunes and biological diversity, human connections, visitor opportunities, and other).

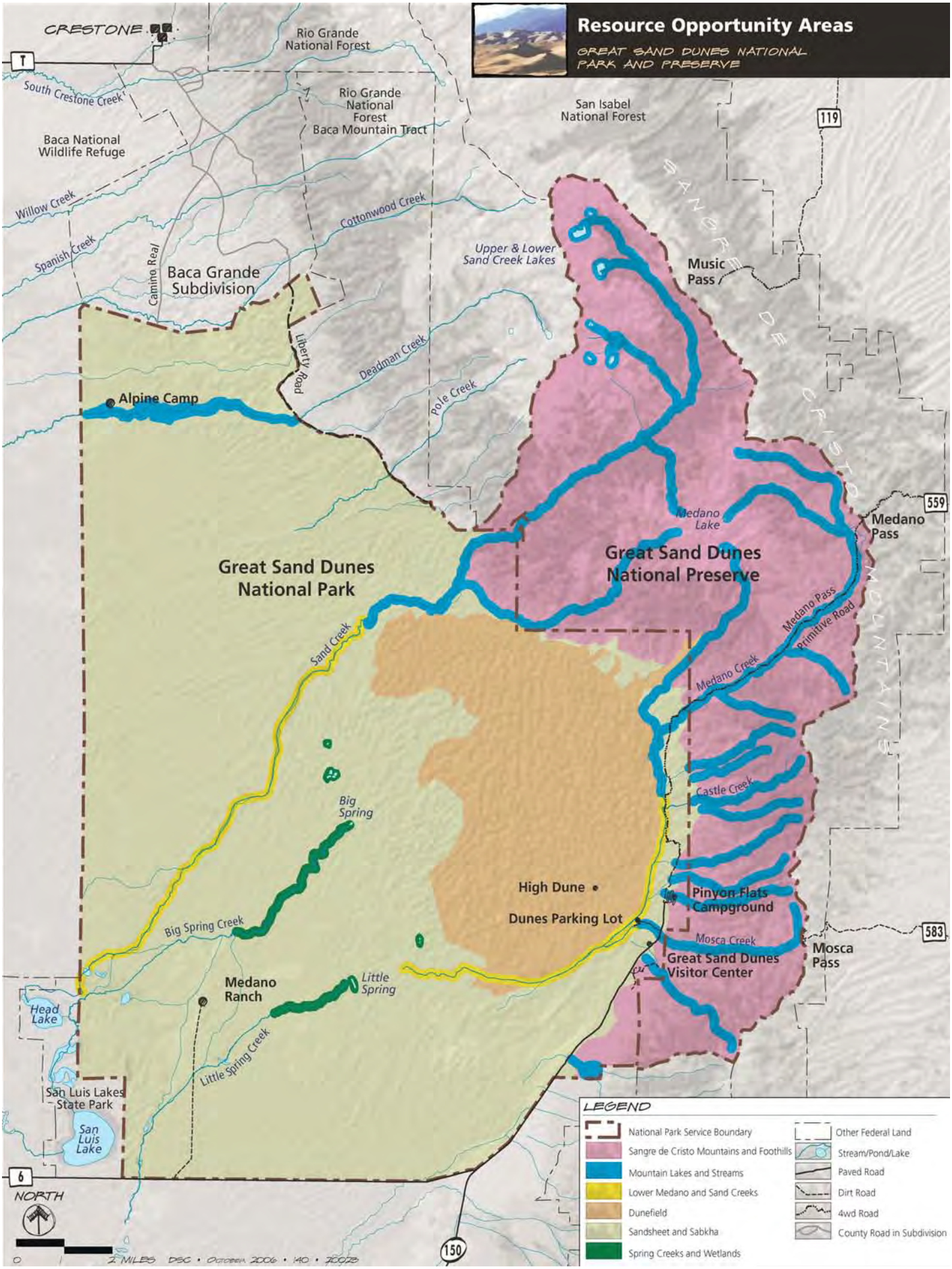
The strategies describe actions that may be taken by park staff to achieve the desired conditions. Most of these strategies are already being implemented. Those that are not already being implemented are consistent with NPS policy, are not believed to be controversial, and require no additional analysis and documentation under the National Environmental Policy Act of 1969 (NEPA) (or analysis and documentation would be completed separately from this GMP/EIS).

The alternatives in this GMP include additional desired conditions and strategies besides the ongoing ones described below. The parkwide desired conditions and strategies in this section, combined with others that are specific to the alternative selected for implementation (see chapter two), will form the complete GMP for the Great Sand Dunes.

DESIRED CONDITIONS FOR THE DUNES AND FOR BIOLOGICAL DIVERSITY

Ecosystem Management

The National Park Service is a leader in resource stewardship and conservation of ecosystem values within and outside the park. The dunes system is managed from an ecosystem perspective, considering both internal and external factors affecting visitor use, environmental quality, and resource stewardship. Management decisions about ecosystems are based on ongoing scholarly and scientific information. Resources and visitation are managed in view of the ecological and social conditions of the park and surrounding area. Park managers adapt to changing ecological and social conditions and are partners in regional land planning and management. The dunes system shows no lasting physical damage caused by humans.


Resource Opportunity Areas
GREAT SAND DUNES NATIONAL PARK AND PRESERVE
CRESTONE
Rio Grande National Forest
South Crestone Creek
Rio Grande National Forest Baca Mountain Tract
San Isabel National Forest
119
Baca National Wildlife Refuge
Willow Creek
Spanish Creek
Camino Real
Cottonwood Creek
Upper & Lower Sand Creek Lakes
Music Pass
SANGRE DE CRISTO MOUNTAINS
Baca Grande Subdivision
Liberty Road
Deadman Creek
Pole Creek
Alpine Camp
559
Medano Lake
Medano Pass
Great Sand Dunes National Park
Great Sand Dunes National Preserve
Medano Pass Primitive Road
Sand Creek
Medano Creek
Castle Creek
Big Spring
High Dune
Pinyon Flats Campground
Dunes Parking Lot
Big Spring Creek
Mosca Creek
583
Mosca Pass
Great Sand Dunes Visitor Center
Medano Ranch
Little Spring
Head Lake
Little Spring Creek
San Luis Lakes State Park
San Luis Lake
6
NORTH
150
0
2 MILES
DSC • October 2006 • MO • 70028
LEGEND
National Park Service Boundary
Sangre de Cristo Mountains and Foothills
Mountain Lakes and Streams
Lower Medano and Sand Creeks
Dunefield
Sandsheet and Sabkha
Spring Creeks and Wetlands
Other Federal Land
Stream/Pond/Lake
Paved Road
Dirt Road
4wd Road
County Road in Subdivision

Strategies

- Park staff will continue to participate in and encourage ongoing partnerships with local, state, and federal agencies and organizations in programs that have importance within and beyond park boundaries. Partnerships important to the long-term viability of critical natural resources include:
  - reintroduction of native fish species
  - Valleywide groundwater monitoring and trends
  - management of wildlife across human-created boundaries
  - combating nonnative invasive plants
  - wildland fire management

- Central to ecosystem management is the long-term monitoring of changes in the condition of cultural and natural resources and related human influences. Improvement or degradation of resources and visitor experience cannot be determined with any certainty without a monitoring program. To protect, restore, and enhance park resources and to sustain visitor use and enjoyment within and around the park, park managers will:
  - Initiate or continue long-term monitoring of resources and visitor use, including use of the visitor experience and resource protection (VERP) framework or other carrying capacity process, as appropriate.
  - Promote research to increase understanding of park resources, natural processes, and human interactions with the environment, with emphasis on fundamental park resources and values.
  - Practice science-based decision making and adaptive management, incorporating the results of resource monitoring and research into all aspects of park operations.
  - Identify lands outside the park where ecological processes, natural and cultural resources, and human use affect park resources or are closely related to park resource management considerations; initiate joint research, monitoring, management actions, agreements, or partnerships to promote resource conservation.
  - Provide education and outreach programs to highlight conservation and management issues facing the park and related lands, and to develop partners who assist with ecosystem stewardship.
  - Continue to participate in the Rocky Mountain Inventory and Monitoring Network and integrate the information that results into management decisions and identification and monitoring of vital signs.

Natural Resources and Diversity

The resources and processes of Great Sand Dunes National Park and Preserve retain their ecological integrity. Natural wind, sand, and water processes are understood and allowed to function. Management decisions about natural resources are based on ongoing scholarly and scientific information. Park resources and values are protected through collaborative efforts with neighbors and partners. Human impacts on resources are monitored and harmful effects are minimized or eliminated.

Biologically diverse native communities are protected and restored when possible. Particularly sensitive communities such as sand sheet wetlands and tundra are closely monitored and protected. Endemic species and habitats are fully protected, nonnative species are controlled or eliminated, and native species are re-introduced when conditions allow. Genetic integrity of native species is protected. Threatened and endangered species recovery is successful. Natural fire regimes are understood and supported. Grazing by domestic and wildlife species is managed so that natural plant and animal communities and cultural values are protected. Research natural areas may be designated to provide representative areas for long-term ecological baseline studies.

Strategies

Park staff and other scientists will:

- Continue to inventory park resources to quantify, locate, and document biotic and abiotic resources in the park and to assess their status and trends.
- Continue long-term systematic monitoring of resources and processes with neighbors such as the USFS and USFWS, to detect natural and human-caused trends, document changes in species or communities, evaluate the effectiveness of management actions taken to protect and restore resources, and to mitigate impacts on resources.
- Continue research that furthers understanding of the geology, sand, wind, and water processes that underlie the dunes system.
- Conduct or support natural history studies of endemic insects to support management and protection of these species.
- Identify ecological disturbance regimes (e.g., wildland fires and sand blowouts) and their extent, and determine the relative impact of human actions on them.
- Implement and keep current a cooperative wildlands fire management plan that maintains, to the extent possible, condition class I vegetative communities (i.e., within the natural range). This plan is developed with the input and cooperation of park neighbors and federal, state, and local agencies (e.g., Baca National Wildlife Refuge, The Nature Conservancy, and USFWS).
- Establish cooperative agreements and develop weed management area plans for prevention and control of nonnative plants with park neighbors, such as the USFS.

- Inventory and map cottonwoods in new areas of the park to determine whether they are unhybridized narrowleaf cottonwoods. Identify and implement management actions aimed at minimizing the likelihood of introduction of and hybridization with broadleaf cottonwoods.

- Continue to map and monitor sand sheet wetlands areas (springs, stream corridors, and interdunal ponds) to expand understanding of long-term water trends, surface water-groundwater relationships, sensitive species, and human impacts. Persistent problems may trigger restoration activities or management of visitor access.

- Inventory, map, and monitor vegetation, fauna, and soils in tundra areas, particularly adjacent to popular trails and alpine lakeshores. If resources are threatened, actions could include stronger delineation of trails, trail relocation, and/or site restoration. Persistent problems could trigger additional management actions such as use limits or closures, education, and mandatory permits.

- Inventory human-made structures and modifications, and remove structures or restore modifications that do not contribute to the purposes or management of the park, or have been determined not to have cultural significance, or are judged to be unsafe.

- Provide information on living with the park's natural processes, wildlife, critical habitats, and threats to its resources to adjacent homeowners and private land-owners. Information will include wildlife, wildfire, nonnative plants, etc.

- Conserve and restore habitats for threatened and endangered species such as the Rio Grande cutthroat trout.

- Continue to expand the park's data management systems (e.g., geographic information system (GIS), research database, and literature database) for analyzing, modeling, predicting, and testing trends in resource conditions.

- Continue to regularly update the park's resource stewardship plan and prioritize actions needed to protect, manage, and study park resources.

- Apply mitigation techniques to minimize impacts of construction and other activities on park resources.

Air Quality

Great Sand Dunes' class I air quality is maintained or enhanced. Naturally dark night skies and scenic views are substantially unimpaired.

Strategies

- The National Park Service will continue to work with appropriate state and federal agencies, industries, nearby communities, land managers, and the Western Regional Air Partnership to maintain park and regional air quality.

- Park staff and other scientists will continue to inventory and monitor the park's air quality and expand this program to detect and measure changes (improvement or deterioration) to the expanded park's airshed.

- Consistent with provisions of the Clean Air Act, the National Park Service will review, comment on, and recommend actions to minimize or reduce emissions from sources being proposed within 64 miles (103 kilometers) of Great Sand Dunes National Park and Preserve.

- Park managers will attempt to minimize the effects of in-park pollution sources on air quality. For example:

  - if warranted by data demonstrating degradation, emissions from burning wood in campgrounds and employee residences may be reduced by establishing nonburn days or by banning wood burning altogether

  - continue to require bus tour companies to comply with regulations that reduce air pollution levels (e.g., turning off engines when buses are parked)

Water Quality and Quantity

Great Sand Dunes water quality and quantity reflect natural conditions and support natural, recreational, and administrative uses. Outstanding water quality is protected and preserved. Water rights are managed to protect natural systems. Existing water rights are used, maintained, and respected.

Strategies

- The National Park Service will continue to work to identify and obtain water rights required to fulfill the purposes of the national park and preserve, as authorized by Congress and the Secretary of the Interior.

- Park managers will continue to expand water quality monitoring associated with outstanding waters with the aim of understanding trends and possible management actions aimed at protecting water quality. They will also seek outstanding waters designations for other worthy streams within the park and preserve.

- Park staff will seek to bring water diversions on watercourses and wells within newly acquired park lands into compliance with state water law.

- The National Park Service will expand ongoing water quality and groundwater and stream flow monitoring programs into new park lands to more fully understand the status and trends of surface water and groundwater throughout the area.

- Park staff will develop a program to manage human waste in backcountry areas, particularly near stream corridors and lakes.

- Park staff will educate visitors about techniques to prevent water pollution and to safely collect and

treat drinking water from natural sources.

- Park managers will work with adjacent landowners and managers and the Colorado Division of Water Resources to prevent water pollution and minimize the risk of water-borne diseases stemming from livestock and other sources.

- Park managers will participate in state and national water quality remediation and watershed planning programs.

- The National Park Service will work with partners and neighbors throughout the Valley to better understand groundwater systems, trends, and human influences. The National Park Service will also work with partners and neighbors throughout the Valley to protect groundwater resources.

- The National Park Service will attempt to acquire the transbasin water rights to the Hudson and Medano ditches if the owners are willing.

- Park staff will consider the needs of backcountry recreation users before eliminating any human-made water sources.

- The National Park Service will update its water resource management plan to reflect the resources and management issues of the expanded park.

Wildlife Management

Natural wildlife populations and systems are understood and perpetuated. Natural fluctuations in populations are permitted to occur. Natural influences are mimicked, if necessary. The National Park Service works with neighbors and partners to achieve mutually beneficial goals.

Strategies

- The National Park Service will continue its elk/bison management study to determine the status and health of the elk and bison populations that use park lands.

- The National Park Service will continue to work with partners, including CDOW, the USFWS, USFS, The Nature Conservancy, and park neighbors to develop management strategies for elk and bison. Of particular interest is understanding and perpetuating the dynamic interaction of grazing animals, vegetation, sand sheet conditions, and dune migration in the greater ongoing natural processes of the Great Sand Dunes.

- The National Park Service will develop an elk management plan. This plan will be developed in consultation with partners, including CDOW, the USFWS, USFS, The Nature Conservancy, and park neighbors.

- The National Park Service will strive to identify species that have occupied the park and preserve in the past, and evaluate the feasibility and advisability of reintroducing extirpated species.

- The National Park Service will continue to cooperate with CDOW to learn more about population dynamics and determine

appropriate management actions for game species.

- Park managers will work with CDOW to address conflicts between hunters and other recreational users of the preserve.

- The park will investigate the feasibility of expanding the native fish reintroduction program into other streams in the park or preserve.

DESIRED CONDITIONS FOR HUMAN CONNECTIONS

Cultural Resources

Great Sand Dunes' cultural resources, especially archeological and ethnographic resources, are identified, evaluated, managed, and protected within their broader context. Visitors and employees recognize and understand the value of the park's cultural resources. Management decisions about cultural resources are based on ongoing scholarly and scientific information and consultation with native peoples, the Colorado state historic preservation officer (SHPO), and others. Culturally modified trees are managed to preserve their integrity and vitality. The historic integrity of properties listed in the NRHP (or eligible for listing in the NRHP, or meeting the NRHP eligibility criteria) is protected. Human impacts on cultural resources are monitored and harmful effects are minimized or eliminated.

Strategies

- Park staff, researchers, and partners will continue to collect information to fill gaps in the knowledge and understanding of Great Sand Dunes cultural resources, to assess status and trends, and effectively protect and manage cultural resources.

- In accordance with the National Historic Preservation Act, as amended (NHPA), park managers will continue to locate, identify, and evaluate cultural resources throughout the park and preserve to determine if they are eligible for listing in the NRHP. In particular, the National Park Service will continue work to identify cultural landscapes and archeological sites within the expanded park and preserve.

- The National Park Service will continue to work closely with and consult the Colorado SHPO and other interested parties to identify, evaluate, and determine appropriate treatment for sites, historic structures, cultural landscapes, and other historic properties throughout the park and preserve.

- The National Park Service will use the best available scientific information and technology for making decisions about management of the park's cultural resources. Park managers will continue to use and expand its data management systems, including GIS and electronic databases, to analyze, model, predict, and test trends in resource conditions.

- The National Park Service will continue long-term monitoring of archeological sites to measure deterioration from natural and human sources and to evaluate the effectiveness of management actions to protect resources and

mitigate impacts. Park managers will rely on a variety of actions to minimize these impacts, including visitor education and interpretation, and use of patrols to enforce the Archeological Resource Protection Act. The park's archeological site disclosure policy will continue to be followed. Appropriate preservation actions for all cultural resources that are threatened or in danger of being lost will be developed, in consultation with the Colorado SHPO, American Indian tribes, and other consulting parties, in compliance with the NHPA. This could include measures such as removing the threat, stabilizing the resource, data recovery, documenting and researching, increasing ranger patrol and visitor education, or closure.

- To provide the public and park staff with optimum interpretive and resource management opportunities, park personnel will continue to research, document, and catalog the museum collection. Museum objects and archival materials will be conserved to professional and NPS standards. The park's museum conservation program will continue to provide the proper preservation and protection of the museum collection.

- Resource and maintenance staff will receive historic preservation training and will be made aware of and apply the most recent preservation technology and applications.

- Park managers will continue to regularly update the park's Resource Stewardship Plan and prioritize actions needed to protect park resources.

Relations with Private and Public Organizations, Adjacent Landowners, and Governmental Agencies

Great Sand Dunes National Park and Preserve is managed holistically as part of a greater ecological, social, economic, and cultural system. Positive relations are maintained with adjacent landowners, surrounding communities, academia, and private and public groups that affect, and are affected by, the park. Great Sand Dunes is managed proactively to resolve external issues and concerns, to provide opportunities for appropriate independent research, and to ensure that park values are not compromised.

Strategies

- Park staff will continue to establish and foster partnerships with public and private organizations to achieve the purposes and mission of the park. Partnerships will be sought for resource protection, research, education, and visitor enjoyment purposes.

- To foster a spirit of cooperation with neighbors and encourage compatible adjacent land uses, park staff will keep landowners, land managers, local governments, and the public informed of park goals, management activities, and resource threats. Park staff will respond promptly to concerns that arise on adjacent lands over park management practices, visitor access, and proposed activities and development. Park managers will seek agreements with landowners

to encourage that their lands be managed in a manner compatible with park purposes, especially with close neighbors (e.g., the USFS and USFWS). Park staff will seek ways to provide landowners with technical and management assistance to address issues of mutual interest or concern.

- The National Park Service will work closely with local, state, and federal agencies, and tribal governments whose programs affect, or are affected by, activities at Great Sand Dunes. Park managers will continue to work closely with the USFS, USFWS, Colorado State Parks, CDOW, and The Nature Conservancy to achieve mutual management goals. Park managers will also pursue cooperative regional planning whenever possible to involve the park in issues of regional concern.

- The National Park Service will seek to resolve minor boundary discrepancies near San Luis Lakes State Park and at other locations through administrative action or legislation.

Relations between American Indian Tribes and Great Sand Dunes National Park and Preserve

The National Park Service and tribes culturally affiliated with Great Sand Dunes maintain positive, productive, government-to-government relationships. Park managers and staff respect the viewpoints and needs of the tribes, promptly address any conflicts that occur, and consider American Indian values in park management and operation. Traditional ethnographic needs and uses are understood, and those uses that are consistent with protection of park resources and values are allowed to occur.

Strategies

- The National Park Service will continue to cooperate with tribes in conducting ethnographic studies to better understand which tribes are culturally affiliated with the park and to identify culturally significant resources. Regular consultations will occur with affiliated tribes to continue to improve communications and understand mutual concerns.

- Values and stories of affiliated tribes will be considered (in consultation with the tribes) in development of park interpretive programs and management decisions.

Contemporary Community Ties

Strong personal ties to the Great Sand Dunes and appropriate uses are recognized, fostered, and maintained. NPS staff, volunteers, and concession employees reflect the cultural diversity of the San Luis Valley and the region.

Strategies

- Park managers will recruit employees who reflect the cultural diversity of the San Luis Valley and region.

- The park will continue to partner with Friends of the Dunes to meet mutual goals related to park research, interpretation, and education, and to strengthen community ties.

- Park managers will continue to support and encourage volunteers who contribute to park programs.

DESIRED CONDITIONS FOR VISITOR OPPORTUNITIES

Visitor Use and Experience

Visitors from diverse backgrounds can experience a range of opportunities consistent with the purpose, significance, and fundamental resources and values of the park. Most visitors understand and appreciate the purpose and significance of the park and value their stewardship role in preserving natural and cultural features. They actively contribute to the park's preservation through appropriate use and behavior. Park programs and services are accessible to all audiences. All visitors understand park policies for use. Conflicts between different user groups are minimized.

Visitor use levels and activities are consistent with preserving park purpose, significance, and fundamental resources and values, and with providing opportunities for primitive recreation and/or solitude. Visitor use is also managed to minimize impacts on neighboring private and public lands. Management decisions are based on scholarly and scientific information. When such information is lacking, managers make decisions based on the best available information, adapting as new information becomes available. Regional recreation opportunities are coordinated among agencies for public benefit and ease of use.

Strategies

- By evaluating existing services and seeking opportunities for improvement, the park will attempt to provide programs and facilities that are effective in reaching and serving diverse communities.

- The park will seek to collect data over time to monitor visitor experiences as part of an overall carrying capacity effort to protect desired resource conditions and visitor experiences. Methods will be designed to minimize the burden to staff and visitors.

- The National Park Service will strive to address threats to resources and the visitor experience by means other than placing limits or restrictions on use (e.g., by expanding or redirecting visitor education programs). If necessary, however, more restrictive methods may include requiring permits for certain uses or areas, placing limits on use, and closing areas, including trails or campsites. Restrictions on visitor use will be based on a determination by the park superintendent that such measures are consistent with the park's enabling legislation and NPS policies, and are necessary to prevent degradation of the purposes and values for which the park was established, to minimize visitor use conflicts, or to provide opportunities for quality visitor experiences.

Visitor Information, Interpretation, and Education

Interpretation and education services at Great Sand Dunes facilitate intellectual and emotional connections between visitors and park resources. Interpretive programs foster understanding of park resources, resource stewardship, and build a local and

national constituency. Outreach programs through schools, organizations, and partnerships build connections to the park. Curriculum-based education inspires student understanding and resource stewardship. Information about public use opportunities is coordinated among neighboring agencies for public benefit and ease of use. Visitors receive adequate information to orient themselves to visitor opportunities and to have a safe, enjoyable visit.

Strategies

- Park managers will continue to update and implement the park's long-range interpretive plan, with emphasis on providing information, orientation, and interpretive services in the most effective manner possible. Staff will use state-of-the-art technologies, including Internet Web-based programs, where appropriate.

- Park staff will stay informed of changing visitor demographics and preferences to effectively tailor programs for visitors. They will develop interpretive media supportive of park purposes, interpretive themes, and fundamental resources and values.

- Working with other federal agencies, the state of Colorado, and local communities, park staff will continue to improve pre-trip planning and provide en route information and orientation for park visitors. Park staff will work with local communities and other entities to provide information/ orientation and interpretive services outside park boundaries, where appropriate. Park staff will seek partnerships with other state and national parks, educational institutions, and other organizations to enrich interpretation and educational opportunities regionally and nationally.

- Staff will implement the park's education strategy plan, which outlines goals and actions for expanding the park's curriculum-based education program.

Viewsheds

Key scenic vistas are identified and protected. Park managers work with neighbors, local communities, and land managers to preserve scenic values.

Strategies

- The National Park Service will work with visitors, neighbors, and others to identify and preserve key viewpoints and vistas in and near the park. Managers will share viewpoint and vista preservation goals and concerns with neighboring management agencies, communities, and landowners so that these entities may share in stewardship of these fundamental park and regional values.

- Park managers will work with neighbors, partners, and others to preserve the rural, scenic character of park "gateway" (entrance) areas and corridors so that they complement the park's key viewpoints and vistas.

Night Sky

The naturally dark night sky is preserved. Artificial light sources within and outside

of the park do not impair opportunities to see the moon, stars, planets, and other celestial features.

Strategies

- Baseline data for the dark night sky is established through servicewide NPS programs.
- The National Park Service will continue to work with local communities to encourage protection of the night sky and will evaluate impacts on the night sky caused by facilities within Great Sand Dunes National Park and Preserve. To the extent possible, the staff will work within a regional context to protect night sky quality.
- If park staff determine that light sources within the park affect views of the night sky, they will study ways to further minimize light sources and eliminate any unnecessary ones.

Natural Sounds

The natural soundscape is preserved. Visitors have opportunities throughout most of the park to experience natural sounds. The sounds of civilization are generally confined to developed areas.

Strategies

- Park managers will continue to work with the Federal Aviation Administration, commercial businesses, and general aviation entities to minimize noise and visual impacts of aviation to the park. Pilots will be discouraged from overflying the park. Actions taken to minimize aviation impacts could include identifying the park on aviation maps as a noise-sensitive area, educating pilots about park values, and encouraging pilots to fly in compliance with Federal Aviation Administration regulations and advisory guidance, in a manner that minimizes noise and other impacts. If demand for commercial air tours develops, the National Park Service will develop a commercial air tour management plan to address tours and their effects on the park.
- The National Park Service will continue to work with Department of Defense entities (e.g., Colorado Air National Guard) to minimize impacts from military flights in the vicinity of the park.
- Park managers will follow several strategies to control existing and potential land-based noise sources:
  - Continue to require bus tour companies to comply with regulations that reduce noise levels (e.g., turning off engines when buses are parked).
  - Encourage visitors to avoid the use of noisy generators.
  - Maintain existing quiet hours in campgrounds.
  - Continue to enforce existing noise policies in the backcountry.
- Park managers will minimize noise generated by their own management activities by regulating National Park Service and concession use of noise-producing machinery such as aircraft and motorized equipment. Noise will

be a consideration when procuring and using park equipment. In wilderness areas, the use of motorized equipment will conform to the requirements of the Wilderness Act "minimum requirements procedures" and related NPS policies (NPS Director's Order – 41).

- The National Park Service will continue to collect baseline data on park soundscapes to understand characteristics and trends in natural soundscapes and to assist in management.

Wilderness

Wilderness areas retain their wilderness characteristics and values. Visitors find ample opportunities for primitive recreation and solitude. Wilderness areas are affected primarily by the forces of nature, and signs of people remain substantially unnoticeable. Visitors value and support wilderness preservation.

Strategies

- Within five years after approval of the GMP, park staff will complete a wilderness management plan that will include establishing specific carrying capacities for areas of concern. Managers will plan in coordination with the adjacent USFS wilderness area, seeking common goals, information sharing, joint planning, efficient and consistent management, and good visitor service. In the meantime, and in keeping with established NPS policies and Director's Order – 41: *Wilderness Preservation and Management*, the park staff will continue to manage wilderness areas and recommended wilderness areas as wilderness.

- The park's wilderness plan will also provide guidance for minimum requirement assessments, as defined in Director's Order – 41, to all activities affecting wilderness resources and character. A minimum requirement assessment will be used to determine whether or not a proposed management action is appropriate or necessary for the administration of the area as wilderness. If the project is deemed appropriate or necessary, the management method selected will be that which causes the least amount of impact to the physical resources and experiential characteristics of the wilderness. The park staff will also continue to take appropriate action to preserve wilderness character and limit visitor impacts on resources.

Park Accessibility

Buildings, facilities, programs, and services of Great Sand Dunes are accessible to and usable by all people, including those with disabilities. New and renovated facilities are designed and constructed to be universally accessible. Visitors with limited mobility have opportunities to experience the dunes, surrounding sands and waters, and enjoy representative portions of the backcountry.

Strategies

- The National Park Service will identify and modify existing facilities to meet accessibility standards as funding allows or as facilities are replaced or rehabili-

tated. New facilities will meet accessibility standards.

- Park managers will periodically consult with disabled persons or their representatives to increase awareness of the needs of the disabled and to determine how to make the park more accessible. Human-powered over-sand wheelchairs will continue to be available for visitors with special accessibility needs.

OTHER DESIRED CONDITIONS

Land Protection

Impacts from rights-of-way, inholdings, private mineral interests, agricultural uses, and other valid existing rights within the park are minimized to protect park resources and values.

Strategies

- Private property, mineral rights, and water rights within the park will continue to be recognized; however, such rights will be acquired or modified, where possible, to minimize impacts on park resources and values. Park staff will continue to communicate with private rights owners to understand each others' values and concerns and to address any potential impacts from each others' activities. Meetings will be held, as necessary, to address any concerns.

- Various techniques will be used to protect park values, including cooperative management agreements, acquisition of conservation and access easements, land exchanges, donations, and purchase of fee title. Inholdings will be acquired, as possible, assuming conditions for transfer are acceptable and compatible with the purposes of the park. Management of such lands will revert to the zoning and wilderness status proposed in this GMP once land or water rights are acquired or relinquished, and nonconforming uses are removed.

- Federal regulations and laws will be applied to oil, gas, and mineral exploration and extraction activities to ensure protection of park resources.

Research

The National Park Service works with partners to learn about natural and cultural resources and associated values. Research priorities for the park and preserve are aligned with its purpose, significance, and fundamental resources and values.

Strategies

- Park managers will encourage and support basic and applied research through various partnerships and agreements to enhance understanding of park resources and processes, or to answer specific management questions.

Facilities and Services

Great Sand Dunes facilities and development are the minimum necessary to serve visitor needs and protect park resources for the long term. Visitor and management facilities are compatible with natural processes and surrounding landscapes,

aesthetically pleasing, and functional. Commercial services in the park are only those that are necessary, appropriate, and based on park purposes. In general, commercial services will be based outside the park rather than inside the park, if possible. Housing is managed to ensure an adequate level of protection for park resources, visitors, employees, and government property, and to provide necessary services. Adequate response (equipment and people) for visitor and facility protection, search and rescue, fire management, and safety is available. All decisions regarding park operations, facilities management, and development at Great Sand Dunes—from initial concept through design and construction—reflect principles of resource conservation and sustainability.

Strategies

- Facilities will be located, built, and/or modified according to the *Guiding Principles of Sustainable Design* (NPS 1993) or similar guidelines. Architectural character guidelines will be established and followed to ensure sustainability and compatibility with the natural and cultural environment. Park staff will properly maintain and upgrade existing facilities using sustainability principles where necessary to serve the park mission.

- Park managers will consider the availability of existing or planned facilities in nearby communities and adjacent lands, as well as the possibility of joint facilities with other agencies, when deciding whether to construct new developments in the park. This will ensure that any additional facilities in the park are necessary, appropriate, and cost-effective.

- The National Park Service will continue to strive to make affordable housing available within the park for emergency response staff, seasonal and entry-level employees, and support other park needs (housing support for researchers, etc.).

- Any new telecommunication structures will be carefully sited so as to not jeopardize the park's purpose, significance, and fundamental resources and values (including viewsheds), and in consideration of the park's management zones. New rights-of-way will be permitted only with specific statutory authority and approval by NPS managers, and only if there is no practicable alternative to such use of NPS lands.

- To support visitor opportunities, "The National Park Service will provide, through the use of concession contracts and commercial use authorizations, commercial visitor services within parks that are necessary and appropriate for visitor use and enjoyment. Concession operations will be consistent with the protection of park resources and values and demonstrate sound environmental management and stewardship" (NPS 2001). The following criteria were derived from NPS *Management Policies* to guide management of commercial services at Great Sand Dunes National Park and Preserve. Necessary and appropriate commercial services are generally identified under the management zones and alternatives sections of this GMP.

Criteria for Commercial Services

Commercial services are managed at Great Sand Dunes National Park and Preserve in accordance with NPS policies and to meet the following criteria for "necessary and appropriate":

1. Necessary (meets one or more)
    a. Enhances visitor understanding and appreciation of park mission and values.
    b. Facilitates or complements the fundamental experiences of park visitors.
    c. Assists the park in managing visitor use and educating park visitors in appropriate, safe, and minimum-impact techniques.
    d. Is an essential visitor service or facility not available within a reasonable distance from the park.

2. Appropriate (meets all)
    a. Services are consistent with the purposes and values for which the park was established, as well as applicable laws, regulations, and policies.
    b. Services do not compromise public health, safety, or well-being.
    c. Services do not significantly impact important park resources and values.
    d. Services do not unduly conflict with other authorized park uses and activities or services outside the park.
    e. Services do not monopolize limited recreational opportunities at the expense of the general public.

PLANNING ISSUES AND CONCERNS

Early in the planning process, the planning team identified the primary issues and concerns facing Great Sand Dunes National Park and Preserve with assistance from the public, the Great Sand Dunes National Park Advisory Council, park staff, and neighboring agencies and organizations. Many issues relate to protection of natural and cultural resource values or providing for quality experiences. This section summarizes the main issues or concerns to be addressed by the GMP / wilderness study.

PROTECTION OF FUNDAMENTAL RESOURCES AND VALUES

The National Park Service must identify fundamental resources and values that deserve primary consideration in planning and management for the national park and preserve, and strategies to protect those values. Similarly, the National Park Service must identify what visitor opportunities or experiences fit with the purposes and maintain the significance of the park and preserve, and develop strategies for enhancing those opportunities. (Note: these determinations are now documented in the "Fundamental Resources and Values" section above.) The National Park Service must also decide how to manage specific areas of the park (through management zoning) to protect and provide these different natural, cultural, and visitor experience values. The National Park Service must resolve whether certain kinds of recreational activities (e.g., dogs, pack animals, and off-highway vehicle use) and commercial services are consistent with protecting these resources and values, and

where they should occur within the park (if they should occur at all).

MANAGEMENT OF NEW PARK LANDS

The Great Sand Dunes Act of 2000 expanded the size of Great Sand Dunes National Monument by nearly four times. Some of the new land is now Great Sand Dunes National Park, and some is now Great Sand Dunes National Preserve. The National Park Service must decide how to manage natural resources, cultural resources, and visitor use on the park expansion lands. Of particular concern is management of former Baca and Medano ranch lands that are now within the boundaries of the national park. Examples include: determining the fate of ranch infrastructure such as buildings and roads, deciding whether to continue to allow bison on park lands, and resolving how to protect sensitive resources and manage visitor use on new lands.

ACCESS TO NATIONAL PARK SERVICE AND OTHER FEDERAL LANDS

Comments provided by the public and neighboring agencies indicate that access to new NPS lands and adjacent federal lands is of great interest and concern. People are concerned about whether there will be new road or trail access to the dunes from the north. Hunters are concerned about how to get to the national preserve and to USFS lands, where hunting is allowed. There is also interest in whether the National Park Service or other land managers will provide new trails or trailheads to stream drainages north of the former national monument. Neighbors in the Crestone / Baca Grande community are concerned that potential new routes of access could affect their quality of life. The National Park Service must decide what routes and means of access are appropriate in different areas of the park and preserve, given resource protection and visitor experience needs.

CROWDING AND OVERUSE

Some visitor facilities and frontcountry and backcountry areas within the park and preserve are crowded or congested, even at times other than peak visitor weekends. The GMP must deal with issues of crowding and give general management direction for addressing visitor carrying capacity in the park and preserve.

WILDERNESS

Great Sand Dunes National Park includes the Great Sand Dunes Wilderness Area, and the national preserve includes a portion of the Sangre de Cristo Wilderness Area. Lands added to the national park when the park was expanded in 2000 have not previously been considered for wilderness designation by the National Park Service. The National Park Service needs to determine the general direction of wilderness management for existing National Park Service wilderness areas, and determine whether any additional lands should be proposed for inclusion in the National Wilderness Preservation System.

WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act of 1968, and NPS *Management Policies* require park managers to assess whether water-courses within national park units are suitable for inclusion in the national wild and scenic river system. The streams of the park and preserve have not previously been considered for wild and scenic river status. The National Park Service must determine whether to recommend streams within the

park as part of the wild and scenic rivers system (appendix H).

DEVELOPMENT AND USES IN AND NEAR THE PARK

Some areas of the San Luis Valley are gradually becoming more developed by residential, commercial, and other uses. Agricultural and domestic demand for additional water has the potential to draw down the groundwater aquifer that underlies the dunes system. Oil and gas exploration activities are being conducted on lands within the national park. These and other activities could degrade park resources and values such as scenic views, the night sky, ambient sound levels, opportunities for solitude, and native plant and animal communities. Park managers must determine how to work with park neighbors to protect park resources in light of changes and activities that are occurring in the Valley.

PLANNING CONSIDERATIONS AND CONSTRAINTS

This section explains planning considerations and constraints related to implementation of some actions in the GMP alternatives.

MEDANO RANCH

The Nature Conservancy owns all private lands within Medano Ranch, and may eventually transfer the ranch portion within the national park boundary to the federal government. This could happen in phases or all at once, but this transfer is generally expected to be completed within the life of this GMP. Until the transfer takes place, implementation of some alternative actions, especially those related to Medano Ranch facilities and access onto or through Medano Ranch lands, will be contingent on agreement and cooperation with The Nature Conservancy.

PUBLIC VEHICLE ACCESS TO THE BACKCOUNTRY ACCESS ZONE IN NORTHERN PORTION OF NATIONAL PARK

When the Great Sand Dunes National Park and Preserve was established in 2004, the federally acquired Baca Ranch lands within the NPS boundary became open to the public via pedestrian access, but not via public vehicle access. Public pedestrian access to new NPS lands now occurs where public rights-of-way touch the NPS boundary. A key issue in this plan is whether or not to provide public vehicle access to the newly acquired northern public lands. Some alternatives in this GMP propose public vehicle access to a small trailhead, parking area, and in one alternative, a small primitive campground. There are a number of planning considerations and constraints regarding such access that involve existing agreements, Saguache County and its residents, and other federal agencies. While this plan has alternatives and a proposal for a backcountry access zone to provide public vehicle access to the northern portion of the park for backcountry use, this GMP does not resolve the question of how such access might ultimately be achieved. It instead leaves

flexibility, allowing for ongoing collaboration and planning with the many entities involved.

COW CAMP ROAD

Cow Camp Road (sometimes referred to locally as Lexam Road) is an improved gravel road located within the Baca National Wildlife Refuge and the northern portion of Great Sand Dunes National Park. Some alternatives in this GMP propose that segments of Cow Camp Road within the national park be designated a backcountry access zone to allow public vehicle access to a small trailhead, parking area, and in one alternative, a campground. Lexam Explorations, Inc. (Lexam), has a surface-use agreement permitting the company to use Cow Camp Road to exercise its subsurface mineral rights within the former Baca Ranch. Lexam's surface-use agreement will expire in the year 2011, unless Lexam begins producing oil, gas, or minerals on the former Baca Ranch. In that case, the surface-use agreement could be extended beyond the life of this GMP. The surface-use agreement contains language relieving Lexam of liability for others' use of Cow Camp Road. To allow acquisition of Baca Ranch by the federal government, The Nature Conservancy assumed liability for the federal government's use of the road. The Nature Conservancy does not wish to assume liability for public vehicle use, so such use would not be allowed until expiration of the Lexam surface-use agreement.

COUNTY ROADS AND BACA GRANDE SUBDIVISION

Saguache County public roads through the Baca Grande subdivision provide the current public pedestrian access to the new northern NPS lands. Camino Real ends 0.2 mile short of the NPS boundary; however, the public right-of-way continues to the NPS boundary. If the county completed the 0.2 mile road to the NPS boundary, the National Park Service could construct a connection to Cow Camp Road or an existing primitive road in the backcountry access zone shown in the proposal and some of the alternatives. Public roads within the subdivision do connect to Liberty Road, currently gated and closed to public vehicle use at the NPS boundary (more on Liberty Road below). Residents and others currently park on the county rights-of-way and walk into the national park at the end of Camino Real and Liberty Road. Residents of the subdivision and numerous spiritual retreat centers are concerned about traffic and associated impacts that may occur if public vehicle access on federal lands is developed via one of these public rights-of-way.

BACA NATIONAL WILDLIFE REFUGE

As described above, some alternatives in this GMP propose that segments of Cow Camp Road within the national park be designated a backcountry access zone to allow public vehicle access for backcountry use. Cow Camp Road does extend through the Baca National Wildlife Refuge and was considered during the draft GMP for providing public vehicle access to the park. Early in the NPS planning process there was a possibility of vehicle access for wildlife-dependent public use of the refuge that could also provide national park access. However, the USFWS clarified later in the planning process that at least for the life of the GMP, the USFWS does not plan to develop wildlife-dependent public use on the east side of the refuge that would require visitors to traverse substantial amounts of refuge habitat and that would facilitate access to the proposed backcountry access zone of the park. Thus, the

USFWS ultimately decided that public use of Cow Camp Road or other roads across the refuge to directly access the park would not meet USFWS policy. However, there is an existing Baca Grande emergency egress easement that could be developed to provide indirect access to the park.

LIBERTY ROAD

For the last several decades, Liberty Road has been a Baca Ranch road. As the Baca Grande subdivision was purchased and developed, roads within the subdivision leading to the Liberty Road gate became Saguache County public roads. The roads traverse one of the most densely developed portions of the subdivision and are adjacent to several spiritual retreat centers.

The federal government obtained the remainder of the Baca Ranch and Liberty Road in 2004. Prior to 2004, Liberty Road, from the park/subdivision boundary south, was privately owned and not open to public use. The first 0.7 mile of Liberty Road crosses NPS land and the road then roughly forms the boundary for about 6.0 miles between the park and the Baca Mountain Tract of the Rio Grande National Forest, with the road crossing USFS lands. The road ends at the Liberty town site.

When the National Park Service obtained jurisdiction over the first 0.7 mile, the agency installed a gate and the road has since been an administrative road only. The National Park Service and the USFS, as well as private landowners to the south, have vehicle access, but the general public does not. The National Park Service allows pedestrian access along Liberty Road. Pedestrians typically park their vehicles on the county road outside the park. To avoid parking congestion from horse trailers, the National Park Service does not currently allow horse access at the northern park boundary.

County roads to the Liberty Road gate provide the only existing public vehicle access up to the park boundary, but there are concerns about opening the Liberty gate to provide public vehicle use on public lands. As stated above, county roads to the Liberty gate traverse a densely developed area in the Baca Grande subdivision and several spiritual retreat centers whose residents are concerned about potential impacts of traffic. Liberty Road crosses sensitive riparian areas and then becomes loose sand farther south of those crossings. With regular vehicle use, Liberty Road would quickly become impassable to all but four-wheel-drive vehicles due to the sandy conditions. The USFS has not finished planning for the Baca Mountain Tract, so the potential uses in this new USFS area are still unknown. Therefore, the National Park Service cannot analyze the impacts of new uses, and this GMP does not resolve the question of Liberty Road as an access option to the area. Instead it encourages ongoing collaboration and planning to determine the best option.

RELATIONSHIP OF THE GENERAL MANAGEMENT PLAN TO OTHER PLANNING EFFORTS

RESOURCE MANAGEMENT STRATEGY, GREAT SAND DUNES NATIONAL MONUMENT

The 1994 "Resource Management Strategy for Great Sand Dunes National Monument" formulated a strategy that prompted park managers to move from a reactive to a proactive method of resource management. The strategy consists of five parts or steps: (1) define the Great Sand Dunes ecosystem, (2) understand the system, (3) monitor the system, (4) manage the system, and (5) evaluate actions.

Since the strategy was developed, park managers have made great strides in implementing it. First, progress toward defining and understanding the system provided scientific background and support for the 2000 park expansion legislation. Second, resource managers have answered certain key questions about physical, biological, and cultural components of the Great Sand Dunes system that were identified in the 1994 strategy, and are still working proactively to answer others. Third, managers are using the information gained to make informed management decisions. Increased understanding of the dunes system and its components has supported and guided the GMP in important ways, including helping to define fundamental resources and values; identifying resource threats and sensitive area locations within the park; and underscoring the need to involve neighbors, partners, and the interested public in planning for the expanded park.

CONCEPTUAL MANAGEMENT PLAN, COMPREHENSIVE CONSERVATION PLAN, BACA NATIONAL WILDLIFE REFUGE

The USFWS administers the recently established Baca National Wildlife Refuge, located west of Great Sand Dunes National Park. The USFWS published a conceptual management plan for the Baca refuge in May 2005. This plan provides a broad overview of that agency's proposed management approach to wildlife and relative habitats, public uses, facilities, interagency coordination, and other operational needs. The plan acknowledges that a big issue for the National Park Service and the public is vehicle access to the northern portion of the expanded national park.

The conceptual management plan of the USFWS does not provide detailed information about where new facilities (if any) would be located or how visitor services would be implemented. However, it outlines requirements for any public uses on a national wildlife refuge as follows: (1) the use must be determined compatible with the purpose of the refuge; and (2) sufficient resources must be available for the development, operation, and maintenance of the permitted public use. The conceptual management plan indicates that the USFWS intends to develop a visitor services plan to address issues related to public access and wildlife-dependent activities on the refuge. Also, a comprehensive conservation plan for the refuge will provide a detailed analysis of current and future refuge management activities—this effort has yet to be scheduled (USFWS 2005). The USFWS has stated that public

use of a road across the Baca National Wildlife Refuge to access the national park's backcountry access zone does not satisfy the criteria in USFWS policy for appropriate uses of refuges because: (1) the use is not manageable with available budget and staff, (2) the use is not manageable in the future within existing resources, and (3) the use does not contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, nor does the use benefit the refuge's natural or cultural resources.

The USFWS has been cooperating extensively in planning for the Great Sand Dunes, and the National Park Service expects to be closely involved in planning for its refuge neighbor.

PLANNING FOR LANDS ADDED TO RIO GRANDE NATIONAL FOREST IN THE YEAR 2000

The Great Sand Dunes Act of 2000 added a new area to the Rio Grande National Forest—the Baca Mountain Tract. This area is located immediately east of the Baca Grande subdivision, and north of the national park. The USFS will be amending their forest plan to designate the newly acquired USFS system lands into management prescriptions. This planning process began in 2006 and will include public and other agency involvement. The Rio Grande National Forest will likely consider an alternative that would provide public motorized access across the park to the national forest, specifically on Liberty Road, and has asked the National Park Service to be a cooperating agency in their planning process.

INTERAGENCY LAND EXCHANGE, GREAT SAND DUNES NATIONAL PARK AND PRESERVE, BACA NATIONAL WILDLIFE REFUGE, BUREAU OF LAND MANAGEMENT, AND COLORADO STATE LAND BOARD

A land exchange involving the National Park Service, the State Land Board of Colorado, the Bureau of Land Management (BLM), and the USFWS is being pursued. With expansion of the national park and creation of the Baca National Wildlife Refuge (Great Sand Dunes Act of 2000) came the authority to acquire private lands within the boundary through purchase, donation, or exchange. The legislation specifically authorizes that lands or interests therein owned by the state of Colorado may only be acquired by donation or exchange. The interagency land exchange involves exchanging a number of state-owned land parcels within the expanded boundaries of the national park and the Baca National Wildlife Refuge for BLM land parcels lying outside the park refuge boundaries. The proposed exchange meets state and federal goals of consolidating dispersed parcels to achieve better and more efficient management. All agencies are actively involved in working out the complexities of the exchange. The GMP for the Great Sand Dunes considers how lands within the park (acquired via the land exchange) should be managed.

GREATER SAND DUNES INTERAGENCY FIRE MANAGEMENT PLAN

The *Greater Sand Dunes Interagency Fire Management Plan* was prepared cooperatively by and for Great Sand Dunes National Park and Preserve, Baca National Wildlife Refuge, and The Nature Conservancy's Medano-Zapata Ranch in 2005. The plan describes a cross-boundary, interagency fire management program for

the Greater Sand Dunes landscape that aims to conserve ecological systems, biodiversity, and wildlife, while protecting human life, property, and other resources. The plan provides direction for fire management across the study area, while still allowing each agency to meet its own protection and resource management objectives. The agencies plan to update the plan regularly; thus, there will be opportunities to adjust the interagency fire management plan, as needed, to incorporate elements of the Great Sand Dunes National Park and Preserve GMP, once the latter is approved.