



Chapter Two: Alternatives

INTRODUCTION

This chapter presents four alternatives, including the National Park Service preferred alternative, for future management of Great Sand Dunes National Park and Preserve. The four alternatives are labeled: no-action, NPS preferred, dunefield focus—maximize wildness, and three public nodes.

The alternatives, each of which is consistent with the park's purpose, significance, and fundamental resources and values, present different ways to manage resources, visitor use, and facilities within the park. The no-action alternative is included as a baseline for comparing the environmental consequences of implementing each "action" alternative.

This chapter also includes a table that summarizes key differences between the alternatives. Key differences in the expected impacts of implementing the alternatives are summarized in table 26, chapter four. The summary of the impacts table is based on the analysis in Chapter Four: Environmental Consequences.

INTRODUCTION TO THE ALTERNATIVES

As noted in chapter one ("Foundation for Planning and Management section"), the National Park Service would continue to follow special park mandates and service-wide laws and policies, regardless of the alternative considered in this GMP. These special mandates, laws, and policies are not repeated here.

Similarly, the parkwide desired conditions (and management strategies to achieve those conditions) for the Great Sand Dunes discussed in chapter one apply regardless

of the alternative considered in this GMP. Those desired conditions cover four main topic areas: *Dunes and Biological Diversity* (includes ecosystem management, natural resources and diversity, air quality, water quality and quantity, and wildlife management); *Human Connections* (cultural resources; relations with private and public organizations, adjacent landowners, and governmental agencies; relations between American Indian tribes and Great Sand Dunes National Park; and contemporary community ties); *Visitor Opportunities* (visitor use and experience; visitor information, interpretation, and education; viewsheds; night sky; natural sounds; wilderness; and park accessibility); and *Other* (land protection, research, and facilities and services). The desired conditions and management strategies are not repeated in this chapter.

The primary focus of this chapter, and of the EIS, is actions that would differ among the GMP alternatives. The GMP alternatives are intended to be specific enough to provide clear management direction for park staff, while still allowing flexibility to adapt to changing future conditions and situations. They outline alternate visions of the future that would guide day-to-day and year-to-year management of the park. Implementation of the NPS preferred alternative will depend on future funding, resource protection priorities, and environmental and cultural compliance. Full implementation could take many years.

To develop the GMP alternatives in this chapter, the National Park Service planning team and the Great Sand Dunes National Park Advisory Council first gathered information about existing visitor use and

the condition of park facilities, areas, and resources. They considered which areas of the park attract visitors and which have sensitive resources. They then developed seven management zones for guiding the preservation, appreciation, and use of the Great Sand Dunes. The management zones are applied in varying combinations and

locations in the GMP alternatives (except for the no-action alternative). Thus, the management zones form the main basis for the GMP alternatives. These zones are discussed in detail after the following section, which introduces the concept of carrying capacity.

CARRYING CAPACITY

General management plans are required to address visitor carrying capacity for national park units. The National Park Service defines visitor carrying capacity as “the type and level of visitor use that can be accommodated while sustaining desired resource conditions and visitor experiences in the park.” Carrying capacity does not necessarily involve identifying a “magic number” for visitor use, nor does it necessarily imply closures or use limits.

The carrying capacity process for national parks typically involves the following steps (more detail on these steps is provided in appendix D):

1. Identify desired conditions (goals) for resources and visitors.
2. Identify indicators (things to monitor to determine whether desired conditions are being met).
3. Identify standards (limits of acceptable change) for the indicators.
4. Monitor indicators.
5. Take management action, as necessary, to ensure that standards are met.

6. Regularly evaluate and make adjustments based on new information and lessons learned.

This GMP addresses carrying capacity in the following ways:

- It identifies desired resource and visitor experience conditions for each management zone.
- It identifies the principal resource and visitor experience concerns for each management zone (and related indicators) so that park managers can collect baseline data that will assist with setting preliminary standards.
- For each resource concern, it lists potential management actions that might be used to address deteriorating trends or unacceptable conditions.
- It identifies specific geographic areas for special monitoring attention.
- It evaluates the tradeoffs of having different proportions and distributions of management zones, via the GMP alternatives.

- It explores different scenarios (solutions) for what to do when frontcountry parking areas become full, via the GMP alternatives.

A wilderness management plan, tiered off this GMP, will provide more specific direction for addressing carrying capacity.

With limited NPS personnel and budgets, park managers must focus carrying capacity efforts on areas where there are definite concerns and/or clear evidence of problems. This means that monitoring should concentrate on areas where: conditions violate standards (or threaten to), conditions are changing rapidly, specific and important values are

threatened by visitation, or effects of management actions or visitation are unknown. At the Great Sand Dunes, the following areas deserve special carrying capacity attention: the Upper and Lower Sand Creek Lakes areas, portions of Deadman Creek, Sand Creek, and Castle Creek corridors located within the national park, Big and Little Springs, the area north of Cow Camp Road, and the area around the dunes parking lot.

Since some of these resource areas (and visitor use of them) begin or end outside the park, opportunities to cooperate with other land-managing neighbors would be pursued, as appropriate.

MANAGEMENT ZONES

Management zones define specific resource conditions, visitor opportunities, and management approaches to be achieved and maintained in each area of the park. Similar to city or county zoning, management zones provide predictable expectations for the condition of areas of the park. Seven management zones have been developed for Great Sand Dunes National Park and Preserve, and these zones are applied to different areas of the park in each action alternative:

1. frontcountry
2. dunes play
3. backcountry access
4. guided learning
5. backcountry adventure
6. natural/wild
7. administrative

The management zones are described in more detail in the following sections.

The Superintendent's Compendium is a list of designations, closures, permit requirements, and other restrictions imposed under the discretionary authority of the park superintendent as provided for in Title 36 of the *Code of Federal Regulations* (CFR). In addition to the management zones, park managers would continue to use the Superintendent's Compendium to effect limitations or closures, as necessary, to protect resources and wilderness values.

FRONTCOUNTRY ZONE

Overview

Primary features, facilities, and programs provide opportunities for large numbers of people to enjoy and learn about the park. This zone does not occur in wilderness.



FIGURE 1. FRONT COUNTRY ZONE

Resource Condition

Natural processes and landscapes are unaltered, except within or directly adjacent to the limited number of developed sites or areas. In frontcountry zone developed areas, natural processes and landscapes may be altered or manipulated to restore damaged areas, to preserve or maintain cultural resources, or to direct visitor use to avoid resource impacts. Alterations are designed to blend with the natural landscape as much as possible.

Visitor Opportunities

These easily accessible, high-use areas focus on a connection with and appreciation of special park resources. Visitors are offered a variety of opportunities for onsite interpretation and education; understanding park themes is a priority. Sights and sounds of people and/or vehicles are expected. Encounters with others, including park staff, are likely, especially around developed facilities. Basic necessities and conveniences are provided, so visitors don't need a high degree of self-reliance or outdoor skills. This zone is popular and well-suited for family recreation.

Facilities and Activities

Common visitor activities include scenic driving, viewing scenic vistas, taking short walks on designated trails, camping, and picnicking. Interpretive and educational programs may be provided. Horse or pack animal use is not permitted, but loading and unloading of stock and trailer parking is allowed. Culturally significant resources, including historic structures, may be used for visitor or administrative purposes. Appropriate kinds of facilities include visitor centers, visitor entrance stations, slow-speed paved or gravel roads, parking areas, horse loading and unloading areas, trailer parking, formal campgrounds, picnic areas, amphitheaters, surfaced trails, communications facilities, and operational facilities (offices, NPS housing, horse corrals, etc.). Appropriate commercial services include limited convenience concessions, modest shuttle services, horseback riding tours, and dog boarding.

Carrying Capacity

Principal resource concerns and indicators for the frontcountry zone:

- When the dunes parking lot fills, visitors park along the shoulders of the dunes lot access road and portions of the main park road. Parking on road shoulders and other undesignated areas compacts soils and damages vegetation. Possible indicator: vegetation damage along road shoulders; number of vehicles parking along roadside may be an easy to monitor surrogate indicator. Possible management actions to address this concern: parking lot reconfiguration (underway), continue to publicize park busy times so visitors can avoid them, provide

modest shuttle service, redirect visitors to other areas of the park.

- There is a proliferation of social trails along the east side of Medano Creek, between the north dunes lot and the campground. Possible indicator: linear feet of social trails. Possible management actions to address this concern: install hiking/biking path from campground to dunes lot.

Principal visitor experience concerns and indicators for the frontcountry zone:

- When the dunes parking lot fills, visitors park along the shoulders of the dunes lot access road and portions of the main park road. Visitors then walk along the road to reach dunes access points. This is a visitor experience and safety concern. Possible indicator: proportion of visitors who encountered people walking along the road and perceived it to be a problem (exit survey), number of vehicles parking along roadside may be an easy to monitor surrogate indicator. Possible management actions to address this concern: same as for resource conditions concerns (see above).

DUNES PLAY ZONE

Overview

These are natural areas for visitor enjoyment of the dunes and Medano Creek, two of the park's prime resources. This zone occurs primarily in wilderness.



FIGURE 2. DUNES PLAY ZONE

Resource Condition

Natural processes are unaltered. Lasting evidence of recreational use is not apparent (evidence is temporary).

Visitor Opportunities

Experiencing Medano Creek and the high dunes are a focus of this zone. Visitors have opportunities for primitive and unconfined recreation and a sense of freedom in a natural landscape. There is a low expectation for solitude because this is a key area for park visitors, but it's possible to find solitude within 0.25 mile of the dunes parking lot. This zone is popular and well-suited for family recreation.

Facilities and Activities

Common visitor activities include wading, climbing and sliding on the high dunes, sand and water play (the latter when the creek is flowing), and guided interpretive and educational programs. No facilities except small signs. No trails, camping, horseback riding, or motorized vehicles. In designated wilderness, management is consistent with NPS wilderness management policies. No commercial services would be appropriate in this zone.

Carrying Capacity

Principal resource concerns and indicators for the dunes play zone:

- Medano Creek water quality—waste from horses upstream, humans (from babies and discarded diapers), and dogs in the creek is a concern. (Note: this is also a visitor experience concern.) Possible indicator (underway): fecal coliform counts in/near the dunes play area. Possible management actions to address this concern: establish limits on numbers (or duration of stay) of horses upstream, close area temporarily to dogs and/or visitors if public health standards are exceeded, prohibit dogs in the creek area altogether, establish special area downstream where dogs are allowed, require special swim diapers for babies.

Principal visitor experience concerns and indicators for the dunes play zone:

- Some visitors indicate that they are bothered by crowding. Possible indicator: proportion of visitors who say they feel crowded in the dunes play area (exit survey). Possible management actions to address this concern: provide information about where to go in this zone to find solitude, continue to publicize park busy times so visitors can avoid them, install a Web camera in the dunes parking lot so potential visitors can tell when the area tends to be busy.
- Park staff occasionally receive complaints about dogs who are aggressive and/or off-leash.

Possible indicator: number of complaints received per week, proportion of visitors who encountered problem dogs (exit survey). Possible management actions to address this concern: prohibit dogs in this area.

BACKCOUNTRY ACCESS ZONE

Overview

This zone provides access to backcountry adventure or natural/wild zones by providing vehicle travel routes and/or trailheads. This zone does not occur in wilderness.



FIGURE 3. BACKCOUNTRY ACCESS ZONE

Resource Condition

These are unpaved vehicle travel routes or trailheads from which backcountry adventure or natural/wild zones can be accessed. Parts of the natural landscape may be altered to protect resources from impacts (e.g., installing culverts under roads). Alterations are designed to blend with the natural landscape. There is little to no roadside damage to vegetation and soils from vehicles passing each other. Resources may be manipulated when necessary to restore damaged areas, to preserve or maintain cultural resources, or

to direct visitor use to avoid resource impacts.

Visitor Opportunities

Travel is generally by passenger vehicle, horseback, or bicycle. Visitors have opportunities to view or access some of the park's prime resources from roads or trailheads. There is a sense of being in a natural landscape. There are some opportunities for adventure and discovery. The expectation for solitude is low during peak visitor periods, but congestion due to numbers of vehicles occurs only on summer holiday weekends. Visitors are somewhat self-reliant and need basic outdoor skills. There may be limits on numbers of people or vehicles to protect resources or visitor experiences.

Facilities and Activities

Common visitor activities include scenic driving, horseback riding, and bicycling. Appropriate kinds of facilities include unpaved roads, trailheads, horse loading areas, primitive campgrounds, vault or composting toilets, and information/entrance kiosks. Appropriate commercial services include guided activities: hunting (preserve only), fishing, hiking, horseback riding, photography, bird/wildlife viewing, and backcountry four-wheel-drive tours (beginning and ending outside the park) on designated routes.

Carrying Capacity

Principal resource concerns and indicators for the backcountry access zone:

- Most drivers keep to road corridors, but a few drive off illegally, damaging soils and plant

life outside the road corridor.

Possible indicator: amount of vegetation damage outside the road corridor. Possible management actions to address this concern (some underway): install special fabric in areas of deeper sand to provide a stable base and improve traction, install posts along the road to better delineate road corridor, install signs encouraging drivers to stay on the road, increase visitor contacts, work with user groups to enhance understanding of impacts and how to avoid them, alternate traffic flow during busy times to reduce/eliminate the need for cars to pass, inform drivers at entrance station about dry sand conditions, require permits for road use (excluding Medano Pass primitive road).

Principal visitor experience concerns and indicators for the backcountry access zone:

- Crowding and congestion in certain areas. Possible indicators: proportion of road users who say they felt crowded (exit survey); number of times parking areas fill (parking lot use is closely correlated with road use, and parking lots are simpler to monitor). Possible management actions to address this concern: continue to publicize busy times so visitors can avoid them, and work cooperatively with the USFS regarding capacity and management in large areas with a common boundary.
- Crowding at backcountry campsites in the national preserve (some individual sites get crowded when people try to park as many as seven or eight cars at one site). Possible indicators: proportion of campers

who say they felt crowded (exit survey), number of vehicles counted during patrols (easy to count surrogate). Possible management actions to address this concern (underway): use barriers or better delineate sites to prevent extra vehicles, create regulatory limit on number of vehicles that can park at each site.

GUIDED LEARNING ZONE

Overview

Protecting sensitive resources is the focus of this zone. Learning about these resources is important and protection is provided by guiding or escorting visitors. This zone occurs in wilderness or nonwilderness.



FIGURE 4. GUIDED LEARNING ZONE

Resource Condition

These are areas where visitor use is permitted only with a guide or escort to protect particularly sensitive resources. Travel is via horseback or foot (or vehicle in nonwilderness areas). Parts of the natural landscape may be altered (e.g., designated trails and backcountry toilets installed) to protect resources from negative impacts. Resources may be manipulated when necessary to restore

damaged areas, to preserve or maintain cultural resources, or to direct visitor use to avoid resource impacts. Alterations are designed to blend with the natural landscape.

Visitor Opportunities

Opportunities to learn about these special resources while protecting them are provided by guiding or escorting visitors. Visitors have a sense of being in a natural landscape. There are low expectations for solitude since visitors generally travel in groups. Opportunities for discovery are great since facilitated learning and enjoyment are the primary focus of this zone. Visitors do not need a high degree of self-reliance or outdoor skills since basic necessities are provided. There may be limits on group size or numbers of groups to protect resources and enhance visitor experience.

Facilities and Activities

Visitor activities include guided interpretive and educational tours on horseback, by foot, or (in nonwilderness areas) by vehicle. Appropriate kinds of facilities include unpaved roads, trails, wayside exhibits, vault or composting toilets, and information kiosks. Appropriate commercial services include concession-operated guided vehicle, horseback, and hiking tours. In designated wilderness, management is consistent with NPS wilderness management policies.

Carrying Capacity

Principal resource concerns and indicators for the guided learning zone:

- Potential damage to archeological sites and sensitive wetlands areas. (Note: the intent is to minimize this concern by using guided tours.) Possible indicators: amount of soil disturbance, erosion, loss of artifacts, etc., as measured by photo comparisons and/or survey plots. Possible management actions to address this concern: limit visitor use in terms of group size, tour frequency, time (daily or seasonally), and space as needed to protect sensitive resources.

Principal visitor experience concerns and indicators for the guided learning zone:

- The National Park Service desires that visitors enjoy and are satisfied with guided tours. Possible indicator: proportion of visitors satisfied with their guided tour (end-of-tour survey). Possible management actions to address this concern: alter tour details, within limits, to correct deficiencies (ongoing problems would not be expected).

BACKCOUNTRY ADVENTURE ZONE

Overview

These are natural landscapes with a few facilities such as designated trails, backcountry campsites, and backcountry patrol cabins. This zone occurs in wilderness or nonwilderness.

Resource Condition

Natural systems and processes prevail, with minimal human alteration. Segments of the natural landscape may be altered (e.g.,

campsites defined, water bars and privies installed) to protect resources from negative impacts. Resources may be manipulated when necessary to restore damaged areas, to preserve or maintain cultural resources, or to direct visitor use to avoid resource impacts. Alterations are designed to blend with the natural landscape.



FIGURE 5. BACKCOUNTRY ADVENTURE ZONE

Visitor Opportunities

Travel is by foot or horseback. Visitors have a sense of being in the natural landscape and opportunities to view, access, and experience some of the park's prime resources. Encounters with other visitors are common on trails during park busy periods, but solitude can always be found in off-trail areas. Visitors are somewhat self-reliant and need basic outdoor skills. There are some opportunities for adventure and discovery. Visitors have opportunities to experience natural soundscapes and lightscapes. There may be limits on numbers of visitors, length of stay, group size, and overnight use to protect resources or visitor experience. A visitor permit system may be implemented if needed to protect resources.

Facilities and Activities

Common visitor activities include hiking, backpacking, hunting (in the preserve only), fishing, backcountry camping, and horseback riding (bicycles are not permitted). Visitor access is by foot or horseback. Appropriate kinds of facilities include primitive or maintained trails, trails marked by cairns or markers, backcountry campsites, backcountry privies, and patrol cabins. In designated wilderness, management is consistent with NPS wilderness management policies. Appropriate commercial services include guided activities: hunting and fishing, hiking, horseback riding, pack animal trips, photography, bird/wildlife viewing, and mountaineering/climbing.

Carrying Capacity

Principal resource concerns and indicators for the backcountry adventure zone:

- There is concern about invasive nonnative plants becoming established, especially in more accessible areas of the expanded national park that are newly open to public use (e.g., the northernmost portion of the national park, and Deadman and Sand Creek corridors). Possible indicators: incidence of such plants in new areas. Possible management actions to address this concern: require use of weed-free hay, increased education, and other visitor-oriented measures to limit spread of weed seeds.
- There is concern about soil compaction, social trails, erosion, vegetation trampling and loss, and tree damage in areas of heavy visitor/ equestrian use (e.g., around

Upper Sand Creek Lake) and in areas of new visitor use (e.g., northernmost portion of the national park). This is also a visitor experience concern. Possible indicators: linear feet of social trails, number and size of problem sites (e.g., denuded areas, wide muddy spots on trails), number of damaged trees. Possible management actions to address this concern: rehabilitate disturbed areas, create designated campsites, install planking across wet areas, require “leave-no-trace” practices, allow stoves only (no wood fires), require backcountry permits, limit number (or duration of stay) of horses.

- There is a human waste problem—a health, water quality, and visitor experience concern—from visitors who do not adhere to the park’s sanitary regulations, particularly in the Upper and Lower Sand Creek lakes area. Possible indicators: fecal coliform counts in nearby lakes and streams, toilet tissue “counts” or surveys. Possible management actions to address this concern: provide primitive toilets in problem areas, require visitors to pack waste out, expand education efforts.
- Wildlife concerns include bears becoming habituated to humans, declining bighorn sheep numbers (unknown cause), and fishing impacts on reestablished native fish populations. Possible indicators: fish surveys, number of human/bear encounters, bighorn sheep population size/health. Possible management actions to address these concerns: require use of bear canisters/lockers for food (under-

way); fishing restrictions designed, in consultation with CDOW, to protect native fishes, bighorn sheep research conducted jointly by the National Park Service and CDOW.

Principal visitor experience concerns and indicators for the backcountry adventure zone:

- In this zone, solitude is a desired condition in off-trail areas, but the zone allows for frequent encounters along trails during busy visitor periods. The Upper and Lower Sand Creek lakes areas are of particular concern; use is increasing so that it's difficult at times to find solitude and good camping locations. Possible indicator: proportion of visitors who saw or heard too many other visitors in off-trail areas (exit survey). Possible management actions to address this concern: tighter restrictions on camping around lakes, create designated campsites, require visitor permits, work cooperatively with the USFS regarding capacity and management in large areas with a common boundary.

NATURAL/WILD ZONE

Overview

This is the wildest zone. It protects natural resources and provides opportunities for physical challenge, adventure, and solitude. This zone occurs in wilderness or nonwilderness.



FIGURE 6. NATURAL / WILD ZONE

Resource Condition

Natural systems and processes prevail, and natural and cultural resources are generally unaltered and unaffected by human influences. Evidence of recreational use is not readily apparent. Resource inventory and monitoring activities help to identify and protect resources. Rare or special plant communities receive management emphasis for preservation and protection. Archeological sites are protected in place. Natural soundscapes and the dark night sky predominate.

Visitor Opportunities

Visitors explore and enjoy relatively remote areas in a natural setting by foot or horseback. Opportunities for solitude, independence, closeness to nature, and adventure are readily available. Expectation for solitude is high and it can be found in most areas of this zone; there are few encounters with other people. Visitors are self-reliant and require good outdoor skills because these areas are without comforts or conveniences. Visitors have opportunities to experience natural soundscapes and lightscares. There may be limits on numbers of visitors, length of stay, and overnight use. A visitor permit system may

be implemented if needed to protect resources or visitor experience.

Facilities and Activities

Common visitor activities include off-trail hiking, backcountry camping, horseback riding, guided or unguided hunting (within the national preserve only), and fishing. Visitor access is by foot or horseback (bicycling is not permitted). Overnight use may be limited in certain areas. Management activities include research and monitoring, and stabilization and restoration of natural and cultural resources. There are generally no facilities (examples of exceptions: unmaintained historic structures, research plots, and monitoring wells). In designated wilderness, management is consistent with NPS wilderness management policies. Occasional administrative use of mechanized tools or transport may be used, as necessary, outside of wilderness. Appropriate commercial services include guided activities: hunting and fishing, hiking, horseback riding, pack animal trips, photography, bird/wildlife viewing, and mountaineering/climbing.

Carrying Capacity

Principal resource concerns and indicators for the natural/wild zone:

- Same as for the backcountry adventure zone.

Principal visitor experience concerns and indicators for the natural/wild zone:

- In this zone, a desired condition is that solitude can be found and there are few encounters with other people. The Upper and Lower Sand Creek lakes areas are

of particular concern; use is increasing so that it's difficult at times to find solitude and good camping locations. Possible indicator: proportion of visitors who saw or heard too many other visitors in off-trail areas (exit survey). Possible management actions to address this concern: tighter restrictions on camping around lakes, require visitor permits, work cooperatively with the USFS regarding capacity and management in large areas with a common boundary.

ADMINISTRATIVE ZONE

Overview

This zone is primarily to support management and administration of the park or other mandated activities such as the Closed Basin Project. This zone does not occur in wilderness.



FIGURE 7. ADMINISTRATIVE ZONE

Resource Condition

Natural processes and resources are in good condition, but may be altered to support park operations (or other mandated activities such as the Closed

Basin Project); the degree of alteration is dependent on need. Resources may also be altered or manipulated to preserve/main-tain cultural resources, restore damaged areas, or to direct use to prevent additional resource impacts. Alterations blend in visually with the surrounding landscape or facilities to the extent possible.

Visitor Opportunities

This zone is intended primarily to serve NPS operational and administrative needs, but accommodates some visitor activities. Generally, it may be used as a hiking or horseback travel route for visitors with or without guides, and as a vehicle travel route for visitors traveling with NPS-approved guides. Hunters may use this zone as a vehicle travel route if they have special permission and/or are accompanied by land management agency staff. However, there may be specific cases (e.g., near Medano Ranch headquarters or Big and Little Spring) where there are some visitor limitations.

Facilities and Activities

Visitor activities include environmental education programs, guided interpretive and educational tours on horseback, by foot, or (in nonwilderness areas) by vehicle. Appropriate kinds of facilities include visitor information signs; structures serving as a base for management or maintenance activities (offices, shops, storage buildings, patrol cabins); housing; communications facilities, outdoor storage areas; environmental education, interpretation, and research facilities; unpaved roads, fences, and ditches. Management activities include maintenance, planning, and overseeing operations, research, monitoring resources

and visitor activities, and vehicle travel to remote park areas. Appropriate commercial services include guided activities: hiking, horseback riding, and vehicle tours on designated routes (in nonwilderness), including backcountry four-wheel-drive tours originating outside the park.

Carrying Capacity

Principal resource concerns and indicators for the administrative zone:

- This zone is located in disturbed areas (established roads and trails, Medano Ranch headquarters, etc.), so the main resource concern is use-related impacts to historic structures at Medano Ranch. Possible indicators: damage or wear and tear on adaptively used historic structures. Possible management actions to address this concern: limit visitor use (group size, tour frequency, area, etc.), reinforce or protect structures to protect historic integrity.

Principal visitor experience concerns and indicators for the administrative zone:

- The National Park Service desires that visitors enjoy and are satisfied with interpretive and educational activities (at Medano Ranch). Possible indicator: proportion of visitors satisfied with such activities (exit survey). Possible management actions to address this concern: alter interpretive and educational activities and services to correct deficiencies.

NO-ACTION ALTERNATIVE

The no-action alternative was developed to provide a baseline for evaluating 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 the near future—these are included in the no-action alternative.

In the no-action alternative, management and use at the Great Sand Dunes would be similar to that existing in December 2004. Most visitor use would continue to be focused in or near the eastern edge of the dunefield. The developed area east of the dunes (main park road, visitor center, and campground) would remain essentially the same. However, the dunes parking area would undergo minor expansion (~5% additional paved surface) and reconfiguration to improve circulation and increase capacity. The main park roads and parking areas would be rehabilitated. The horse loading area and recreational vehicle (RV) dump station would be relocated from the amphitheater parking lot.

Some visitors would continue to explore backcountry areas of the park and preserve via designated trails and roads, and cross-country horseback riding 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, but this route of access would not be shown on NPS maps. Alpine Camp would serve as a backcountry patrol cabin for administrative use.

New park lands that were not open to public use before December 2004 would be managed in a very conservative manner. That is, 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. There would be no new trails or trailheads. Visitors would be able to enjoy most portions of the park via foot or horseback (select areas would remain off-limits to horses).

The Nature Conservancy would continue to manage Medano Ranch, including 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.

Historic structures within new park lands (that is, lands added by the Great Sand Dunes National Park Act of 2000), would be evaluated for their historic significance, but may not be actively maintained. If acquired by the National Park Service, the Sand Creek Stamp Mill complex would be evaluated for its historic significance, and decisions regarding management would be made based on that evaluation. Other unused structures (e.g., Three Cabins and a cabin on Mosca Pass) would be evaluated and documented, if appropriate; but they may not be maintained. If the structures



became a health or safety hazard, they would be individually assessed to determine whether they should be removed. Decisions regarding whether or not to remove structures and resources would be made in consultation with the Colorado SHPO and other consulting parties in compliance with section 106 of the NHPA.

Leashed dogs would generally be allowed within the park and preserve. Off-leash dogs would continue to be allowed for hunting, which is permitted only within the national preserve. A route or routes for hunter access across NPS land would not be provided from the north. Use of off-highway vehicles that do not conform to requirements for use on Colorado state roads would not be allowed in the park or preserve. There would be no limit on numbers of visitors entering the park, preserve, or any particular area, but existing group size limits, backcountry permit requirements, pack stock regulations, etc., would remain.

Necessary and appropriate commercial services would continue to include providing firewood and incidental camper supplies in the vicinity of the campground via a concession contract. Horseback riding, pack trips, guided hunting, guided hiking, photography workshops, and four-wheel-drive tours would continue to be provided in appropriate zones through commercial use authorizations (formerly known as incidental business permits). These activities would begin and end outside the park.

APPLICATION OF MANAGEMENT ZONES

Management zones, which are *prescriptive* (that is, they describe desired conditions for the future) have not been applied for the no-action alternative.

WILDERNESS

No new areas would be proposed for wilderness designation in the no-action alternative.

STAFFING AND COSTS

Under the no-action alternative, the park staffing level would be 28 full-time equivalents (FTEs); this number, which was used to develop the cost estimate and impacts of the no-action alternative, is equal to the December 2004 staffing level. (If the park were fully staffed under this alternative, there would be 33 FTEs.) Volunteers would continue to be a key component of park operations.

The cost estimates provided here are for alternatives comparison purposes only—they are not to be used for budgeting purposes. Capital costs for the no-action alternative, which include planned improvements to parking areas and roads, utilities, exhibits, etc., are estimated at \$5.4 to \$6.8 million. Life-cycle costs over 25 years, which include staff, maintenance, and operations costs (as well as capital costs), are estimated at \$28.1 to 29.5 million. More information on costs is provided in appendix F.

BOUNDARY ADJUSTMENTS

Due to the Great Sand Dunes Act of 2000 and the major park boundary expansion that followed, this GMP 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.

ELEMENTS COMMON TO THE THREE ACTION ALTERNATIVES

- Park staff would continue to work with park neighbors, public and private, to achieve the purposes of the park and to protect fundamental resources and values (see “Desired Conditions and Strategies” section of this document for more information).
- The acquisition of mineral rights throughout the park from willing sellers would be pursued.
- For several reasons (see “Written Comments” section in chapter five), a NPS-managed free-roaming bison herd is not feasible for the life of the GMP. If additional bison habitat becomes available at some time in the future, this option can be reconsidered by the National Park Service.
- If and when The Nature Conservancy ceases agricultural uses (e.g., bison grazing and forage production) on their owned and leased lands, and transfers the lands to the National Park Service, surface irrigation of meadows would be discontinued and the bison fence would be removed. Before surface irrigation is discontinued, a study would be conducted to better understand how this action might affect wetlands, groundwater supplies, downstream water users, federal water rights, the Closed Basin Project, etc.
- Use of off-highway vehicles that do not conform to requirements for use on Colorado state roads would not be allowed in the park or preserve.
- A route or routes across NPS land would be designated (via the Superintendent’s Compendium) for hunter access to the national preserve and USFS lands, where hunting is permitted. (According to the *Code of Federal Regulations* [36 CFR 24] provision for such access may be provided when other access is impracticable; hunters must stay on the designated routes and firearms must be broken down or disassembled so as to prevent their ready use). Such routes would be identified cooperatively with CDOW and the USFS. The permitting process for this activity would be made as convenient as possible.
- Roads that the National Park Service does not intend to use for public or administrative purposes would be abandoned and not maintained, but there would be no active elimination and revegetation of roads. Depending on the alternative, abandoned roads would include Cow Camp Road, Medano Ranch roads, and/or other minor roads and “two-tracks.”
- Historic structures in backcountry areas would be documented, but not maintained. If the structures became a health or safety hazard, they would be individually assessed to decide whether they should be removed. Decisions regarding whether or not to remove structures and resources would be

- made in consultation with the Colorado SHPO and other consulting parties in compliance with section 106 of the NHPA.
- Toilets would be installed if/when visitor use levels are high enough that human waste disposal and sanitation is a concern, and if a more suitable solution does not exist.
- Alpine Camp would serve as a backcountry patrol cabin.
- Due to the Great Sand Dunes Act of 2000 and the major park boundary expansion that followed, this GMP 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.

NATIONAL PARK SERVICE PREFERRED ALTERNATIVE

In the NPS preferred alternative (NPS “Preferred Alternative” map), options would be created for dispersed hiking and horseback riding in the park and preserve. Longer day-use options and overnight linking or loop options would be emphasized. A few new trails would be provided, and links to trails on adjacent lands would be a priority. Carefully located access routes near the park’s perimeter would provide new visitor opportunities with minimal new facilities, keeping most new lands free for natural processes to continue. Cooperative or joint facilities (such as access routes, trailheads, and ranger stations) with neighboring management agencies or private partners would be emphasized and appropriate consultation conducted. A large portion of the park expansion lands that are not already designated as wilderness would be recommended for future designation as wilderness. (See the appendix E section titled “Rationale for the Preferred Alternative” for more information about why this alternative was selected as the NPS preferred alternative.)

Examples of potential cooperative opportunities include the following:

- The Oasis area (private lodge, store, and campground near the main park entrance) could serve as a trailhead base for guided or unguided horseback riding or hiking trips, and as a shuttle staging area.
- San Luis Lakes State Park and/or Wildlife Area could serve as a base for hiking and horseback visits to

the national park if the state agrees this is a reasonable idea.

- The National Park Service and USFWS could operate a joint visitor contact station (e.g., on the refuge at the former Baca Ranch headquarters or along State Highway [SH] 17).

The existing developed area east of the dunes (main park road, visitor center, dunes parking area, and campground) would remain essentially the same, providing a base for most park visitation. To address existing and growing vehicle congestion in parking areas on peak summer weekends, the park would pursue managing traffic and possible transportation solutions, rather than building additional parking or limiting use. On peak summer weekends, the park may operate a temporary shuttle service, such as the modest shuttle system operated on a trial basis in the summer of 2005. If congestion becomes a more persistent problem, transportation studies would be undertaken to determine the need, configuration, and feasibility of a more formal transportation system.

The park’s nonhistoric entrance station would be located closer to the park boundary, near the Oasis. The new location would better accommodate a modest shuttle system and overflow parking, and reduce congestion near park headquarters. 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.

NPS Preferred Alternative
GREAT SAND DUNES NATIONAL PARK AND PRESERVE

CRESTONE
 Rio Grande National Forest
 San Isabel National Forest
 Baca National Wildlife Refuge
 Baca Grande Subdivision
 Upper & Lower Sand Creek Lakes
 Music Pass
 Medano Pass
 Mosca Pass
 San Luis Lakes State Park
 Head Lake
 San Luis Lake
 Big Spring
 Little Spring
 High Dune
 Dunes Parking Lot
 Pinyon Flats Campground
 Great Sand Dunes Visitor Center
 Alpine Camp
 Medano Ranch

South Crestone Creek
 Willow Creek
 Spanish Creek
 Camino Real
 Cottonwood Creek
 Deadman Creek
 Pole Creek
 Sand Creek
 Medano Lake
 Medano Creek
 Castle Creek
 Mosca Creek
 Little Spring Creek

LIBERTY ROAD
 COW CAMP ROAD
 MEDANO PASS
 PRIMITIVE ROAD
 MOSCA PASS

119
 559
 583
 150

LEGEND

Guided Learning	Designated Wilderness
Administrative	Proposed Wilderness
Natural/Wild	Stream/Pond/Lake
Dunes Play	Paved Road
Backcountry Adventure	Dirt Road
Backcountry Access	4wd Road
Frontcountry	County Road in Subdivision
Potential future public vehicular access option	Trail

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	Guided Learning		Designated Wilderness
	Administrative		Proposed Wilderness
	Natural/Wild		Stream/Pond/Lake
	Dunes Play		Paved Road
	Backcountry Adventure		Dirt Road
	Backcountry Access		4wd Road
	Frontcountry		County Road in Subdivision
	Potential future public vehicular access option		Trail

NORTH

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The National Park Service would seek acquisition of Medano Ranch, and upon acquisition, would use the ranch headquarters area for the following:

- Administrative use such as offices, housing, storage, and research support.
- Scheduled, guided public activities such as interpretive programs, environmental education, a base for guided hiking or horseback tours, and special events. Visitor activities may be guided by the National Park Service, concessioners, or other partners under direction of the National Park Service. Because of concerns about sensitive resources, staffing costs, and visitor safety, the Medano Ranch area and adjacent guided learning zone would not be open to general public visitation and use.

The National Park Service would adaptively use and maintain Medano Ranch historic structures for the above uses. The agency would not necessarily keep all historic structures, but would maintain certain ones based on adaptive use potential, efficiency, and historic significance. Partnership support would be needed to bring these facilities up to NPS standards, to maintain them over time, and to provide opportunities for visitors. Decisions regarding whether or not to remove structures and resources would be made in consultation with the Colorado SHPO and other consulting parties in compliance with section 106 of the NHPA.

Leashed dogs would be allowed within the national park (within the frontcountry, dunes play, and backcountry access zones, and the Liberty Road administrative zone only), and within the national preserve. Within the national preserve, unleashed

dogs would continue to be allowed for hunting (see chapter three, “Health and Safety—Dogs” section for details). Within the national park, no dogs would be permitted within the natural/wild, backcountry adventure, or guided learning zones, or the administrative zone (other than Liberty Road). If dogs became more of a problem over time, adjustments to the latter policy would be addressed in the Superintendent’s Compendium. To assist visitors with complying with dog regulations, a commercial service to provide dog boarding in the vicinity of the main dunes area would be sought.

Necessary and appropriate commercial services would continue to include providing firewood and incidental camper supplies in the vicinity of the campground through a concession contract. Pending a study of financial feasibility, a determination may be made to seek the following new commercial services: (1) dog boarding within the main dunes area frontcountry zone, (2) guided tours by horseback, jeep, or hiking from Medano Ranch (provided primarily from outside the park with a minimal base of operations at the ranch), and (3) modest shuttle services. These activities and services are necessary and appropriate to achieve resource protection and visitor use goals for the park. Horseback riding, pack trips, guided hunting, guided hiking, photography workshops, and four-wheel-drive tours are appropriate activities and would continue to be authorized. The National Park Service would consider other potential commercial activities on a case-by-case basis to determine if they were necessary and appropriate before any new contracts or authorizations would be issued (see “Criteria for Commercial Services” section in chapter one).

The preferred alternative identifies a small trailhead/parking area for 10 to 15 vehicles

to provide access for hikers, backpackers, horseback riders, and hunters in the northwest portion of the national park near the foot of the mountains, but away from sensitive riparian environments. This is intended to satisfy the general public's desire for a new, closer access point for backcountry recreation on the nearby national forest, the preserve, and new public lands within the national park. There are no plans for paved roads through new park lands to access the dunes or other high-use destinations. The wilderness recommendation in the preferred alternative ensures most new lands within the park boundary will remain wild and undeveloped.

The NPS preferred option for access is a road that would enter the park from the Baca Grande subdivision at some point contiguous with the backcountry access zone shown on the NPS "Preferred Alternative" map. Implementation of that connection for vehicle access across the boundary requires ongoing collaboration (see the following section "Public Vehicle Access to Federal Lands in the North—Ongoing Collaboration").

From that point, a high clearance, two-wheel drive road would connect to an existing two-track or Cow Camp Road, follow one of these roads eastward toward the mountains, and terminate in a trailhead/parking area. The road and trailhead would be located north and outside of the Deadman Creek riparian corridor. A trail or trails from the trailhead to the mountain front would avoid the Deadman Creek riparian corridor (see NPS "Preferred Alternative" map).

The size of the backcountry access zone in the northwest corner of the park is designed to allow maximum flexibility for siting a public vehicle access route. Within this zone, no new facilities beyond the

access road and trailhead mentioned above are proposed. When the facilities above are sited, the remainder of primitive roads not needed for public access would be zoned administrative or reclaimed, and the remainder of the backcountry access zone would be converted to backcountry adventure zone.

The trailhead would include a small parking area with a capacity of 10 to 15 vehicles and would accommodate equestrian use. This trailhead would be designed to discourage parking outside of designated spaces. The capacity of the trailhead would not be increased during the life of this GMP. If demand for use of this trailhead routinely exceeded capacity, the National Park Service would manage trailhead use (e.g., require permits) rather than expand the trailhead. A previously disturbed site, such as an existing drill pad, would be sought for the trailhead location to minimize natural resource impacts.

If no public vehicle access to the north part of the park could be found over the long term so that trailering horses into the north part of the park was not possible, the National Park Service would provide gates for horses at the north park boundary at Camino Real and Liberty Road, and a partner would be sought to provide a equestrian trailhead facility outside the park.

PUBLIC VEHICLE ACCESS TO FEDERAL LANDS IN THE NORTH—ONGOING COLLABORATION

There is general public desire for backcountry access to the northern part of the expanded park and preserve, as well as to new USFS lands. The National Park Service has determined that it is desirable to have a small trailhead/parking area for 10 to 15 vehicles to provide access for hikers, back-

packers, horseback riders, and hunters near the foot of the mountains, but away from sensitive riparian environments. The NPS preferred alternative in this GMP proposes to develop such access via the backcountry access zone shown on the map. However, implementing a vehicular connection to that zone depends on the ongoing planning and collaboration with the community, Saguache County, and other agencies.

The USFWS has not begun planning for the new Baca National Wildlife Refuge. The agency's comments on the draft GMP indicate that for the life of this GMP, the USFWS will not develop any wildlife-dependent public use on the east side of the refuge that would facilitate access to the park.

There are strong community concerns regarding any public vehicle access through the Baca Grande subdivision. It is important to note that while the NPS boundary and backcountry access zone join a public right-of-way at Camino Real, allowing public pedestrian access to the national park, this county road ends 0.2 mile short of the NPS boundary. The National Park Service cannot provide vehicle access to the backcountry access zone through the Baca Grande subdivision unless the county chooses to extend Camino Real or create another public route.

The USFS has not completed planning for the Baca Mountain Tract and would like to preserve options for public vehicle access to the mountain front. The USFS, with the National Park Service as a cooperating agency, may study the need for (and impacts of) providing public vehicle access to USFS lands via Liberty Road or a route through the park. These options are marked with asterisks on the NPS "Preferred Alternative" map as "potential future public vehicular access option."

These options are not evaluated in this GMP and would require a separate joint (NPS/USFS) environmental analysis study that would include public participation. (See chapter one, "Relationship of the General Management Plan to Other Planning Efforts: Planning for Lands Added to Rio Grande National Forest in the Year 2000" for more information about USFS planning efforts.) If the results of this subsequent joint NPS/USFS environmental analysis should determine some form of public vehicle access to federal lands via Liberty Road is the best option, the National Park Service would not need the backcountry access zone or use of a primitive road in the park. In this case, the parking area could be sited on USFS land. If the joint analysis should determine public vehicle access via a primitive road in the park is the best option, the selected route could be extended to Liberty Road and the parking area could be sited on USFS land in this case also.

It may take time after the completion of the GMP to collaboratively determine a public access solution that creates a balance between demand for backcountry access, protection of ecological values, and the values of park neighbors. Ongoing planning efforts (including a joint NPS/USFS public planning process to study access to the mountain front, comprehensive planning for the Baca National Wildlife Refuge, and community planning in the Baca Grande subdivision) will continue for the agencies and the community, giving all parties the opportunity to learn more about actual use and issues.

Upon completion of this GMP, no road or parking area would be constructed in the backcountry access zone unless a collaborative solution of the county and agencies was reached regarding an acceptable route of access.

APPLICATION OF MANAGEMENT ZONES

Most of the northern half of the park would be zoned backcountry adventure, as would existing trails, to allow for resource protection and appropriate facilities. The backcountry access zone along the north boundary of the park would permit motorized access to the area. The Medano Pass primitive road would also be zoned backcountry access. Much of the southern half would be zoned natural/wild to protect resources and allow the area to remain undeveloped. The frontcountry zone, east of the dunefield, would allow bicycle lanes, a new hiking/biking path from the campground to the dunes lot, existing facilities, and relocation of the entrance station. There would be a guided learning zone southwest of the dunefield for guided visitor use of sensitive areas. The dunes play zone would cover a portion of the dunefield closest to the dunes parking lot. Administrative zones would be located in various places around the park and preserve, primarily for NPS operational access. Medano Ranch headquarters, also zoned administrative, would be open for scheduled public activities. The administrative zone road corridors in the Medano Ranch area are needed to provide access for annual maintenance of diversion, monitoring structures, and irrigation ditches that are likely to remain for the foreseeable future. Some of these roads are deeded easements for the Closed Basin Project canals, production wells, and other infrastructure maintenance. A similar situation exists on Medano Pass with the Medano/Hudson ditches.

WILDERNESS

Almost all of the lands identified as suitable/eligible for wilderness would be

recommended for wilderness designation in this alternative (see NPS “Preferred Alternative” map). A setback (200 feet in width from the road centerline) along County Lane 6 and SH 150 was excluded to allow for any underground and future utility, drainage, fence, or roadway improvements, and administrative roads in the Medano area. The area recommended for wilderness would be contiguous with the existing Great Sand Dunes Wilderness, extend west to the NPS boundary, north to Cow Camp Road, and reach south toward Medano Ranch, but exclude the ranch headquarters area and structures associated with the Closed Basin Project. The rest of the areas (north of Cow Camp Road and south and west of Medano Ranch) are too small to manage effectively and/or contain Closed Basin Project structures, overhead utility lines, wells, irrigation ditches, and other structures that need to remain for the foreseeable future. A total of 53,013 acres would be recommended for wilderness designation (see appendix G).

STAFFING AND COSTS

Full staffing level under the NPS preferred alternative would be 36 FTEs. Volunteers would continue to be a key component of park operations. If funding and staffing for some elements of the preferred alternative were unavailable from federal sources, park managers would consider other options such as expanding the park volunteer program or developing partnerships with other agencies, organizations, or businesses to accomplish these elements.

The cost estimates provided here are for alternatives comparison purposes only—they are not to be used for budgeting purposes. Capital costs for the NPS preferred alternative are estimated at \$16.5 to \$21.2 million. In addition to items

mentioned for the no-action alternative, this includes costs for a new trailhead, trails, access road, improvements at Medano Ranch, cooperative entrance station, fee booth, associated utilities, and bison fence removal. Life cycle costs over

25 years, which include staff, maintenance, and operations costs (as well as capital costs), are estimated at \$44.9 to \$49.6 million. More information on costs is provided in appendix F.

DUNEFIELD FOCUS—MAXIMIZE WILDNESS ALTERNATIVE

In this 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. As in the preferred alternative, a large proportion of newly added lands not already designated as wilderness 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 areas filled too often. A new multiuse trail for bicyclists and pedestrians would extend from near the park's main entrance (near the Oasis) to the visitor center, dunes parking lot / picnic area, and to the Pinyon Flats campground.

A gate for equestrian access would be provided on the north boundary of the park, where Camino Real (a Saguache County public road) intersects the park boundary. Alpine Camp, located in the northwest portion of the park, would serve as a backcountry patrol cabin for NPS administrative purposes; there would be a couple of options for administrative access to this site.

The National Park Service would encourage the USFS to not expand the capacity or standard of Music Pass trailhead parking or the standard of the

four-wheel-drive access road on the east side of the Sangre de Cristo Mountains. This would help keep visitor numbers from increasing in the Upper Sand Creek drainage (zoned natural/wild in this alternative).

The National Park Service would seek acquisition of Medano Ranch. In the interim, The Nature Conservancy would continue to graze bison on lands they lease or own, and they would continue to use ranch structures. After National Park Service acquisition, Medano Ranch structures would be documented, but not maintained (or they would be removed after documentation). Surrounding lands would be managed as part of the natural/wild zone, allowing visitors to explore by foot or by horseback.

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. Unleashed dogs would still be allowed for hunting, which is permitted only within the national preserve. To assist visitors in complying with dog regulations, a commercial service to provide dog boarding in the vicinity of the main dunes area would be sought.

Necessary and appropriate commercial services would continue to include providing firewood and incidental camper supplies in the vicinity of the campground through a concession contract. Pending a study of financial feasibility, a determination may be made to seek a commercial service to provide dog boarding within the main dunes area frontcountry zone. Horseback riding, pack trips, guided hunting, guided hiking, photography workshops,

and four-wheel-drive tours would continue to be authorized in appropriate zones.

APPLICATION OF MANAGEMENT ZONES

Most of the park and preserve, including Medano Ranch, would be zoned natural/wild (natural conditions prevail and trails disallowed). The frontcountry zone east of the dunes would be fairly large, which would provide potential future expansion of parking and a new hiking/biking path. The Medano Pass primitive road would be zoned backcountry access. Existing trails would be zoned backcountry adventure. There would be no guided learning zone in this alternative. Administrative zones would be located in various places around the park and preserve, primarily for NPS operational access.

WILDERNESS

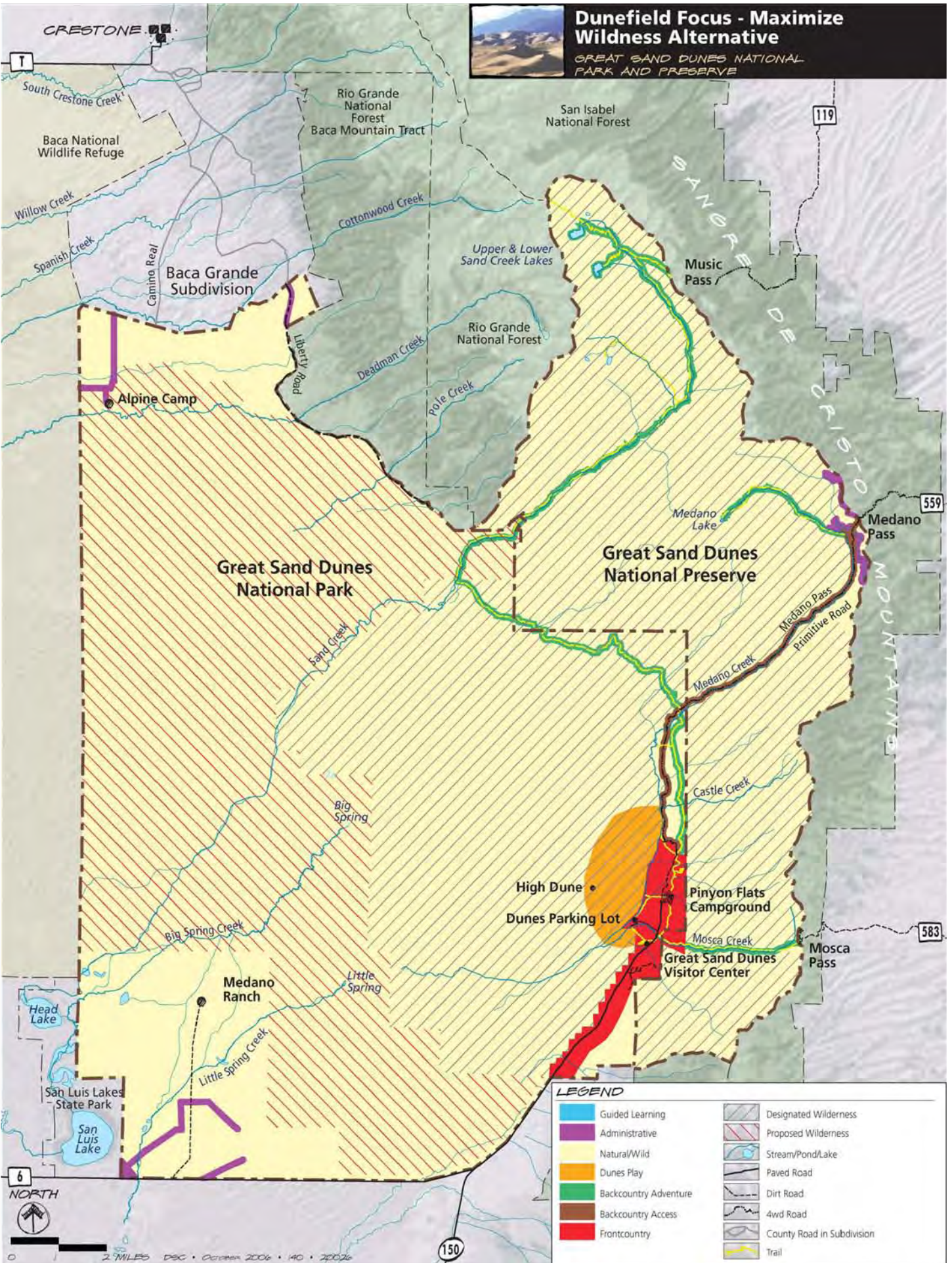
Almost all of the lands identified as suitable/eligible for wilderness would be recommended for wilderness designation. A setback (200 feet from the road center-line) along County Lane 6 and SH 150 was excluded to allow for any future

underground utility, fence, or roadway improvements. A total of 50,951 acres would be recommended for wilderness designation (see appendix G).

STAFFING AND COSTS

Full staffing level under the dunefield focus—maximize wildness alternative would be 33 FTEs. Volunteers would continue to be a key component of park operations.

The cost estimates provided here are for alternatives comparison purposes only—they are not to be used for budgeting purposes. Capital costs for the dunefield focus—maximize wildness alternative are estimated at \$8.2 to \$10.6 million. In addition to items mentioned for the no-action alternative, this includes costs for new paths and trails, expansion of frontcountry zone parking and restrooms, and bison fence removal. Life-cycle costs over 25 years, which include staff, maintenance, and operations costs (as well as capital costs), are estimated at \$35.6 to \$36.7 million. More information on costs is provided in appendix F.



THREE PUBLIC NODES ALTERNATIVE

Note: The USFWS decision that eliminated the potential for access across the Baca Grande Wildlife Refuge to the north portion of the park is not reflected in this alternative. This alternative reflects the April 2006 presentation of the Draft GMP/WS/EIS for this alternative. This was done intentionally to document the alternative in the administrative record.

In this alternative, most visitors would gain access to the park and preserve via three areas or “nodes.” 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 Medano Ranch headquarters. The third node would be a backcountry access zone in the north part of the park. 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, allowing natural processes to occur. This alternative would provide fairly diverse options for visitors to experience different portions of the dunes system. No new wilderness would be recommended.

The backcountry zone at the third node would include a backcountry trailhead and a primitive campground if an appropriate public vehicle access route into the national park could be identified. The zone would follow Cow Camp Road from a public access point eastward toward the mountain front to the point where the improvement of Cow Camp Road ends. The intent of this zone would be to provide public vehicle access to the north part of the park while discouraging visitor use in the adjacent Deadman Creek riparian corridor (an ecologically special and sensitive area). The trailhead would have a capacity of about 15

to 20 vehicles and would accommodate equestrian use. The primitive campground would be small (10 or fewer campsites). The trailhead and campground would be located at the easternmost “tail” of the backcountry zone, at the point where the improved road ends.

This backcountry zone would be reached by one of two potential routes for public vehicle access. The first route to be considered would involve access to the national park via the Baca National Wildlife Refuge; this option would be studied by the USFWS. (This option would require no new road construction or improvements within the national park.) If the USFWS determined this option to be incompatible with the purposes of the refuge, a second option of entering the park via a public county road from the Baca Grande subdivision (e.g., Camino Real), would be studied by the National Park Service in cooperation with Saguache County and the Baca Grande Property Owners Association. This second option, if determined feasible, would require construction of a 1.0-mile connector road (two-wheel drive, high clearance, all-weather gravel) within the national park—from the subdivision boundary to Cow Camp Road.

The size of this backcountry zone in the north part of the park would allow maximum flexibility for siting either of the two potential access routes. No new facilities or roads, beyond the primitive campground and trailhead mentioned above, are proposed. A trail or trails to the mountain front from the trailhead/campground area would be provided

Three Public Nodes Alternative
GREAT SAND DUNES NATIONAL PARK AND PRESERVE

Map showing the Three Public Nodes Alternative for the Great Sand Dunes National Park and Preserve. The map includes the following features:

- Geographic Features:** CRESTONE, Rio Grande National Forest, Baca Mountain Tract, San Isabel National Forest, Music Pass, Upper & Lower Sand Creek Lakes, Deadman Creek, Pole Creek, Cottonwood Creek, Willow Creek, Spanish Creek, Camino Real, Baca Grande Subdivision, Cow Camp Road, Alpine Camp, Sand Creek, Medano Lake, Medano Pass, Medano Creek, Primitive Road, Castle Creek, High Dune, Dunes Parking Lot, Pinyon Flats Campground, Great Sand Dunes Visitor Center, Mosca Creek, Mosca Pass, Little Spring, Big Spring, Big Spring Creek, Little Spring Creek, Head Lake, San Luis Lakes State Park, San Luis Lake.
- Infrastructure:** Highway 119, Highway 559, Highway 583, Highway 150.
- Land Use and Management:**
 - Guided Learning (Blue)
 - Administrative (Purple)
 - Natural/Wild (Yellow)
 - Dunes Play (Orange)
 - Backcountry Adventure (Green)
 - Backcountry Access (Brown)
 - Frontcountry (Red)
 - Potential future public vehicular access option (Star symbol)
- Transportation:**
 - Designated Wilderness (Hatched pattern)
 - Proposed Wilderness (Dashed line)
 - Stream/Pond/Lake (Blue line/shape)
 - Paved Road (Solid line)
 - Dirt Road (Dashed line)
 - 4wd Road (Dotted line)
 - County Road in Subdivision (Thin solid line)
 - Trail (Thin solid line)

LEGEND

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	Guided Learning		Designated Wilderness
	Administrative		Proposed Wilderness
	Natural/Wild		Stream/Pond/Lake
	Dunes Play		Paved Road
	Backcountry Adventure		Dirt Road
	Backcountry Access		4wd Road
	Frontcountry		County Road in Subdivision
	Potential future public vehicular access option		Trail

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within the backcountry adventure zone. Alpine Camp would serve limited visitor purposes such as a ranger station or backcountry permit station.

Additional (subsequent) public vehicle access options could be considered in a separate future joint NPS/USFS public planning and environmental analysis process if USFS planning indicated that such access was needed. Two options for such access have been defined to date: (1) if either of the above-described access routes into the national park were implemented, Cow Camp Road could be extended to the mountain front to connect with Liberty Road, or (2) if neither of the above-described access routes were determined to be feasible, the 0.7 mile segment of Liberty Road within the national park could be converted to a backcountry access zone. Either option would permit public vehicle access to the new USFS lands.

The National Park Service would seek acquisition of Medano Ranch and would use the ranch headquarters as a public day-use area. In the interim, The Nature Conservancy would continue to graze bison on lands they lease or own, and they would continue to use ranch structures. After National Park Service acquisition, Medano Ranch structures would be adaptively used for public purposes (such as an interpretive area, contact station, concessions support, picnicking, and/or an environmental education facility); most historic structures would be maintained. Guided hiking and horseback tours to nearby high interest areas could be provided. Another possibility would be a cooperative situation at Medano Ranch: the National Park Service could use some ranch structures for public purposes while The Nature Conservancy continued management of bison grazing on their leased and owned lands, in conjunction with public use and education.

When the main dunes parking area fills, visitors would be directed to one of the other park nodes. Within the guided learning zone, some existing unpaved roads would be used for administrative purposes and guided visitor use, while others would be closed and use discontinued.

The National Park Service would consider requiring permits for backcountry use in certain areas. It would also encourage the USFS to not expand the capacity of Music Pass trailhead parking or the standard of the four-wheel-drive access road located east of the Sangre de Cristo divide. These measures would help maintain desired visitor and resource conditions for the natural/wild zone in the Upper Sand Creek drainage (see natural/wild management zone description for more information on desired conditions).

Dogs would not be permitted in areas where there is high potential for, or a history of problems with, conflicts with visitors (e.g., the area of concentrated visitor use at Medano Creek near the dunes parking area) or with wildlife (e.g., bighorn sheep); otherwise, leashed dogs would be allowed. Within the dunes play zone, there would be an alternative downstream area where leashed dogs would be allowed. Unleashed dogs would still be allowed for hunting, which is permitted only within the national preserve. To assist visitors with complying with dog regulations, a commercial service to provide dog boarding in the vicinity of the main dunes area would be sought.

Necessary and appropriate commercial services would continue to include providing firewood and incidental camper supplies in the vicinity of the campground through a concessions contract. Pending a study of financial feasibility, a determination may be made to seek the following new commercial services: (1) dog boarding

within the main dunes area frontcountry zone; and (2) guided tours by horseback, jeep, or hiking from Medano Ranch (with possible stable and other base facilities at the ranch). Horseback riding, pack trips, guided hunting, guided hiking, photography workshops, and four-wheel-drive tours are appropriate activities and would continue to be authorized. The National Park Service would consider other potential commercial activities on a case-by-case basis to determine if they were necessary and appropriate before any new contracts or authorizations would be issued (see “Criteria for Commercial Services in chapter one).

APPLICATION OF MANAGEMENT ZONES

Most of the preserve and about half of the national park would be zoned natural/wild (natural conditions prevail and trails disallowed). Existing trails, zoned backcountry adventure, would remain. The northwest portion of the national park would also be zoned backcountry adventure to provide for future new trails. The frontcountry zone east of the dunes would be fairly small—no new facilities or development are anticipated. The Medano Ranch headquarters would be zoned frontcountry to permit public use. East of Medano Ranch headquarters, a guided learning zone for guided visitor use of sensitive areas would be located. The Medano Pass primitive road would be zoned backcountry access. The dunes play

zone would cover a portion of the dune-field closest to the dunes parking lot. Administrative zones would be located in various places around the park and preserve, primarily for NPS operational access.

WILDERNESS

No new areas would be proposed for wilderness designation.

STAFFING AND COSTS

Full staffing levels under the three public nodes alternative would be 38 FTEs. Volunteers would continue to be a key component of park operations.

The cost estimates provided here are for alternatives comparison purposes only—they are not to be used for budgeting purposes. Capital costs for the three public nodes alternative are estimated at \$15.8 to \$20.6 million. In addition to items mentioned for the no-action alternative, this includes costs for a new trailhead, trails, primitive campground, access road, improvements for public use at Medano Ranch, associated utilities, and bison fence removal. Life-cycle costs over 25 years, which include staff, maintenance, and operations costs (as well as capital costs), are estimated at \$46.7 to \$50.3 million. More information on costs is provided in appendix F.

ACTIONS CONSIDERED BUT ELIMINATED FROM DETAILED CONSIDERATION

During the planning process, some additional actions were considered, but later dismissed from further consideration. These actions and the reasons for dismissing them are described below.

ALLOWING OFF-HIGHWAY VEHICLES ON MEDANO PASS PRIMITIVE ROAD (WITHIN THE NATIONAL PRESERVE ONLY)

The Medano Pass primitive road has a narrow corridor that is bordered by wilderness. Allowing off-highway vehicles on Medano Pass primitive road (within the national preserve only) was originally considered because: (1) the USFS currently allows off-highway vehicle use on the Medano Pass Road east of the pass, and (2) off-highway vehicle use on Medano Pass Road west of the pass was formerly allowed, before the area became part of the national preserve. This action was dropped from detailed consideration for the following reasons: (1) there are concerns about resource damage resulting from illegal use on NPS lands outside the road corridor, (2) allowing off-highway vehicle use on NPS lands would require a special regulation (exception), (3) off-highway vehicle users coming from the pass must turn around at the national park boundary anyway (off-highway vehicles are not allowed in national parks), and (4) many other areas outside the national preserve are available for off-highway vehicle use.

REINTRODUCTION OF A NATIVE, NPS-MANAGED BISON HERD WITHIN THE PARK AND

ADJACENT LANDS UNDER FEDERAL MANAGEMENT

This action was considered because bison are native to the San Luis Valley, and because NPS policy supports the reintroduction of native species if: (1) adequate habitat exists to support the species, (2) the species may be managed so as to not pose a serious threat to the public, (3) the species' genetic make-up closely matches that of the original, and (4) the species disappeared as a direct result of human-induced change. Such restorations are supported only when they can be done in a way that promotes the restoration of natural resources and processes.

From the available literature, it is difficult to ascertain whether or not the modern species of bison (*Bison bison*) had continuous presence in the San Luis Valley. We must rely on documentation from oral histories, field notes and journals, and ethnographic and archeological studies. Documentation for the presence of bison in the Valley is scant at best. Bean (1975) asserts that bison herds never consisted of large numbers of animals, and that those reportedly in the San Luis Valley were "strays" that had come over the passes of the Sangre de Cristo mountain range during the summer. It is more likely that people living in the San Luis Valley made forays during the fall to the eastern Plains to secure meat, which was dried or jerked before it was brought back to the Valley for the winter. Wilson (1975) reports that a western route out of the San Luis Valley, one favored by the Utes to reach their winter homes, was named "Cochetopa" or "Buffalo Pass"; she emphasizes that although there were never extensive herds in the San Luis Valley, they must have used

this migration route, based on the Utes' name for the pass.

Jodry (1999) discusses historic and recent land use in the San Luis Valley by native people. In her interview with the Southern Ute tribal leader, Everett Burch, it was understood that "since buffalo were abundant in many areas of southern Colorado and northern New Mexico, Ute people moved primarily to obtain other resources that they needed, meanwhile hunting bison in those areas." However, the areas of bison abundance did not specifically include the San Luis Valley. She also cites the earliest known written record of bison in the San Luis Valley. The journal of Spanish explorer Don Diego de Vargas in July 1694, relates Spanish efforts to "secure fresh meat from a herd of 500 animals in the southern valley" (de Vargas 1694 in Jodry 1999). Likewise, White (2005) cites Zebulon Pike's reports of bison in the "mountain valleys north of the Great Sand Dunes" in 1807. Although his party killed deer and reported on wild horses and elk in the San Luis Valley, bison were not mentioned (Pike 1810 in White 2005). The Great Sand Dunes has four records of bison remains in its curatorial collection database. Of the four records, only one (a skull) has been positively identified as *Bison bison* (modern bison), and this record was deaccessioned (removed from the collection) in 1981, because its provenience is unknown. The other three specimens (one phalange and two horns) have been identified to genus (*Bison* sp.).

The phalange was found within the former monument boundaries in 1958, and identified by Dennis Stanford of the Smithsonian in 1978. The two horns were found on a property east of the dunes (area around Liberty, George White Ranch).

Today, available bison habitat within the park is very limited compared to that needed by a wild (unconfined) bison herd on a year-round and year-to-year basis. Also, the abundance of bison forage is quite variable in this area due to limited precipitation and high elevation. Bison confined to the national park and adjacent Nature Conservancy lands (bison are not an option on the refuge for the foreseeable future) would have to be intensively managed to maintain herd size and mimic natural grazing impacts. Such management would require a significant amount of time and energy that would divert resources from other park needs and projects. For these and other reasons, this option is not realistic for the life of the GMP. If additional bison habitat becomes available at some time in the future, this option may be reconsidered by the National Park Service. In the meantime, The Nature Conservancy may continue its ranching operations within the park (on its private inholdings and on lands it leases from the state and the National Park Service), thus preserving some desirable aspects of bison on the land, creating opportunities for natural systems study, and providing opportunities for visitors to see bison.

MITIGATION MEASURES FOR THE ACTION ALTERNATIVES

In the legislation that created the National Park Service, Congress charged the agency with managing lands under its stewardship "in such manner and by such means as will

leave them unimpaired for the enjoyment of future generations" (National Park Service Organic Act (16 *United States Code* [USC] 123, and 4). As a result, the National

Park Service routinely considers and implements mitigation measures whenever activities that could adversely affect the resources or systems are anticipated. Mitigation means to take action to avoid, reduce, or compensate for the effects of environmental damage.

A common set of mitigation measures would be applied to the action alternatives in this GMP. The National Park Service would avoid, minimize, and mitigate adverse impacts whenever practicable.

GENERAL

New facilities such as trailheads and trails would be sited in disturbed areas whenever feasible to avoid causing new impacts to resources.

Construction zones would be identified with temporary fencing prior to any construction activity to confine activity to the minimum area required. All protection measures would be clearly stated in construction specifications and workers would be instructed to avoid areas beyond the fencing.

Outdoor lighting for new or rehabilitated facilities would be the minimum amount required to provide for personal safety. Lights would also be shielded and/or directed downward to minimize impacts to the night sky.

NATURAL RESOURCES

New trails would be sited with potential wildlife impacts in mind. Specific measures used to avoid impacts on wildlife would include the following (Trails and Wildlife Task Force et al. 1998):

- Considering not only the narrow width of the trail, but also the wider area it may influence; different species respond differently to the presence of humans (and dogs) along trails.
- Seeking out degraded areas that have the potential to be used or restored when aligning a trail, rather than creating another disturbed area.
- Aligning trails along or near human-created ecological edges rather than bisecting undisturbed areas.
- Keeping trails (and their zones of influence) away from known sensitive species, populations, or communities.
- Locating trails where they can be screened and separated by vegetation or topography from sensitive wildlife.
- Providing trail experiences that are diverse and interesting enough that recreationists are less inclined to create their own trails

Measures to control dust and erosion during construction would be implemented and could include the following: water sprinkling dry soils; using silt fences and sedimentation basins; stabilizing soils during and after construction with specially designed fabrics, certified straw, or other materials; covering haul trucks; employing speed limits on unpaved roads; and revegetating disturbed areas where practicable.

Wetlands and riparian habitats would be delineated by qualified specialists, as appropriate, clearly marked, and avoided during construction. To protect water quality and wetlands/riparian areas, best

management practices would be employed and could include all or some of the following actions, depending on site-specific requirements:

- Work would be scheduled to avoid the wet season.
- Barriers would be provided between stream channels and trails or paved areas to reduce erosion potential.
- Disturbed areas would be kept as small as possible to minimize exposed soil and erosion potential.
- Silt fences, temporary earthen berms and water bars, sediment traps, stone check dams, or other equivalent measures would be installed prior to construction.
- Regular site inspections would be conducted during construction to ensure that erosion control measures were properly installed and functioning effectively.
- Chemicals, fuels, and other toxic materials would be stored, used, and disposed in a proper manner.

Undesirable species would be controlled in high-priority areas. Other undesirable species would be monitored and control strategies initiated if these species occur. To prevent the introduction of and to minimize the spread of nonnative vegetation and noxious weeds, the following measures would be implemented:

- Minimize soil disturbance.
- Pressure wash all construction equipment to ensure that it is clean and weed-free before entering the park.

- Limit vehicle parking to road shoulders, parking areas, or previously disturbed land.
- Obtain fill, rock, or additional topsoil from the project area. If this is not possible, obtaining weed-free sources from NPS-approved sources outside the park would be required.
- Monitor disturbed areas for two to three years following construction to identify noxious weeds or nonnative vegetation. Treatment of nonnative vegetation would be completed in accordance with NPS Director's Order – 77: *Natural Resource Management Reference Manual* (NPS 2004).

Mitigation measures would occur prior to construction to minimize immediate and long-term impacts to rare, threatened, and endangered species. Surveys would be conducted for such species as warranted. Facilities would be sited and designed so as to avoid adverse effects on rare, threatened, and endangered species whenever possible. If avoidance is not feasible, adverse effects would be minimized and compensated for, as appropriate, and in consultation with appropriate resource agencies.

Before surface irrigation of meadows was discontinued on Medano Ranch, a study would be conducted to better understand how this action might affect wetlands, groundwater supplies, federal water rights, the Closed Basin Project, etc.

Standard noise abatement measures would be implemented, as appropriate, during park operations and construction activities. Examples include: scheduling activities so that impacts are minimized, use of the best available noise control technique, use of hydraulically or electrically powered tools,

and situating noise-producing machinery as far as possible from sensitive uses or resources.

THREATENED AND ENDANGERED SPECIES

Mitigation measures are undertaken to reduce potential impacts to federally listed or candidate species. Mitigation measures include the following:

- Canada lynx habitat in the preserve will follow the guidelines provided in the Lynx Conservation Assessment and Strategy (LCAS).
- Activities in the vicinity of bald eagle habitat will follow the CDOW raptor guidelines for seasonal avoidances and buffer distances.
- Initiation of a NEPA process and additional consultation if oil and gas exploration on lands within the park subject to private mineral rights occurs.
- Prior to the implementation of any activity in or near riparian habitat, surveys will be conducted for the southwestern willow flycatcher, yellow-billed cuckoo, bald eagle nests, and bald eagle winter roosts. Additional section 7 consultation with the USFWS may be appropriate if the proposed activity may affect these species.
- Prior to implementation of any activity in or near dense coniferous forests on steep slopes, surveys will be conducted for the Mexican spotted owl. Additional section 7 consultation with the USFWS may

be appropriate if the proposed activity may affect these species.

Additional consultation with the USFWS would be required if any of the following occurred:

- Documentation of use of relevant habitats within the park and preserve by the southwestern willow flycatcher, yellow-billed cuckoo, or Mexican spotted owl.
- Initiation of activities anticipated to impact the single bald eagle winter roost site in the western portion of the park.
- Identification of additional bald eagle winter roost sites or of bald eagle nest sites within the park.
- Establishment of den sites by Canada lynx within the park.

Renewed discussions and consultation with the USFWS, should any of the above events occur, would focus on development of specific conservation measures to reduce potential impacts on these species. Such conservation measures would be based on the recommendations provided by the current USFWS recovery plan or further coordination with the USFWS for the relevant species.

CULTURAL RESOURCES

The identification and evaluation of cultural resources in the park are ongoing. As much of the park has not been surveyed for cultural resources, the planning process for facilities, visitor use areas, trails, and other land and resource management actions and practices would include consultation with NPS cultural resource

professionals and likely would include surveys for cultural resources. Land and resource projects and practices would be planned to avoid effects to cultural resources to the extent possible, using this cultural resources information. In any case, the National Park Service would comply with section 106 of the NHPA in the planning for these actions, including consultation with the Colorado SHPO and other consulting parties, as outlined in 36 CFR 800.

Prior to undertaking ground-disturbing activities, the National Park Service would coordinate with its cultural resource professionals to determine if archeological survey is warranted and/or if such activities should be monitored by a professional archeologist for unanticipated discovery of archeological resources. Workers would be informed of penalties for illegally collecting artifacts or intentionally damaging archeological or historic property and of notification procedures in the event that previously unknown resources were uncovered during construction.

If any archeological resources are discovered, work in the immediate vicinity of the discovery would be halted, the discovery would be secured, NPS cultural resource professionals would document and evaluate the resource, and the National Park Service would take appropriate actions to avoid or mitigate effects to the resource, in consultation with the Colorado SHPO and other consulting parties.

In the event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001), would be followed.

Great Sand Dunes National Park and Preserve would consult with associated American Indian tribes to develop and accomplish the programs in a way that respects the beliefs, traditions, and other cultural values of the American Indian tribes who have ancestral ties to park lands. The park will maintain government-to-government relations with associated tribes to ensure a collaborative working relationship, and will consult regularly with them before taking actions that would affect natural and cultural resources that are of interest and concern to them. The park would accommodate access to, and ceremonial use of, American Indian sacred sites by American Indian religious practitioners in a manner that is consistent with park purposes and applicable law, regulation, and policy.

All proposed documentation, recordation, and mitigation measures for archeological, historical, and ethnographic resources that are included in or eligible for listing in the NRHP would be stipulated in a memorandum of agreement among the National Park Service, Colorado SHPO (and/or, as necessary, the Advisory Council on Historic Preservation [ACHP]) in accordance with 36 CFR 800.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is the alternative that promotes the national environmental policy expressed in the National Environmental Policy Act of 1969 (NEPA) (sec. 101(b)). This includes alternatives that: (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice; (5) achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources" (NPS DO - 12: Handbook, section 2.7D).

"Generally this means the alternative that causes the least damage to the biological and physical environment. It also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources" (Council on Environmental Quality (CEQ), "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" [40 CFR 1500-1508], *Federal Register* Vol. 46, No. 55, 18026-18038, March 23, 1981: Question 6a).

The NPS preferred alternative has the most advantages compared to the other alternatives (see appendix E for a detailed

discussion). It also meets the purpose and need for the GMP. By managing the park in a conservative manner, protecting certain sensitive resource areas via the guided learning zone, limiting new facilities, recommending wilderness, and protecting key historic resources and cultural landscapes, the NPS preferred alternative realizes criteria 1 through 5. The alternatives do not differ much with respect to criterion 6.

The no-action alternative is meant to represent how the park was managed soon after ownership and management of the Baca Ranch was transferred to the U.S. government. It was included to provide a baseline against which to compare the effects of the other (action) alternatives. It only minimally meets the six criteria outlined above. Furthermore, it does not address the GMP's purpose and need, nor does it address key planning issues outlined in chapter one.

The dunefield focus—maximize wildness alternative realizes criteria 1 and 2 and some aspects of criterion 4 by managing the park in a conservative manner, limiting new facilities, and recommending wilderness. Because it does not protect sensitive resources or historic structures/cultural landscapes to the same degree as the NPS preferred and three public nodes alternatives, it does not realize criteria 3 and 5 to the same extent as these alternatives.

The three public nodes alternative realizes criteria 3, 4, and 5 by managing the park in a conservative manner, protecting certain sensitive resource areas via the guided learning zone, limiting new facilities, and protecting key historic resources and cultural landscapes. Because it does not

recommend wilderness and has undesired/unintended impacts related to increased visitor access, it does not meet criteria 1 and 2 as well as the NPS preferred and dunefield focus—maximize wildness alternatives.

After a review of the alternatives' environmental consequences, it was determined that the NPS preferred alternative is also the environmentally preferred alternative. This alternative best realizes the full range of national environmental policy goals as stated in section 101 of NEPA.

TABLE 1. SUMMARY OF KEY DIFFERENCES AMONG THE ALTERNATIVES

	No-Action Alternative	NPS Preferred Alternative	Dunefield Focus—Maximize Wildness Alternative	Three Public Nodes Alternative
General Emphasis	<ul style="list-style-type: none"> Existing management extended to new lands. Most visitors continue to go to the main dunes area. Some visitors explore the backcountry on horseback and on foot. 	<ul style="list-style-type: none"> Dunes area remains the main focus of visitor activity. New access in the north and at Medano Ranch (limited). New horseback and trail options, including overnight linking or loop options. Emphasis on cooperative or joint facilities (e.g., access routes, trailheads, ranger stations). 	<ul style="list-style-type: none"> Most visitors go to the main dunes area. Most of the rest of the park and preserve remains wild and undeveloped. Few new trails. 	<ul style="list-style-type: none"> Most visitors go to the main dunes area. Additional visitor activities available near the main dunes, Medano Ranch / guided learning zone, and north portion of new lands. New trail options in certain areas.
Management Zones	<ul style="list-style-type: none"> Not zoned. 	<ul style="list-style-type: none"> Moderate amount of backcountry adventure zone. Moderate amount of natural/wild zone. Small amount of guided learning zone. 	<ul style="list-style-type: none"> Most of the park and preserve zoned natural/wild. Frontcountry zone east of main dunes larger than in other action alternatives. 	<ul style="list-style-type: none"> Lots of natural/wild zone. Moderate amounts of backcountry adventure and guided learning zones.
Wilderness	<ul style="list-style-type: none"> No new wilderness recommended. 	<ul style="list-style-type: none"> Most undeveloped areas of new park land recommended for wilderness. 	<ul style="list-style-type: none"> Most undeveloped areas of new park land recommended for wilderness. 	<ul style="list-style-type: none"> No new wilderness recommended.
Medano Ranch Headquarters	<ul style="list-style-type: none"> Continued use by The Nature Conservancy as Medano Ranch headquarters. Most historic structures maintained by The Nature Conservancy. 	<ul style="list-style-type: none"> Adaptively used for NPS administrative purposes and open to the public on a limited basis for scheduled activities. Most historic structures maintained by the National Park Service. 	<ul style="list-style-type: none"> Use discontinued and area managed as natural/wild zone. Structures not maintained and possibly removed. 	<ul style="list-style-type: none"> Adaptively used as a public day-use area (e.g., interpretive area, contact station, concessions support). Most historic structures maintained by the National Park Service.

TABLE 1. SUMMARY OF KEY DIFFERENCES AMONG THE ALTERNATIVES

	No-Action Alternative	NPS Preferred Alternative	Dunefield Focus—Maximize Wildness Alternative	Three Public Nodes Alternative
New Trails and Trailheads	<ul style="list-style-type: none"> Existing trails and trailheads maintained. Otherwise, no new trails or trailheads, but visitors could enjoy most portions of park and preserve via foot or horseback (select areas remain off-limits to horses). 	<ul style="list-style-type: none"> New trailhead in northern part of the national park and new trails in backcountry adventure zone areas. Link park trails to outside trails where possible. New trails in guided learning zone. Cooperative trailheads around park if possible (e.g., Oasis, Baca National Wildlife Refuge, San Luis Lakes State Park). 	<ul style="list-style-type: none"> New multiuse trail from the park boundary (near the Oasis) to the visitor center, dunes parking lot / picnic area, and Pinyon Flats campground. New trails or trailheads only in frontcountry zone east of main dunes. 	<ul style="list-style-type: none"> New trailhead in northern part of park and new trails in backcountry adventure zone areas. Trailhead at Medano Ranch for new trails in guided learning zone. Possible concession opportunities for guided hiking and horseback tours to high interest areas on or near Medano Ranch.
Public Access to North Part of Park	<ul style="list-style-type: none"> Foot-only access facilitated; no equestrian gates, trailhead, or campground. 	<ul style="list-style-type: none"> Small backcountry trailhead (10–15 vehicles) within backcountry access zone improves foot, horseback, and vehicle access. No campground in this area. Access route to trailhead to be determined in the future. Public vehicle access options to new USFS lands, i.e., Liberty Road or extension of the selected route could be considered in a separate future NEPA process. 	<ul style="list-style-type: none"> Foot and horseback access only facilitated (gate or gates provided at northern boundary); no trailhead or campground in this area. 	<ul style="list-style-type: none"> Backcountry trailhead (15–20 vehicles) and primitive campground within backcountry access zone improves foot, horseback, and vehicle access. Access route to trailhead and campground to be determined in the future. Two public vehicle access options to new USFS lands could be considered in a separate future NEPA process (Liberty Road or extension of Cow Camp Road to Liberty Road).

TABLE 1. SUMMARY OF KEY DIFFERENCES AMONG THE ALTERNATIVES

	No-Action Alternative	NPS Preferred Alternative	Dunefield Focus—Maximize Wilderness Alternative	Three Public Nodes Alternative
Main Dunes Area Carrying Capacity	<ul style="list-style-type: none"> Minor expansion (~5% additional paved surface) and reconfiguration of the dunes parking lot to improve circulation and increase capacity. 	<ul style="list-style-type: none"> Possible modest shuttle system to transport visitors from remote parking into the dunes area during peak summer weekends. 	<ul style="list-style-type: none"> Parking and related support facilities (e.g., restrooms) could be expanded within the frontcountry zone if the parking lot fills too often. 	<ul style="list-style-type: none"> No parking or facility expansion; when the dunes parking area is full, visitors arriving at the main entry would be directed to alternate park nodes (e.g., Medano Ranch).
Backcountry Carrying Capacity	<ul style="list-style-type: none"> Manage according to existing backcountry management plan (addresses former national monument only). 	<ul style="list-style-type: none"> New trails in backcountry adventure zone direct use to areas that can accommodate it. Guided learning zone protects Big Spring and Little Spring. Sensitive areas (Upper and Lower Sand Creek lakes, Deadman Creek, Big Spring and Little Spring) managed closely according to new wilderness management plan. 	<ul style="list-style-type: none"> Few new trails or access points; keep use light and dispersed. Sensitive areas (Upper and Lower Sand Creek lakes, Deadman Creek, Big Spring and Little Spring) managed closely according to new wilderness management plan. 	<ul style="list-style-type: none"> New trails in backcountry adventure zone direct use to areas that can accommodate it. Guided learning zone protects Big Spring and Little Spring. Sensitive areas (Upper and Lower Sand Creek Lakes, Deadman Creek, Big Spring and Little Spring) managed closely according to new wilderness management plan.
Dogs	<ul style="list-style-type: none"> Leashed dogs generally allowed in the national park. Leashed dogs generally allowed in the national preserve. Unleashed dogs allowed for hunting (permitted only within the national preserve). 	<ul style="list-style-type: none"> Within the national park, leashed dogs allowed only within the frontcountry, dunes play, and backcountry access zones, and Liberty Road administrative zone. Leashed dogs generally allowed in the national preserve. Unleashed dogs allowed for hunting (permitted only within the national preserve). 	<ul style="list-style-type: none"> Within the national park, leashed dogs permitted only in parking areas, picnic areas, and car campgrounds. Leashed dogs not allowed in the national preserve. Dogs allowed for hunting (permitted only within the national preserve). 	<ul style="list-style-type: none"> No dogs in areas with high potential for (or a history of problems with) conflicts with visitors or wildlife; otherwise leashed dogs allowed. Within the dunes play zone, leashed dogs allowed in an alternative downstream area. Unleashed dogs allowed for hunting (permitted only within the national preserve).

TABLE 1. SUMMARY OF KEY DIFFERENCES AMONG THE ALTERNATIVES

	No-Action Alternative	NPS Preferred Alternative	Dunefield Focus—Maximize Wildness Alternative	Three Public Nodes Alternative
Bison	<ul style="list-style-type: none"> Continued bison grazing within the park on lands owned or leased by The Nature Conservancy. 	<ul style="list-style-type: none"> A NPS-managed free-roaming bison herd is not feasible for the life of the GMP. If additional bison habitat becomes available at some time in the future, this option can be reconsidered by the National Park Service. 	<ul style="list-style-type: none"> A NPS-managed free-roaming bison herd is not feasible for the life of the GMP. If additional bison habitat becomes available at some time in the future, this option can be reconsidered by the National Park Service. 	<ul style="list-style-type: none"> A NPS-managed free-roaming bison herd is not feasible for the life of the GMP. If additional bison habitat becomes available at some time in the future, this option can be reconsidered by the National Park Service.
Total 25-Year Life Cycle Costs	\$28.1 to \$29.5 million	\$44.6 to \$49.6 million	\$35.6 to \$36.7 million	\$46.7 to \$50.3 million