Coral Pink Sand Dunes State Park

Draft

General Management Plan
September, 2004

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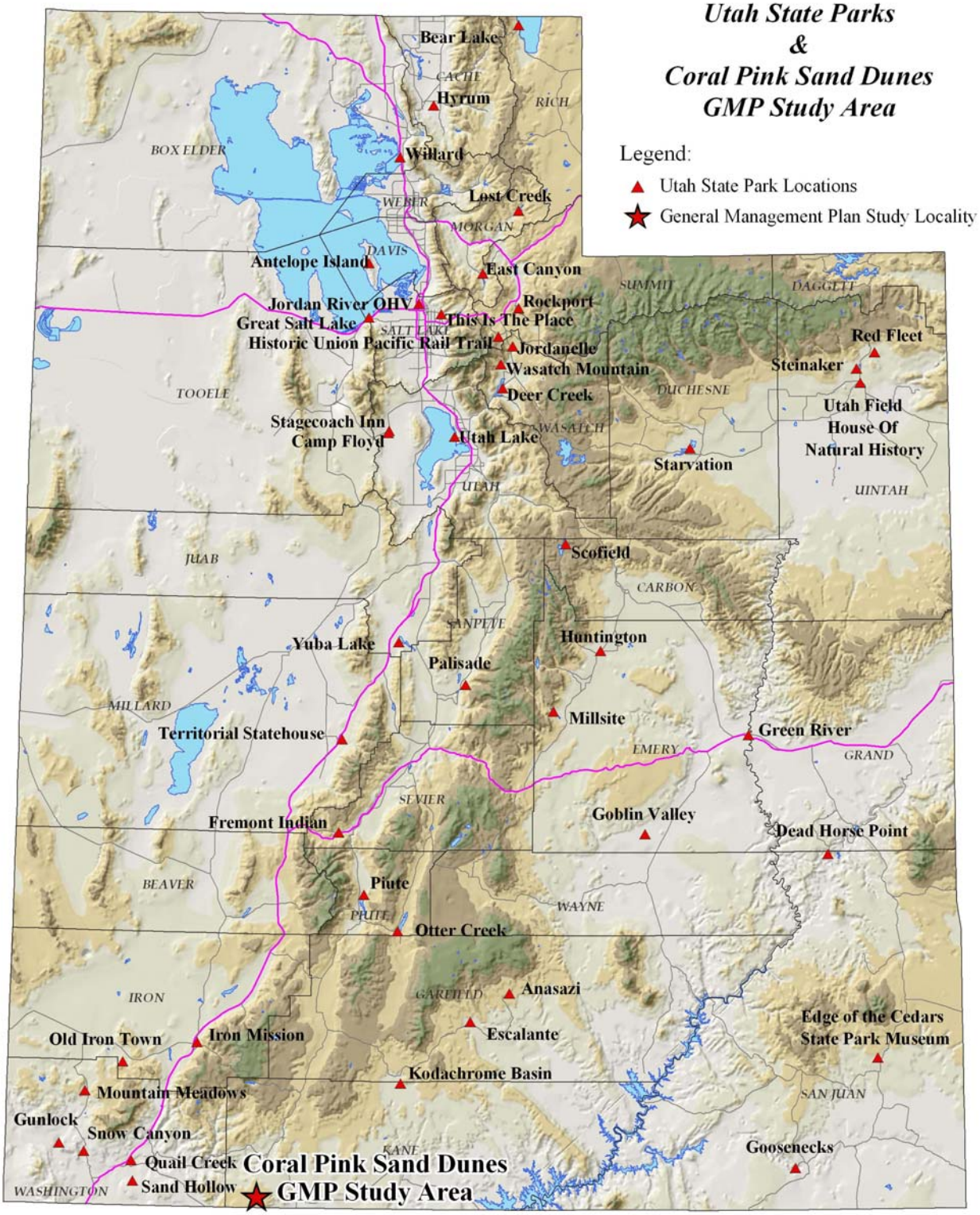
Utah State Parks
&
Coral Pink Sand Dunes
GMP Study Area
Legend:
Utah State Park Locations
General Management Plan Study Locality
Bear Lake
CACHE
Hyrum
RICH
BOX ELDER
Willard
WEBER
Lost Creek
MORGAN
DAVIS
Antelope Island
East Canyon
SUMMIT
DAGGETT
Jordan River OHV
Rockport
Great Salt Lake
This Is The Place
SALT LAKE
Historic Union Pacific Rail Trail
Jordanelle
Red Fleet
Wasatch Mountain
Steinaker
TOOELE
Deer Creek
DUCHESNE
Utah Field
House Of
Natural History
Stagecoach Inn
Camp Floyd
Utah Lake
WASATCH
Starvation
UTAH
UINTAH
JUAB
Scofield
CARBON
SANPETE
Yuba Lake
Huntington
Palisade
MILLARD
Millsite
Territorial Statehouse
Green River
EMERY
GRAND
SEVIER
Goblin Valley
Fremont Indian
Dead Horse Point
BEAVER
Piute
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WAYNE
Otter Creek
IRON
GARFIELD
Anasazi
Edge of the Cedars
State Park Museum
Old Iron Town
Iron Mission
Escalante
Kodachrome Basin
Mountain Meadows
SAN JUAN
Gunlock
Snow Canyon
KANE
Goosenecks
Quail Creek
Coral Pink Sand Dunes
Sand Hollow
GMP Study Area
WASHINGTON

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Preface

Coral Pink Sand Dunes State Park offers visitors breathtaking scenery with a variety of motorized and non-motorized recreation opportunities. The scenery and dunes, combined with multiple recreation opportunities, make this park a popular vacation destination for off-road vehicle (OHV) enthusiasts as well as day users. The park's visitation has dramatically increased in the last 10 to 15 years. In 1990, visitation for the park was 98,415 individuals. By 1998, park visitation had climbed to 188,164 individuals, a 91 percent increase. While visitation has dropped off in recent years, the number of yearly visitors continues to exceed 125,000. These increases tax the park's limited capacity to effectively meet visitor demands. Therefore, management actions are needed to determine the level and types of development that should occur within Coral Pink Sand Dunes State Park.

During the late 1990's, the Bureau of Land Management (BLM) and the Utah Division of Parks and Recreation developed a framework plan amendment for the greater Coral Pink Sand Dunes area, managing the interaction between motorized and non-motorized recreationalists, and sensitive species endemic to the area. These and other cooperative agreements and management plans established the broad-range management goals for the Coral Pink Sand Dunes area.

This general management planning effort builds upon and enhances the goals already established in these previous plans. Additionally, addresses issues specific to the needs of the park. While many of the land use management decisions have already been made, issues such as visitor education, outside partnerships, facilities development, signage, staffing, and funding need to be addressed. This **General Management Plan (GMP)** is designed to guide short and long term site management and capital development. The Coral Pink Sand Dunes General Management Planning Team consisted of park staff and agency representatives. The team was formed to develop a mission and vision for the park, identify issues, and provide managerial recommendations.

The team developed seven vision elements which define the team's planning objectives. All recommendations in the plan are designed to:

- Develop, upgrade and enhance multiple use opportunities while protecting innate state park values.
- Develop well-designed facilities and infrastructure: aesthetically pleasing, easy to maintain, budgeted in advance, and consistent with the park values.
- Improve and refine park interpretive features and programs: to understand flora, fauna, and use limitations necessary to sustain the park.
- Distribute information and signage to create an appropriate sense of expectations for the park user and simplify management.
- Continue current policy of separation of conflicting uses, especially motorized away from non-motorized visitors; mitigate conflict by management and design.
- Protect sensitive species in the park: educate the public to assist with management.
- Maintain and improve relationships with partners: BLM, community groups, tourism groups, division staff, and others.

Team recommendations were developed by consensus to guide the management of the park over the next 10 years. They are intended to be dynamic and evolve as individual portions of the vision statement are achieved.

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Executive Summary

In January 2004, representatives from the Utah Division of Parks and Recreation met to initiate a general management planning effort for Coral Pink Sand Dunes State Park. This process was based on past planning efforts with the Bureau of Land Management (BLM), United States Fish and Wildlife Service (USFWS), Kane County, and Utah's Division of Parks and Recreation. These prior planning efforts captured most of the resource data, public input, and visitor survey information required for a park plan. Therefore, the planning team decided to initiate a smaller, more park-centric planning efforts utilizing the expertise of existing state park staff, in conjunction with the data obtained from the previous studies and planning documents. The Coral Pink Sand Dunes General Management Planning Team, a park staff based team representing park management, park rangers, construction and maintenance coordinators, and region management, was the core of the process. The recommendations contained in this document do not change any of the existing land management planning directives or cooperative agreements already in effect.

The plan provides recommendations founded upon seven primary vision elements that will guide future management of Coral Pink Sand Dunes State Park. These elements focus on:

- Developing and enhancing multiple use recreation opportunities while retaining the park's current scenic beauty and protecting its geological, biological, historical, and cultural attributes.
- Developing facilities and infrastructure that are well-designed, well-maintained, aesthetically pleasing, appropriately budgeted, feasibly staffed, and consistent with the park's values to meet the visitor's recreation demands and expectations.
- Continuing maintenance of existing facilities and incorporate all facilities and infrastructure into a successful maintenance program/process for the park.
- Refining and enhancing the park's existing interpretation and education programs. Use these programs to better educate visitors on the park's unique flora and fauna, distinct geology, sensitive and endangered species, conservation/preservation practices, and varied recreation opportunities found in and around the park.
- Distributing information and signage throughout the park in such a way as to build a sense of anticipation for the resources and amenities found at the park, and give the visitor a better sense of arrival within the entire park area.
- Maintaining the current policy for separation of use between motorized and non-motorized visitors. Improve user understanding for the park's need of separate use areas and the need to mitigate user conflict between the sensitive species, motorized, and non-motorized user groups.
- Continuing existing partnerships with other state, federal, and local agencies while fostering new partnership opportunities where consistent with park values and recreation demands of park visitors.

The planning team issued several specific recommendations in support of the plan's vision elements. Five issue areas form the basis of the team's recommendations. Each issue area, with recommendations, is outlined as follows:

Park Resources

- Continue to follow the directives and complete the goals set in past planning efforts and cooperative agreements.
- Contact local visitor bureaus, BLM office, and other interested parties to develop a standard educational program on specific issues associated with the Coral Pink Sand Dunes area.
- Develop a noxious weed control plan and landscape with native vegetation.
- Minimize the over-use of the area by better utilizing existing pull-outs to disperse use and begin monitoring the area for user impacts.

Facilities Development and Maintenance

- Improve existing camping opportunities within the park by adding a new loop to the existing campground that will better accommodate large recreation vehicles.
- Expand and pave several of pullouts within the park, adding fencing, picnic tables, restrooms, and interpretive kiosks to pullout areas.
- Improve the existing non-motorized day use facilities by expanding the parking lot, adding new picnic facilities, and replacing the boardwalk.
- Improve motorized day-use area with picnic facilities, paving, and a new restroom.
- Develop a maintenance program following state guidelines and insure park compliance with those guidelines.

Staffing, Funding, and Operations

- Seek additional funding through partnerships, legislature, grants, and donations.
- Add entrance stations at both ends of the park.
- Add new staff (not at the expense of existing positions) to fulfill the increasing responsibilities as plan elements are implemented.
- Secure additional operational funding before any action is taken requiring more operational costs.
- Recruit volunteers and interns to help staff the park and present interpretive programs.

Education and Information

- Develop an interpretive plan for Coral Pink Sand Dunes State Park
- Better utilize signage within the park to create a "sense of arrival" at the park.
- Improve the park's education program about area-wide management decisions.

Recreation Opportunities

- Develop non-motorized trail opportunities for park visitors.
- As new forms of recreation evolve, park management will be proactive in providing special use permits for those activities that fit within the mission and vision of the park.

Implementing some of these recommendations will be contingent upon the acquisition of new funding sources. The competition for funding or other unforseen priorities may affect the implementation of this plan. The plan's success is dependent upon the continued support of park staff, community stakeholders, and resource professionals. Efforts must be made to preserve park resources, interact with local communities, and strive to meet the expectations of park visitors.

Mission and Vision Statements

Mission Statement:

The mission of Coral Pink Sand Dunes State Park is to provide visitors a variety of safe and satisfying recreation experiences while preserving and interpreting the park's natural, scenic, and recreation resources.

Mission Statement

Coral Pink Sand Dunes State Park is well-known for its' panoramic beauty and 1500-acre dune field. The scenery and dunes have made this park a popular vacation destination for both motorized and non-motorized visitors.

Past planning efforts were more broad in scope focusing on joint BLM/Utah State Park land use management. However, the park needed a general management plan focusing on issues relevant to the state park itself.

The team developed a mission statement incorporating the preservation and interpretation of the park's scenic and biotic characteristics treasured by visitors and researchers alike. However, the team felt it important to note that this park is a recreation park, as well as scenic park. To that end, the park will also focus on preserving and developing recreation opportunities consistent with the mission and vision of Coral Pink Sand Dunes State Park.

Vision Statement:

- Develop and enhance multiple use recreation opportunities while retaining the park's current scenic beauty and protecting its geological, biological, historical, and cultural attributes.
- Develop facilities and infrastructure that are well-designed, well-maintained, aesthetically pleasing, appropriately budgeted, feasibly staffed, and consistent with the park's values to meet visitor recreation demands and expectations.
- Continue maintenance of existing facilities and incorporate all facilities and infrastructure into a successful maintenance program/process for the park.
- Refine and enhance the park's existing interpretation and education programs. Use these programs to better educate visitors on the park's unique flora and fauna, distinct geology, sensitive and endangered species, conservation/preservation practices, and varied recreation opportunities found in and around the park.
- Distribute information and signage throughout the park in such a way as to build a sense of anticipation for the resources and amenities found at the park, and give the visitor a better sense of arrival within the entire park area.
- Maintain the current policy for separation of use between motorized and non-motorized visitors. Improve user understanding for park's need of separate use areas and to mitigate user conflict between the sensitive species, motorized, and non-motorized user groups.
- Continue existing partnerships with other state, federal, and local agencies while fostering new partnership opportunities where consistent with park values and the recreation demands of park visitors.

Vision Statement

A vision statement is similar to a compass; it charts a destination, sets the team on the correct course of action, and provides the means to determine how closely team recommendations will follow that chartered course. Utilizing the basic principals of the mission statement, the team developed a vision statement to guide recommendations formulated by the team. The vision statement provides the foundation for recommendations to meet visitor demands, increase awareness of the park and resources, development of facilities, education and interpretation, facilities maintenance, and partnershipping. Each recommendation is consistent with the principals outlined in the vision statement.

General Management Plan Purpose And Process

Purpose of the Plan

The General Management Plan is intended to help guide the Utah Division of Parks and Recreation's stewardship obligations for Coral Pink Sand Dunes State Park. Planning for the park is essential given that the recent increases in visitation may necessitate larger facilities and more diverse recreation programs to better accommodate park visitors.

Coral Pink Sand Dunes State Park is situated within easy access of numerous parks, monuments, national forests, nation recreation areas, and wilderness study areas and has increasingly become a popular recreation stop for many travelers to southern Utah area (State of Utah, 1997b). For example, in 1990, approximately 98,415 people visited the park, but by 1998 the annual visitation climbed to 188,164 individuals. Park visitors routinely fill the park's developed recreation facilities and spill out into other undeveloped areas of the park.

During the development of the *2000 Vermillion Management Framework Plan Amendment* (VMFPA), improved camping and day-use facilities were proposed as part of the overall land management scheme for the joint BLM/Utah State Park land and recreation management plan. These improvements addressed the need for more facilities to better accommodate increased demand and to control the existing user conflicts between motorized and non-motorized users.

Pressure is mounting on current facilities, infrastructure, and park staff to effectively meet visitor needs and protect park resources. A planning process will assist in the wise use of available funds and increase the likelihood of obtaining development and renovation dollars to complete the team's recommendations.

A number of issues ranging from visitor education to facilities development were identified by various sources including input from the planning team, past visitor surveys and public meetings, and previous planning efforts. Team members developed five major issue categories addressing: natural resource management and preservation, facilities development and maintenance, operations, education and interpretation, and recreation opportunities. This plan addresses each of these issue areas as well as existing management plans and agreements; providing the park a flexible guideline and resource for park management and development for the next 10 years.

The Planning Process

Planning for an outstanding natural and recreation resource such as Coral Pink Sand Dunes State Park is required for the protection of this unique area, serve visitor needs, improve recreation opportunities, and ensure the efficient and effective expenditure of state and private funds. Planning is necessary for the long-term protection and public enjoyment of Coral Pink's unique ecosystem and viewshed, as well as, the park's diverse recreation opportunities that are of great interest to the recreating public in Utah.

The Utah Division of Parks and Recreation's master-planning document, *Frontiers 2000*, delineates the required planning actions needed to effectively meet customer recreation and leisure needs. The document identifies resource management planning as an essential action to be completed for each park within the agencies system. Under the guidance of *Frontiers 2000*, each plan is designed around one core concept: *meeting the needs and expectations of customers, citizens of the state of Utah and visitors while protecting each park's unique resource base.* In short, the process is "customer driven and resource based." Due to past public planning efforts that occurred at Coral Pink Sand Dunes State Park, many of the land management, sensitive and endangered species management, and recreation management issues have already been addressed in the VMFPA. For these reasons this smaller, more park-centric GMP process was initiated by the Utah Division of State Parks and Recreation. While smaller in scope than a full RMP, the park's GMP is designed to meet the same core concepts as an RMP as outlined in *Frontiers 2000*.

The planning process recommends limits of

acceptable change or modification, and a future vision for the park. Specifically, the process: (1) recognizes impacts will result from use and enjoyment of the site; (2) defines how much and what type of impacts may be accommodated while providing reasonable protection of the resources for future visitors; (3) incorporates values of resource sustainability, quality facilities, education and interpretation for visitors; and (4) seeks to determine the conditions under which this can be attained.

In January 2004, Division representatives and stakeholders met to familiarize themselves with the proposed process and the need for creating a GMP for Coral Pink Sand Dunes State Park. During this meeting, the Division decided to keep the GMP process internal due to the public planning processes that have already occurred. When the GMP reaches the draft stage it will be presented to local officials and community leaders for their comments. Copies will be sent to the Kanab Office of the BLM, USFWS, Kane County Commission, and Kanab Visitor Bureau.

Planning team members were selected for a variety of reasons ranging from technical expertise to interest in the park. All team members participated on a voluntary basis and expressed a willingness to sacrifice a significant portion of their time and provide their expertise to the process. Seven individuals representing park operations and management, region management, and facilities construction and maintenance, were selected to serve on the planning team, while three representatives from the Division's Planning Section served as staff to the team.

About The Park

Park History

In 1957, the Utah State Parks and Recreation Commission, a blue ribbon panel, identified Coral Pink Sand Dunes as a potential state park. The park was one of 19 potential state park sites selected for early action by the commission. The Kane County Commission and the Kanab Chamber of Commerce were the chief entities responsible for attracting the Utah State Parks and Recreation Commission interest in the area.

In March 1958, these Kane County proponents issued a formal proposal to the BLM suggesting the area be included within the state park system on the basis of the dunes' natural and scenic beauty. They also argued the area would provide visitors with a "scenic, beautiful spot to spend vacation and recreation time" and that the dunes would induce out-of-state visitors to spend more time in the Kane County area.

Based on this recommendation, Coral Pink Sand Dunes was included in the Commission's 1959 final report inventorying potential state parks worthy of recognition. The report noted that the area is "extremely scenic" and contains "some of the most striking sand dunes of coral pink color found any place in the world." The Commission recommended early action be taken to develop the area into a state park.

Lands for the park were eventually purchased from the BLM in April of 1963. The Commission received 3,370 acres for the purchase price of $9,325 or $2.50 an acre. The purchase was made through the BLM's Recreation and Public Purchases Act (RP&P). Under this act any land purchased must be maintained for public recreation purposes only.

Physical Setting and Facilities

Coral Pink Sand Dunes is located in the extreme southern portion of Utah, 22 miles northwest of Kanab, just one mile north of the Utah/Arizona state line, and 310 miles south of Salt Lake City. The park encompasses 3,730 acres with an average elevation of approximately 6,000 feet. 1,500 of the 3,730 acres are open dunes. The sand dunes continue to the northeast, crossing the state park boundary to eventually cover another 1,500 acres of the BLM's Moquith Mountian Wilderness Study Area (WSA). The dune-covered valley floor is bounded on the east by Moquith Mountain; an escarpment that rises abruptly from the dunes. This dramatic change in viewshed from dunes to forested upland creates a photographers dreamland with beautiful views and rich red hues contrasted against the dark greens of the ponderosa pines and pinion juniper forest. Bordering the west edge of the park is a line of low mesas that extend northward and represent the western expression of the White Cliffs of the Grand Staircase.

The park is situated within the "Golden Circle", an area rich in scenic beauty, cultural resources, and diverse landforms. The "Golden Circle" encompasses parts of five southwestern states and contains numerous national parks, monuments, recreation areas, national forests, wilderness study areas, state parks, and other attractions. In an early attempt to capitalize on the tourism already occurring in the "Golden Circle", the Utah State Parks and Recreation Commission's 1959 report proposed an initial development of "proper signs and a roadside picnic area, inducing tourists to stop and visit; with tables, toilets, grills and garbage disposal, plus parking space". Today the park facilities include a 22-unit campground, dumpstation, restroom with showers, non-motorized day use area with boardwalk and picnic sites, day-use OHV staging area, new park office/visitor center, a new ranger residence triplex, ranger house, maintenance area, paved roads, park signage, power, water, and sewer infrastructure. Current recreation opportunities include: OHV riding, hiking, photography, horseback riding, sightseeing, nature study, camping, and a nature trail.

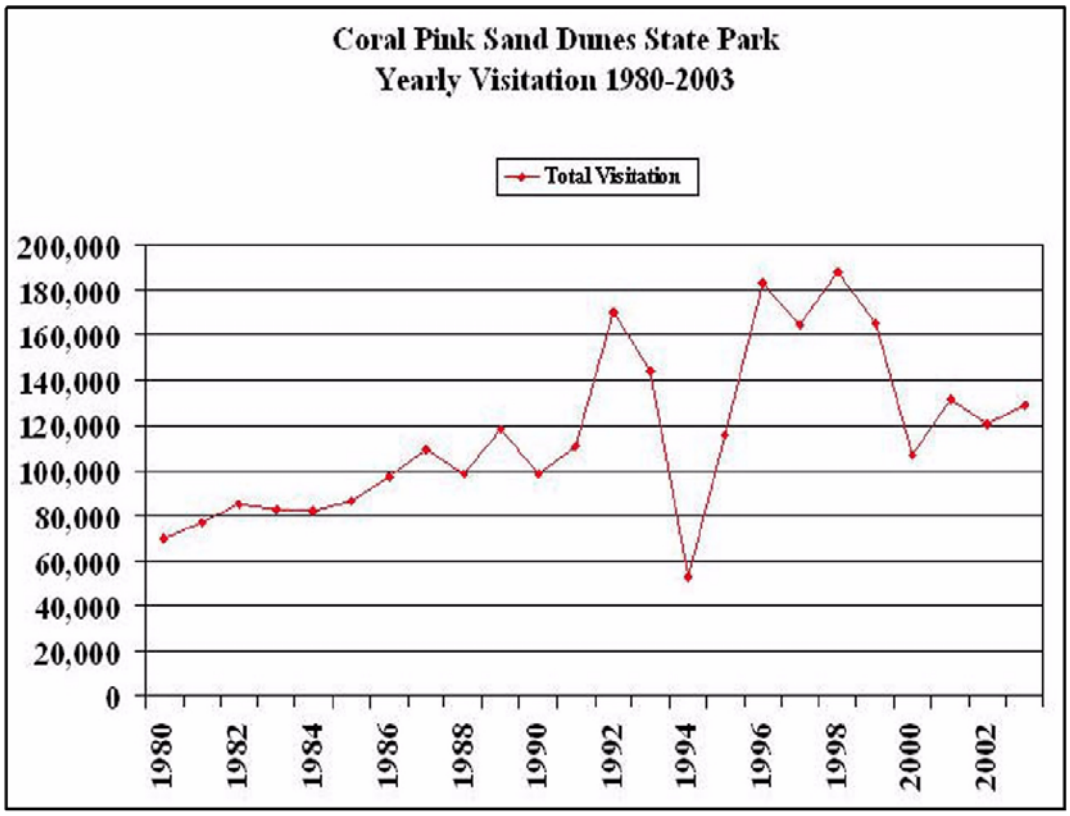
Facilities Development Timeline:

- Road improvements for park access, 1966-1967
- Park roads, housing, and campground, 1968-1973
- Power line to park, 1974
- Phone line to park, 1980
- New water system built, Hancock Road paved (Kane County), 1991
- Boardwalk, 1998
- Triplex ranger residence, 1999
- New restrooms/showers, 2000
- Visitor center, 2004

Park Visitation

From 1962 (the first year of recorded visitation to the area) to 1984, approximately 800,000 individuals visited what is now Coral Pink Sand Dunes State Park. During the 1980s, visitation gradually climbed to 117,932 in 1989. The early 1990s visitation numbers remained fairly consistent. Then in the late 1990s, visitation began to climb dramatically culminating in 1998 with park visitation reaching a record high of 188,164. With the rise in visitation, the park's basic visitor demographic patterns were altered. The average visitor before the early 1990s was an out-of-state resident, a member of a single-family group with an average size of three people and stayed in the park overnight for an average of 2.3 nights. By 1999, the average user was a first time visitor, who made Coral Pink one stop among many. Sightseeing became the predominate activity and users tended to stay less than one day. The other major change was a decrease in OHV-related visitors. Before the early 1990s, approximately 64 percent of all park visitors were non-motorized users, but by 1998, approximately 95 percent of the Park's visitors were non-motorized (Dalton, 1999b). In the mid-1980s, motorized use was recorded at 34,802 users. By 1998, motorized use declined to 8,054.

Coral Pink Sand Dunes State Park's heaviest visitation begins in May and continues throughout



the summer season. In 2003, 128,993 individuals visited Coral Pink Sand Dunes. The visitation numbers for 2004 indicate visitation should exceed 135,000.

Relationship to the Community and Surrounding Areas

Coral Pink Sand Dunes is located in southern Kane County one mile north of the Utah/Arizona border. The park is 22 miles northwest of Kanab, the county seat. The park is bordered on the three sides by the Moquith Mountain Wilderness Study Area and on the south by the Kaibab Indian Reservation.

The park area has a long history of use. Archeological work suggests cultural patterns typical for the Great Basin. The patterns consist of a period of hunting and gathering referred to as the Archaic and lasted locally to about 500 AD. After a considerable period of transition, farming played an increasing role in the subsistence economy of the eastern Great Basin peoples. During this period, people associated with the Ancestral Puebloans occupied southwestern Utah. A 1995 study found that the park contains Ancestral Puebloan artifacts. By 1300 AD Ancestral Paiutes had become the dominate culture in the eastern Great Basin. The Ancestral Paiutes relied on a hunting and gathering economy supplemented with horticulture. Spanish Explorers, Fathers Escalante and Dominguez probably first encountered the descendants of the Ancestral Paiutes in 1776-1777.

Kane County was first settled by anglos in the mid-1860s and was named for Colonel Thomas L. Kane, an influential supporter of the Mormon pioneers. The city of Kanab was settled by Jacob Hamblin in 1864. Most of the local residents were farmers and ranchers until the 1920s and 1930s when the tourist industry began. Food, lodging, and services were provided for the tourist visiting the newly created Zion, Bryce, and Grand Canyon national parks. During this time the small town of Kanab was discovered by Hollywood. Many western movies have been filmed in the deserts surrounding Kanab. In 1956, work on the Glenn Canyon Dam commenced and with its completion new recreation service industries were developed in the area. In March 1958, the Kane Commission and various other proponents issued a formal proposal to the BLM suggesting that the area be included within the state park system. The Utah State Parks and Recreation Commission in 1959, published a report recommending Coral Pink Sand Dunes be developed as a state park. In 1963 the property now known as Coral Pink Sand Dunes State Park was purchased from the BLM.

Demographics and Socioeconomic Impact

Kane County is one of the least densely populated counties in the state with an average of 1.5 persons per square mile. In 2002 the population of Kane County was 5,958. The county has a sustained average growth rate of 1.6 percent per year from 1990-2000 (State of Utah, GOPB). By the year 2030, Kane County's projected population should increase to 13,628 people. Kanab is the county seat and the largest city in Kane County. In 2000, Kanab's population was reported to be 3,564 people and is expected to grow to 10,596 people by 2030.

Kane County's economy is primarily service-based. This sector accounts for 41 percent of the total employment. The next largest employer is the government (predominately school district, local government, and resource agencies) which employs 25.4 percent of the county's total employment. The county's remaining employers are trade at 12.9 percent and manufacturing at 12.7 percent of the total county employment. The county's economy is specialized in tourism-based industries with Aramark Sports & Entertainment (Lake Powell Resorts/Marinas), Stampin Up, and Thunderbird Restaurant and Motel being some of the county's largest employers. In 2001, Kane County's economic output totaled $148.8 million. Gross taxable retail sales, services, and business equipment purchases amounted to $101.5 million or 68 percent of the county's total income (State of Utah, GOPB).

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Park Resources

One of Coral Pink Sand Dunes State Park's primary vision elements is to develop and enhance multiple use recreation experiences while retaining the park's current scenic beauty and protecting its geological, biological, historical, and cultural attributes. To adequately address this vision element, an analysis and inventory of the park's resources is essential. This section provides an analysis of Coral Pink Sand Dunes geological, biological, and archeological resources. The synopsis provided was compiled from the many resource inventories and studies performed in past land use management plans and endangered species agreements referenced by this plan.

Geological Resources

Coral Pink Sand Dunes is located within the transition zone between two physiographic provinces; the Basin and Range to the west and the Colorado Plateau to the east. The park consists of two distinct topographic features: the forested upland of the Moquith Mountain plateau and a low-lying valley floor. These two topographies are cut by the north-south trending Sevier fault (Plate 1, pg. 23), which is evidenced by the west-facing bedrock escarpment of the Moquith Mountain plateau. This escarpment acts as the major control over sand accumulation in the dune field (Ford,Gillman, 2000).

Coral Pink Sand Dunes is the only major dune field on the Colorado Plateau. The average elevation of the dune field is 6000 feet above mean sea level, making the dunes the second highest dune field in the country. The dunes are formed from the erosion of the surrounding Navajo Sandstone. Wind currents coming from Mocassin Gap funnel into the area and deposit the coral colored sands thus creating the dunes. The largest dunes are located in the state park; however, the dune field extends into the BLM lands on both the north and south ends of the park. As a result, there are no distinctive landforms that separate the state park dune area from the BLM dune area. The entire dune field is approximately 3,000 acres in size. The northern portion of the dunes (1,500 acres) is managed by the state park through cooperative agreement with the BLM. The southern portion of the dunes (1,500 acres) is contained within the state park.

Biological Resources

Special Status Species

Two special status species have been identified within Coral Pink Sand Dunes State Park. These are Welsh's Milkweed (Asclepias welshii), a listed threatened species and Coral Pink Sand Dunes Tiger Beetle (Cicindela limbata albissima), which is a candidate species. Both of these species primary habitats are located in the greater Coral Pink Sand Dunes area.

Welsh's Milkweed was listed as a threatened species under the authority of the Endangered Species Act, as amended, on October 28, 1987. The greater Coral Pink Sand Dunes area was designated as critical habitat for the milkweed. However, recent inventories have located Welsh's Milkweed outside this designated habitat area. Welsh's Milkweed is a perennial herb that grows singly or in clusters. New shoots develop from buds on the plant's rhizomes, which can connect to stems of all ages. The rhizomes are critical to the plants survival, allowing plants to travel with the advancing dunes. The milkweed erects new stems from the rhizomes as old stems are buried or die. As one plant can consist of many stems, the population counts reflect the number of stems, not individual plants. Population numbers have fluctuated over the years and appear to be a reflection of climatic changes rather than physical disturbance. In fact, new seedling plants are usually found in the disturbed areas of the dunes indicating that the instability of the dune environment may be critical to the species survival. Climate seems to cause the most detrimental effect to this species observed to date: premature drying of the plant prior to seed germination. The main management authority for Welsh's Milkweed in the greater Coral Pink Sand Dunes area is the Kanab Field Office of the BLM.

The Coral Pink Sand Dunes Tiger Beetle is a terrestrial, predacious insect known to occur in

certain swales in the Coral Pink Sand Dunes, with the majority of the population known from the state park. In 1994, the Southern Utah Wilderness Alliance (SUWA) petitioned the USFWS to list the Tiger Beetle as an endangered species with critical habitat. To preserve the species and its' habitat, state parks, BLM, USFWS, and Kane County entered into an agreement to close 207 acres of sand dunes and swales to OHV use and identify another 137 acres as a restricted travel corridor (State of Utah, 1997a). To date, the Coral Pink Sand Dunes Tiger Beetle continues to be a listed as a candidate species.

Tiger Beetle populations tend to fluctuate year to year. The exact causes of the fluctuations are not known, but the population trends may follow climatic cycles. Other factors accounting for potential loss or damage to the tiger beetle populations include loss of habitat, predation, collection, OHV use, flooding, drought, and competition for habitat with other species.

Current Flora and Fauna

Coral Pink Sand Dunes State Park has a broad array of plant and animal species. While most of the park is unvegetated dune fields, unique stands of Ponderosa Pine (Pinu ponderosa), big sagebrush(Artemesia tridentate), rabbit brush (Chrysothamus sp.), and Gambel Oak (Quercus gambellii) occur throughout the margin of the dunes. An unusual feature of Coral Pink Sand Dunes is the formation of ephemeral pools at the base of the dunes where the Navajo Sandstone is close to the surface. Vegetation associated with these pools includes willows (Salix sp.), miner's lettuce (Montia perfoliata), stonecrop (Sedum lanceolatum), and woodland star (Lithophragma tenella). With sufficient moisture the ephemeral pools can last until August, but most are dry by July. These pools are important habitat for the fauna of Coral Pink Sand Dunes. Tadpoles, wire worms, and salamanders can be found in association with the vernal pools.

The state park is used by many other species as well. A few of the mammals that utilize the park area include jack rabbits, mule deer, coyotes, foxes, mountain lions, bobcats, various rodents, shrews, moles, and bats. A variety of raptors are found in and around the park area. Golden eagles and red-tailed hawks will utilize the trees and rock substrates for nesting and hunting. Bald eagles do not nest in this area but roost in trees surrounding the sand dunes during the winter. A complete listing of plant and animal species in and around the park can be found in Appendix Two of the *Vermillion Management Plan Amendment, April 2000*.

Archeological Resources

A cultural resource inventory was conducted in May, 1995 by a Division of Parks and Recreation archeologist from Anasazi State Park Museum. The objective of the inventory was to locate any cultural resources that may exist within potential development areas. Road and major trail corridors were buffered to 200 meters and intensively surveyed on foot. During the survey 23 sites, 22 of which were previously unrecorded, were discovered and recorded with the States Historical Office of Preservation. Eight of the 23 sites are significant in terms of containing data addressing research questions on the prehistoric use of the area by humans. These sites were nominated to the National Register of Historic Places. Most of the sites document the sporadic use of the area by the Ancestral Puebloan people (Latady, 1996). It is important to note that none of the sites found are located within areas targeted for development by the planning team. However, additional analysis may be required as specific development sites are more clearly identified.

Past Plans, Studies, and Cooperative Agreements

This general management plan is intended to better define issues pertaining to the management and development of the park itself and provide recommendations for solving those issues. This goal is facilitated by previous management plans and cooperative agreements drafted between the park and the surrounding land management neighbors.

Vermillion Management Framework Plan Amendment – BLM, April 2000

Utah Division of Parks and Recreation and the BLM entered a joint land management planning process to address resource and recreation issues that are interconnected between Coral Pink Sand Dunes State Park and the surrounding BLM lands. The proposed amendment addressed the management of special status species, the Moquith Mountain WSA, safety concerns, recreation use and conflicts, and the development of recreation facilities. A preferred alternative and was adopted for implementation by the planning team. This alternative delineates recreation use zones for the sand dunes and directs motorized activities to the southern, larger, more open dunes and non-motorized use to the northern more stabilized dunes. A more detailed summary of this document can be found in Appendix A.

Assistance Agreement – BLM & Coral Pink Sand Dunes State Park 2002

In 2002 Utah State Parks and the BLM entered into an assistance agreement that formalized the cooperative management of recreation, natural resources, and visitor use of Coral Pink Sand Dunes State Park and adjacent BLM lands including the Ponderosa Campground. Through this agreement the BLM and Utah state parks are able to leverage funding and personnel between the two agencies and provide a consistent management scheme for the greater Coral Pink Sand Dunes area. The agreement is scheduled for re-evaluation in September of 2006. A more detailed summary of this document can be found in Appendix A.

Conservation Agreement and Strategy for the Coral Pink Sand Dunes Tiger Beetle – March 1997

The primary focus of this agreement is the conservation and enhancement of the Coral Pink Sand Dunes Tiger Beetle habitat. This agreement is partnered by the BLM, USFWS, The Utah Division of Parks and Recreation, and the Kane County Commission. The conservation agreement lists each participating agencies's responsibilities, goals and strategies for the preservation of the Coral Pink Sand Dunes Tiger Beetle. A more detail summary of this document can be found in Appendix A.

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Issues and Recommendations

Issues ranging from natural resource protection to facilities development were identified and addressed in this plan. The team members identified 24 issues, which were aggregated into five distinct categories. An analytical technique used to determine the park's strengths, weaknesses, opportunities, and threats (SWOT) was used to help develop these issues. A specific description or statement summarizing each issue or problem was constructed to clearly identify and articulate the problem at hand.

A number of constraints (e.g., available funding, sufficiency of staff, aging infrastructure, etc.) will need to be addressed prior to issue resolution. Team members, planning staff, and division experts identified and considered known limiting factors that may hinder implementation of specific team recommendations.

From these issues, and with the constraints in mind, the planning team developed specific recommendations. The team's recommendations were arrived at through consensus of opinion. Furthermore, team members agreed to insure recommendations were consistent with the vision elements listed within the mission and vision statements.

The five issue areas forming the basis of the team's recommendations include: (1) park resources; (2) facilities development and maintenance; (3) staffing, funding, and operations; (4) education and information; and (5) recreation opportunities. A discussion of specific team issues and recommendations under each issue area follows.

Park Resources

There is concern added development and increased visitation might damage or degrade the park's natural resources and viewshed.

Issue: Endangered and sensitive species conservation plans and cooperative agreements
There are several conservation plans and strategies as well as a land use management plan amendment already in effect for Coral Pink Sand Dunes State Park. There is concern that the management objectives outlined in these documents are not being accomplished or may not be consistent with current land management strategies.

Recommendations: While the park continues to follow the plans and cooperative agreements already in effect, the team felt it important to formalize Coral Pink Sand Dunes State Park's obligation to continue in their responsibilities outlined in previous planning documents. The park's continued support and adherence to the existing plans would help to preserve the threatened and endangered species unique to Coral Pink Sand Dunes.

- Continue to follow the directives set in the Assistance Agreement and the Vermillion Management Framework Plan Amendment.
- Finish goals set in the BLM Assistance Agreement and land management plan amendment – fencing, maintenance, campground improvement, BLM specialist to assist park, and interpretive sign clearances on BLM land.
- Meet with the BLM's Kanab field manager to review the existing agreements and setup goals and strategies to accomplish the objectives outlined in the existing documents.
- Re-establish a BLM liaison officer from the Kanab Office to assist the park with resource issues and educational programs as outlined in the cooperative agreement.

Issue: Resource Education
There is a need to better utilize existing relationships with known users groups to educate park visitors with the area's resource issues, management decisions, travel restrictions, and current recreation opportunities.

Recommendations: In coordination with the Kane County Travel Council, Kane County Office of Tourism, BLM, National Park Service, and other agencies, develop a standard education/information guide on park/area issues, Wilderness Study Area restrictions, reasons for area closures, and other recreation opportunities.

- Create a park manual providing consistent answers to common operational questions; accurate park information; motorized use area; non-motorized use areas; natural and scenic resources. Utilize specialists from the BLM, Utah state parks, and other agencies in the development of a park manual to ensure the accuracy and consistency of the information presented about the Coral Pink Sand Dunes Recreation Area.
- Educate potential visitors of existing uses so they have valid expectations of their future park experience i.e., the park is a multi-use environment that has both motorized and non-motorized experiences.
- Involve motorized recreationists and clubs by including them in the resource education program. For example, sponsor guided trail rides with resource education components and explanations for land management decisions.
- Contact the BLM about cooperatively providing activities, programs, and opportunities to enjoy the park – nature walks/talks at Ponderosa Campground/BLM Conservation area. Inform users where OHVs use is and is not allowed.
- Distribute use and show-off other habitats located throughout the park.
- Measure success through comment forms/books, newspapers, and evaluations on manned programs - get positive comments in writing.

Issue: Landscaping
Landscape with native plants, do not introduce exotic species.

Recommendation: A noxious weed control plan should be completed by the park manager. Work with the Division of Forest Fire and State Lands and the BLM to develop a fire safety/wildfire plan.

Issue: Maximization of use verses over use
How does the park maintain its scenic beauty and natural resources as park visitation continues to rise?

Recommendations: The park should implement a plan of controlled expansion by efficient utilization of pull-outs to dispersed use; monitor trails for degradation; and provide more day-use opportunities in areas managed for intensive recreation.

Facilities Development and Maintenance (Plate 2, pg. 25)

With changes in the recreation environment and increased visitation to the park, facilities no longer meet the expectations of the park visitor. For example, larger recreation vehicles dwarf the small campsites at the current campground; non-motorized day-use spills out of the boardwalk parking area into park roads, pullouts, and generally anywhere a parking spot can be found; infrastructure is aging and may not accommodate new growth; and a general lack of signage leads to visitor confusion and conflict. There is a need to identify new development, facility improvements, and maintenance concerns that are compatible with the park's mission and vision.

Issue: Camping Opportunities
The park needs another campground loop with campsites designed to accommodate large recreational vehicles (RV).

Recommendation: Add a new camping loop south and west of the existing campground. The team recommends the following specifications be used to design the new loop:

- Provide 25 – 30 sites large enough to accommodate the new 40-foot RVs. Four of the sites should be doubles.
- Supply hookups - water, electricity (maybe metered) and sewer for all new sites; consider alternative energy sources.
- Develop two group sites – parking for 10 RV's or 25 vehicles; large pavilion at each site; and power at the pavilions, but no hookups.
- Construct new restroom facilities - consider alternative energy sources (e.g. solar or propane for showers); showers should be coin-operated or manual pull (retrofit the old shower for consistency); and purchase a bill changer with coin-operated showers.
- Provide tables, fire pits, and grills at each site with shade shelters if a natural shade source does not exist.
- Limit light pollution – night-friendly lighting.

- Low maintenance facilities should be the rule.
- Do not change the size or accommodations provided at the park's existing campground loop.
- Consider upgrading the existing water tanks and infrastructure.
- Conduct a cost analysis and staff analysis prior to construction; evaluate potential increases in operational costs that are not reallocated to the park under the current fee structure.

Issue: Larger Day-Use Facilities
The non-motorized day-use area is too small to accommodate the current visitation. If the future expansion of non-motorized day use recreation opportunities are to be implemented, the facilities will need to be enlarged.

Recommendations: Expand/improve the non-motorized day-use facilities offered by Coral Pink Sand Dunes State Park.
Recommended improvements/development:
- Prior to new construction of pullouts, pave and stripe existing pullouts to disperse use and increase available day-use areas throughout the park.
- Expand picnic area/boardwalk parking lot. This area may need to be redesigned to accommodate traffic patterns and flood waters.
- Renovate and/or rebuild the boardwalk/picnic area. A low maintenance, long lasting construction must be emphasized.
- Add shade and seating to the overlook area on the boardwalk.
- Provide bike rack and/or bicycling parking near the boardwalk.
- Reposition some of the picnic sites that are continually inundated with sand.
- Future development of pullouts should include restrooms (vault or composting) at two of the pullouts; picnic sites (tables, chairs, possibly with shade shelters) associated with pullouts large enough to accommodate them; kiosks at each pullout ("Leave no trace" message on one of the panels); decorative fencing; and consideration of traffic patterns and laws in conceptual design of pullouts.

Issue: Motorized Day-Use Development
The motorized day-use area needs more amenities to draw visitors into the park and increase revenue.

Recommendation: Improve motorized day-use staging area. Consider expansion in the future if more motorized use areas are needed. Expansion must not violate the vision of the park.
Recommended amenities that should be provided in the park's motorized day-use parking area include:
- Water faucets.
- Picnic area with tables, grills, and shade shelter.
- Paved parking lot.
- A composting or vault restroom.

Issue: Facilities Maintenance
Due to new maintenance standards developed by the Utah Division of Facilities Construction and Maintenance (DFCM), a maintenance program and/or policy is needed for Coral Pink Sand Dunes State Park.

Recommendation: Develop a park policy that continues to follow the maintenance standards developed by DFCM. Ensure staff continue to enter maintenance data into state park's (PIMS) database. When funding becomes available, add a maintenance specialist position at the park. Continue to upgrade the park's infrastructure as needed. Evaluate infrastructure needs before beginning any new development.

Staffing, Funding, and Operations

There is concern about limited funding and insufficient staff to effectively meet goals and recommendations. With potential increases in recreation opportunities, there must be sufficient financial and human resources to adequately protect and manage resources, carry out programs/policies/activities, ensure visitor safety, develop new infrastructure and maintain existing facilities.

Issue: Limited Funding and Staff
There is a need to determine adequate funding and staffing levels to meet the desired goals outlined in the general management plan.

Recommendations:

- Encourage local officials and state representatives to become involved in seeking funding.
- Add a new naturalist position, but not at the expense of existing positions.
- Add a new maintenance position, but not at the expense of existing positions.
- Secure additional operational funding before any actions are taken that will add to operational costs.
- Place entrance stations at both ends of the park - implementation time line and specific locations to be determined.
- Research, identify, and apply for any and all available grants.
- Engage in new partnerships that will include funding or in-kind labor.
- Begin recruiting volunteers and interns - tap local colleges/schools, advertise volunteer positions at local senior centers, colleges, and visitor bureaus.

Education and Information

There is concern that a lack of adequate information and education leads to user conflicts and misunderstandings about the park, its purpose, and identity.

Issue: Interpretive Planning
There is a need for a plan that will guide the park in providing information, education, and interpretation opportunities to park visitors.

Recommendation: Develop a park-centric interpretive plan separate from, but consistent with, the BLM's signing/interpretive plan. The park's interpretive plan must follow the guidelines set in the Utah Division of Parks and Recreation Interpretation Program Strategic Plan.

- Refine and enhance the park's existing interpretation and education program.
- Distribute and enhance park signage that creates a sense of arrival at the state park.
- Create an interpretive prospectus for the new visitor center.
- Improve park user education about management decisions (why can't I ride everywhere?), recreation opportunities, WSA restrictions, and appropriate motorized/non-motorized user interaction.

Recreation Opportunities

Issue: Recreation Development
With the increase in day-use visitation, other recreation opportunities need to be developed that encourage the visitor to stay longer and return more frequently. There is a need to provide a greater variety of recreation beyond OHV, camping, and the boardwalk/picnic area.

Recommendations: It was determined that the park needs more non-motorized trail opportunities and be open to new recreation trends and opportunities. As new forms of recreation evolve, the park management will be proactive in providing special use permits for those activities as long as the activities fit within the mission and vision of the park.

Conclusion

This plan is a blueprint to help implement the planning team's recommendations. As such, it outlines the initial steps to be taken in concert with users, local communities and other interested parties to preserve park resources, effectively educate visitors, and properly develop facilities to meet the park's wide ranging user needs.

The recommendations contained in this plan conform to the team's mission of providing visitors a wide variety of safe and satisfying recreation experiences, while preserving and interpreting park resources. This mission statement was considered with the development of each recommendation.

The plan's recommendations effectively deal with current trends concerning day use, facility needs and enhancement of education/interpretation efforts. However, it is crucial that adequate funding be received to implement these goals and accommodate visitor needs. The park must continue its efforts to preserve park resources, interact with local communities and strive to meet the expectations of park visitors in the midst of a rapidly growing community of recreation-oriented citizens.

It is also imperative that the document be reviewed on a regular basis to ensure its viability, relevance and usefulness. This document has sufficient flexibility to be amended in response to changing resource conditions, visitor needs and expectations, community needs and agency priorities. Such amendments may occur under the auspices of the Utah Division of Parks and Recreation working in conjunction with Coral Pink Sand Dunes State Park. Any such changes will include input from park visitors, local citizens, community leaders, park management or other stakeholders with interests relevant to the operations and maintenance of the park.

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MAPS

Plate 1 Coral Pink State Park Facilities

Plate 2 Coral Pink State Park Proposed Facilities

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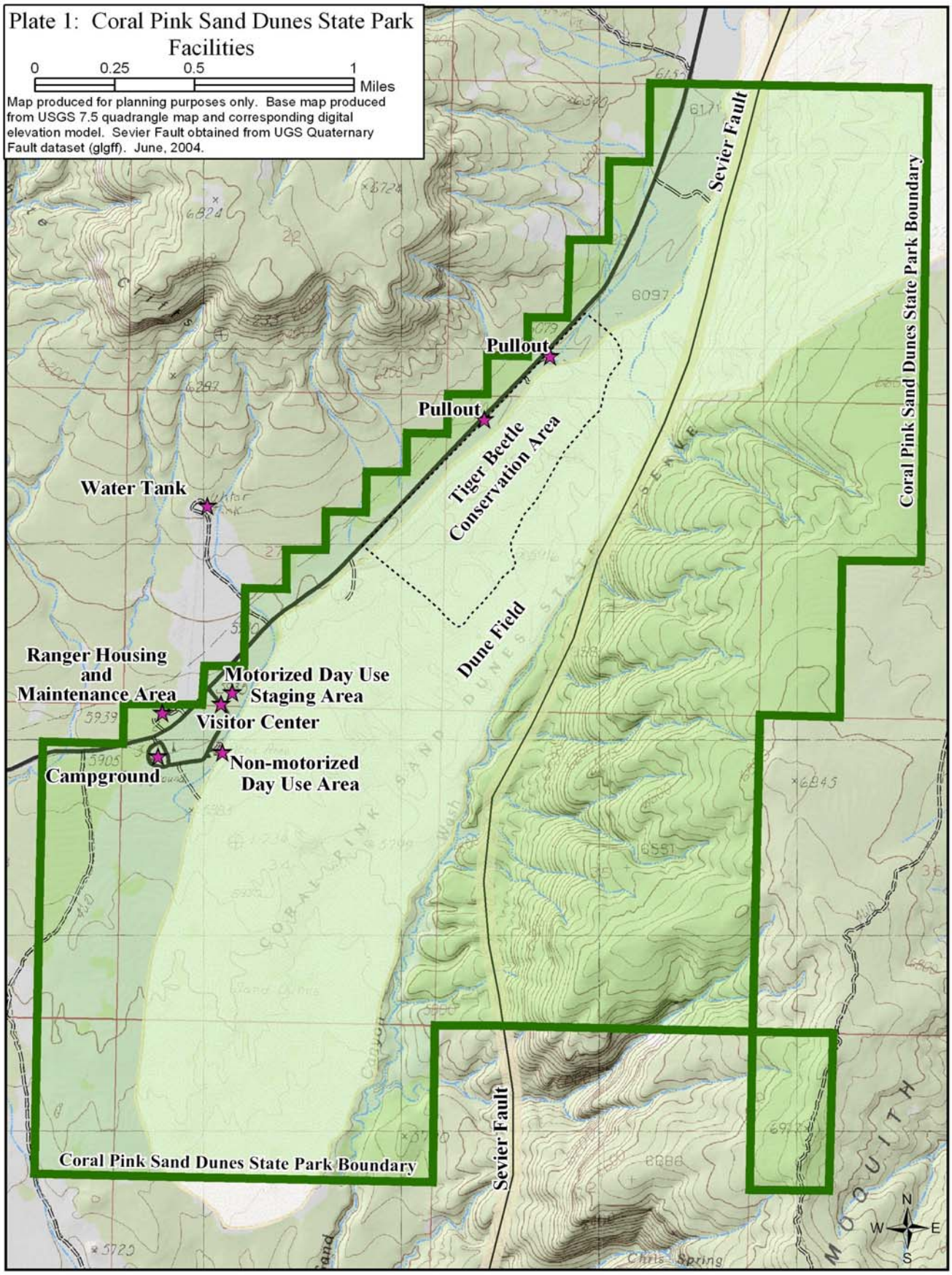
Plate 1: Coral Pink Sand Dunes State Park Facilities
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0.25
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Miles
Map produced for planning purposes only. Base map produced from USGS 7.5 quadrangle map and corresponding digital elevation model. Sevier Fault obtained from UGS Quaternary Fault dataset (glgff). June, 2004.
Sevier Fault
Coral Pink Sand Dunes State Park Boundary
Pullout
Pullout
Tiger Beetle Conservation Area
Water Tank
Dune Field
Ranger Housing and Maintenance Area
Motorized Day Use Staging Area
Visitor Center
Campground
Non-motorized Day Use Area
Coral Pink Sand Dunes State Park Boundary
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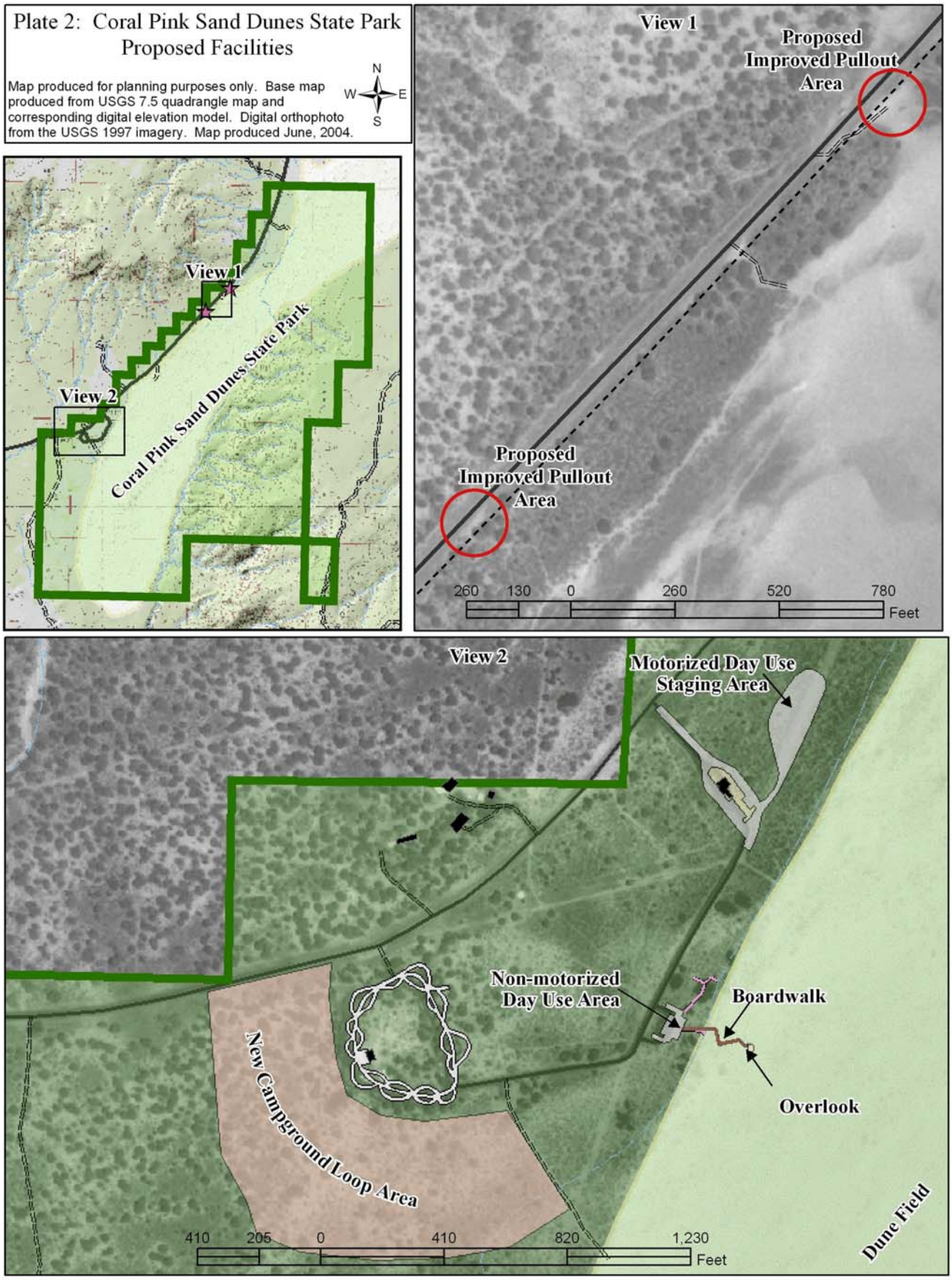
Plate 2: Coral Pink Sand Dunes State Park
Proposed Facilities
Map produced for planning purposes only. Base map produced from USGS 7.5 quadrangle map and corresponding digital elevation model. Digital orthophoto from the USGS 1997 imagery. Map produced June, 2004.
N
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View 1
View 2
Coral Pink Sand Dunes State Park
View 1
Proposed Improved Pullout Area
Proposed Improved Pullout Area
260 130 0 260 520 780
Feet
View 2
Motorized Day Use Staging Area
Non-motorized Day Use Area
Boardwalk
Overlook
New Campground Loop Area
Dune Field
410 205 0 410 820 1,230
Feet

APPENDIX A

Detailed Summaries of Past Plans, Studies, and Cooperative Agreements

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Vermillion Management Framework Plan Amendment – BLM, April 2000

Purpose: Utah Division of Parks and Recreation and the BLM entered a joint land management planning process to address resource and recreation issues that are interconnected between Coral Pink Sand Dunes State Park and the surrounding BLM lands.
Benefits: The proposed amendment addressed the management of special status species, the Moquith Mountain WSA, safety concerns, recreation use and conflicts, and the development of recreation facilities.
Decisions affecting the park are as follows:

OHV and Other Recreation Management

- Close the Hancock Road access (5 acres).
- Extend the OHV closure a quarter mile north of Hancock Road between Sand Springs and Yellow Jacket Roads. Includes Ponderosa Campground (500 acres).
- Lift the temporary closure of the 15 acres in Sand Wash.
- Designate up to four acres of the Dry Lake Bed open to dispersed camping.
- Construct signs, temporary barriers, and fences that notify the public of OHV closures
- Continue to allow access along 10 miles of designated routes on Moquith Mountain as described in the July 1998 Federal Register Notice.
- Standardize camping rules on both the BLM land and state park designated land.
- Prohibit OHV riding along the Hancock Road.

Special Status Species Management

Welsh's Milkweed

- Permanently close 790 acres of designated critical milkweed habitat that occurs on the BLM administered portion of the sand dunes and some 232 acres of designated critical habitat within the state park to OHV use.
- Consult with the USFWS as necessary.

Tiger Beetle

- Fully implement the five conservation actions identified in the Conservation Agreement and Strategy for the Coral Pink Sand Dunes Tiger Beetle (State of Utah, 1997a).
- Permanently establish a tiger beetle conservation area on the BLM administered lands and continuation of the 207 acre conservation area and 137 acre travel restriction area in the state park.

Development of Recreation Facilities

- Construct a contact station at the junction of Yellow Jacket Road and Hancock Road.
- Expand the Ponderosa Campground up to five acres and include additional camping units and a day use area.
- Develop a day-use facility (up to two acres) at the junction of Hancock Road and Sand Springs Road.
- Improve and expand facilities in the state park to accommodate addition camping and day use.
- Standardize rules and regulations for management of both BLM and state park portions of the dunes.

Public Safety

- Minimize interaction between motorized and non-motorized use on the sand dunes.
- Ensure public information and education efforts continue to be a management priority.
- Continue cooperative efforts for law enforcement between BLM, state park personnel, and local authorities.

Assistance Agreement – BLM & Coral Pink Sand Dunes SP 2002

Purpose: Setup cooperative management of recreation, natural resources, and visitor use of Coral Pink Sand Dunes State Park and adjacent BLM land including Ponderosa Campground.
Starting Date: 6/24/2002
Ending Date: 9/30/2006
Benefits: Coral Pink Sand Dunes area will be cooperatively managed allowing for the leveraging of funding and personnel; consistent and timely management (improve service to visiting public without degrading natural resources); and better maintenance of visitor facilities and monitoring of visitor use consistent with state and federal guidelines.
DPR agrees to:

- Monitor visitor use on BLM portion of the Coral Pink Sand Dunes and adjacent areas; notify BLM of any unusual occurrences including wildlife sighted or hunters observed.
- Monitor Sand Spring riparian area and the watershed for the town of Fredonia's water system.
- Monitor, on BLM and state park land, the Coral Pink Sand Dunes Tiger Beetle as specified in the conservation agreement and the Welsh's Milkweed as specified in the Welsh's Milkweed Recovery Plan.
- Contribute $13,977 towards salary costs for a shared employee, contribute $8,845 for employee benefits, contribute $2,678 towards vehicle and travel, contribute $7,800 for housing costs, and contribute $500.00 towards uniform costs for a total of $33,801.
- Maintain the BLM Ponderosa Grove Campground facilities – cleaning SSTs, collecting trash, cleaning fire rings, replacing BLM provided signs, general cleanup, and visitor contact and interpretation as needed.
- Collect sealed campground envelopes at Ponderosa Grove Campground at least once a week. Remit said envelopes to BLM personnel in Kanab Field Office within 24 hours of collection.
- Submit one copy of an annual performance report to the BLM by December 31 of each year.

The BLM agrees to:

- Contribute $25,000 annually until September 2006. This money will be used to offset salary costs and routine vehicle operating expenses. However, actual contributions will be subject to the availability of funds.
- Provide necessary maps, aerial photos, GIS data and other resource information requested to support the cooperative agreement.
- Provide orientation, guidance on federal regulations and management direction affecting Coral Pink Sand Dunes.
- Provide basic maintenance supplies for Ponderosa Grove Campground, including toilet paper, trash bags, and signs.
- Bear the responsibility for the expense and labor involved in major facility replacement at Ponderosa Campground such as picnic tables, BBQ grills, and fire rings.

Conservation Agreement and Strategy for the Coral Pink Sand Dunes Tiger Beetle – 3/31/97

Purpose: Primary focus of agreement is the conservation and enhancement of the Coral Pink Sand Dunes Tiger Beetle habitat.
Duration of Agreement: 10 years with re-evaluation by the team every five years. If it is agreed that the current conservation strategy is working, this agreement can be extended another five years.
Conservation actions implemented:

- Maintain and protect, through effective closure the Coral Pink Sand Dunes Tiger Beetle population with a minimum of 2,000 adults within the current occupied habitat at the dunes. The State of Utah will establish a conservation area of about 344 acres in portions of sections 23, 26, and 27, T. 43 S., R. 8 W., SLBM within Coral Pink Sand Dunes State Park. The BLM will establish a conservation area of about 370 acres in a portion of Section 8, T. 43 S., R. 8 W., SLBM on public lands.
- Monitor Coral Pink Sand Dunes Tiger Beetle populations and habitat to ensure that the above populations within the two conservation areas are demonstrably self-maintaining (within the broad parameters of their

known fluctuations) or expanding for at least 10 years. Monitor management effectiveness related to beetle conservation.

- Study Coral Pink Sand Dunes Tiger Beetle life history and biology (to include development, life cycle, natural enemies, limiting factors) to understand them sufficiently to manage the tiger beetle's population and habitat effectively.
- Enhance the population and habitat of the Coral Pink Sand Dunes Tiger Beetle based on existing and future research, as new information becomes available.
- Promote the conservation of Coral Pink Sand Dunes Tiger Beetle and its dune ecosystem by the education of various publics through natural history interpretation, environmental education, and habitat accessibility enhancement, both on and off site. In addition, enforce restrictions on collection of beetles and OHV use of dunes.
- Promote appropriate recreation uses (including OHVs) throughout the dune ecosystem consistent with the goals and objectives of the state park and BLM while providing for conservation of the Coral Pink Sand Dunes Tiger Beetle and other vulnerable endemic species in the dunes.

Agency in-kind contributions, actions, responsibilities:

- Utah Division of Parks and Recreation – Designate conservation area within Coral Pink Sand Dunes State Park. Provide enforcement of the state park conservation area. Be active in education, interpretation and communication efforts associated with the conservation strategy. Share costs for the acquisition, installation, and maintenance of signage and fencing required by this agreement. Provide logistical support for research and monitoring of the Coral Pink Sand Dunes Tiger Beetle.
- BLM – Designate conservation area B (BLM, 2000-figure 4). In kind conservation duties are the same as state park's with the addition of added funding to facilitate Coral Pink Sand Dunes Tiger Beetle research and monitoring on public lands within the dunes.
- USFWS – Provide funding to facilitated Coral Pink Sand Dunes Tiger Beetle research and monitoring within Coral Pink Sand Dunes State Park. Assist in education, interpretation and communication efforts associated with the conservation strategy. Monitor the overall implementation of the Conservation Agreement and Strategy.
- Kane County Commission – Provide logistical support to assist with installation and maintenance of signage and fencing required by this agreement as available. May provide materials for access improvement. Assist in the communication efforts associated with the conservation strategy.

Welsh's Milkweed Recovery Plan – USFWS 1992

The Welsh's Milkweed recovery plan is a management guideline for lands administered by the BLM and does not effect state administered lands. The summary is provided here as an informational resource only.
Purpose: Prevent the species from becoming extinct through management of its habitat to prevent adverse modification and ensure species population is maintained in a viable condition.
Benefit: Possible de-listing of the species by demonstrating viable population levels of Asclepias welshii (A. welshii) and formal land management designations that provide long term habitat protection for A. welshii. The plan's suggested date of recovery is 2010.
Actions needed (Stepdown Outline):

1. Control man-caused activities which affect A. welshii and it's habitat.
   a. Establish a conservation area closed to OHV use on federal lands inside the Coral Pink Sand Dunes.
   b. Mark and post conservation area.
   c. Enforce OHV closure area.
   d. Establish or maintain OHV closure areas on the Sand Hills and Sand Cove.
2. Manage the occupied habitat of A. welshii on Coral Pink Sand Dunes State Park.
   a. Develop joint habitat/recreation management plan for the entire Coral Pink Sand Dunes ecosystem.
   b. Establish a conservation area closed to OHV use on the state park.
   c. Mark and post conservation area.
   d. Enforce OHV closure area.

3. Monitor all populations of A. welshii for potential threats.
4. Establish formal land management designations for A. welshii.
5. Inventory all suitable habitat.
    a. Identify, delineate, and census existing populations of A. welshii.
    b. Identify and survey potential habitat of A. welshii.
6. Determine the biological and ecological factors which control the distribution and vitality of A. welshii populations and the interaction of the significant biotic and abiotic elements of A. welshii and its critical habitat.
7. Establish and conduct minimum viable population studies in each of the populations of A. welshii.
    a. Establish minimum viable population study on at least six separate stands of A. welshii in the Coral Pink Sand Dunes.
    b. Establish minimum viable population study on the Sand Hills and Sand Cove populations of A. welshii.
8. Develop public awareness, appreciation, and support for the conservation of A. welshii.