

# Red Cliffs Desert Reserve



**Public Use Plan**  
Approved by the  
Washington County  
Commission  
June 12, 2000

Washington County HCP Administration  
197 E. Tabernacle, St. George, Utah 84770  
(435) 634-5759

## Acknowledgments

The creation of this plan would not have been possible without the assistance of the numerous individuals whose commitment, integrity and patience made the process work.

Although it is impossible to thank each and every person who contributed to this plan, Washington County would like to express deep gratitude to the following:

The general public, too numerous to list;

The climbing community, the Back Country Horsemen of Washington County, the Outback Club, the mountain bike community, and all of the individual recreationists who worked so hard to identify trails and to help the team to develop defensible proposals for uses within the Reserve;

The OHV community, for their cooperation;

The Public Use Planning Team, who gave so much time and so much of themselves;

Amber Cook, BLM GIS technician;

The BLM, Utah Division of Wildlife Resources, USGS Biological Survey, and the U.S. Fish and Wildlife Service who placed trust in a collaborative public process and the HCP County Administration to facilitate the development of a quality plan; and

The HCAC for their oversight and guidance.

# Table of Contents

Acknowledgments i

## **PART ONE: INTRODUCTION 5**

The Red Cliffs Desert Reserve	5
What is the Red Cliffs Desert Reserve?	5
What is a Habitat Conservation Plan and Incidental Take Permit?	6
History of the Washington County HCP	7
Why a Plan for Public Use?	10
The Team Process	10
The Public Process	12
Reserve Management into the Future	14
Plan Parameters	14

## **PART TWO: PLAN ADMINISTRATION 15**

Interagency Cooperation	15
Reserve Managers	15
Implementation of the Plan	15
Interim Management	15
Enforcement of Management Prescriptions	16
Land Ownership and the Applicability of This Plan	16
Adaptive Management	17
Adaptive Management Protocol: 3 Paths	18
<b>Formal Amendment. Adaptive Management. Emergency Measure.</b>	
Criteria for Adaptive Management Path	19
Process to Propose Changes to the Plan	22
Reserve Monitoring	23
Habitat Reclamation	27
Protection of Biological Soil Crusts	27
Control of Predators and Other Detrimental Species	29
Wildfire Suppression	29
Wilderness Study Areas	30
Cultural Resources	30
Service Access	31
Search and Rescue	31

Table of Contents,  
continued

<b>PART THREE: USE MANAGEMENT– STRATEGIES AND PRESCRIPTIONS</b>	<b>33</b>
General Provisions	33
Upland and Lowland Zones. Stay on Designated Trails. Trail Etiquette. Campfires. Parking. Altering Rock Surfaces and Damage to Vegetation. Snow Canyon. Pioneer Park. Day Use Limits. Fees. Pets in the Reserve. Motorized Vehicle Use. Other Vehicles. Wheelchair Access. User Facilities. Signing. Leave No Trace Principles.	
Research and Educational Programs	44
Regional Education Center. Educational Programs. Scientific Research and Collection.	
Commercial Uses in the Reserve	45
Organized & Competitive Events	46
Activities: Introduction	46
Hiking	47
Camping	48
Bicycling	49
Equestrian Use	51
Rock Climbing and Sport Rappelling	53
Rock Scrambling	57
Hunting	57
Miscellaneous Sports and Activities	59
<b>PART FOUR: MAPS AND TRAILHEADS</b>	<b>60</b>
Introduction	60
Trailheads	60
Upland/Lowland Zones	61
Reserve Map with Municipal Boundaries	62
Main Reserve Map (Pocket Insert)	63
<b>PART FIVE: RESOURCES AND CITATIONS</b>	<b>64</b>
<b>PART SIX: APPENDICES</b>	<b>67</b>
Appendix A: Designated Roads	A-1
Appendix B: HCP Directives by Zone	B-1
Appendix C: Recreation Ecology and Human Impacts to Resources: A Primer	C-1
Appendix D: Ecology of the Desert Tortoise	D-1
Appendix E: Impacts of Recreation on the Desert Tortoise and Other Wildlife in the Red Cliffs Desert Reserve	E-1
Appendix F: Responses to Comments on August 24, 1999 Draft Public Use Plan	F-1

## **Part I: Introduction**

### **The Red Cliffs Desert Reserve**

#### **What is the Red Cliffs Desert Reserve?**

The Red Cliffs Desert Reserve (RCDR) is a 61,000-acre scenic desert area largely north of St. George, Utah dedicated to the protection of the threatened Mojave desert tortoise and other rare or sensitive species of wildlife. The Reserve contains the blending of, and transition between, three ecosystems in the western United States: the Mojave Desert, the Great Basin Desert, and the Colorado Plateau. This merging of ecosystems, often referred to as an "ecotone", has representative life forms from each contributing region. For example, it contains the northernmost populations known in the U.S. for Gila monsters, sidewinder rattlesnakes, and chuckwalla—reptiles typically associated with hotter and more southerly deserts like the Mojave. However, a significant portion of the shrubs in this area, such as blackbrush, are more commonly associated with the Great Basin Desert, which spans all of west central and northern Utah. The Reserve also includes a five-mile stretch of the Virgin River and its accompanying riparian habitat.

The Reserve benefits not only tortoises and a unique array of animals and plants seldom seen in one place, but also provides opportunities for assorted recreational users. Within the Reserve there are over 130 miles of multi-use trails for hiking, horseback riding and mountain biking. Hunting is allowed during prescribed seasons, and improved roads with the Reserve—including the Cottonwood-Danish Ranch Road and the Babylon Road—offer scenic vistas for motorized travel.

The Reserve includes a mix of private, state, municipal, and public lands. State lands include land managed by Snow Canyon State Park and the State Institutional Trust Lands Administration

**What is the Red Cliffs  
Desert Reserve?,  
continued...**

(SITLA). Public lands are administered by the Bureau of Land Management (BLM). Non-federal lands, except for lands within Snow Canyon State Park, will be acquired by BLM where agreements have been reached with willing land owners. All areas of the Reserve will be managed collaboratively by a consortium of managers, principally Washington County, BLM, and State of Utah Division of Parks and Recreation.

The Red Cliffs Desert Reserve is the largest HCP in Utah and the largest administered by a county in the western United States.

**What is a Habitat Conservation Plan and  
Incidental Take Permit?**

"HCP" is the acronym used to refer to a species conservation tool known as a "habitat conservation plan". A provision in the Endangered Species Act allows for an entity to be granted a permit for "incidental take" of a listed species if an HCP is prepared and approved. An HCP will typically address the needs of a species at the habitat level; a typical HCP establishes or contributes to an area of protected habitat large enough to fulfill the anticipated needs of the affected species. Measures in an HCP will also seek to minimize and mitigate impacts to the species of concern.

Incidental take permits are required when non-federal activities (e.g. local growth and development) will result in "take" of threatened or endangered species. To "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The term "harm" is further defined to include acts that may result in significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

**What is a Habitat Conservation Plan and Incidental Take Permit?, continued...**

The Washington County Habitat Conservation Plan was the result of the USFWS listing the desert tortoise as a threatened species in April of 1990 and identifying its associated critical habitat needs across Washington County.

**History of the Washington County HCP**

On April 2, 1990, the Mojave population of the desert tortoise was listed as threatened under the Endangered Species Act. Primary reasons for listing this population included deterioration and loss of habitat, collection for pets or other purposes, elevated levels of predation, loss of desert tortoises from disease, and the inadequacy of existing regulatory mechanisms to protect desert tortoises and their habitat.

In February, 1994, the U.S. Fish and Wildlife Service designated 129,100 acres of critical habitat for desert tortoise in Washington County; 89,400 acres managed by BLM, 27,600 acres of state land, 1,600 acres of Indian Tribal land, and 10,500 acres of private land. Critical habitat is defined as areas that contain the primary constituent elements necessary for recovery and subsequent removal from the list of federally threatened or endangered species.

Following the tortoise's designation as a threatened species, it became obvious that much of the rapid development around St. George and several other Washington County towns was occurring in occupied desert tortoise habitat, and that tortoises were being "taken" as defined by the Endangered Species Act. As a service to its residential and business communities, Washington County officials sought an incidental take permit. Following years of difficult negotiations, the U.S. Fish and Wildlife Service issued Washington County an incidental take permit in March, 1996 authorizing take of an estimated 1,169 tortoises associated with development of 12,264 acres of desert tortoise habitat on private land outside of the Reserve.

## History of the Washington County HCP, continued...

One requirement for issuance of an incidental take permit is the submission of a plan, often referred to as a Habitat Conservation Plan or HCP, which specifies the impact which will likely result from the taking, what steps the applicant will take to minimize and mitigate the impacts, how these actions will be funded, and possible alternatives to the taking. The HCP is the document which outlines how the applicant (Washington County) will mitigate the impacts permitted under its incidental take permit.

The plan itself was formally approved and signed by Washington County, BLM, USFWS, Utah Department of Natural Resources and the City of Ivins in February of 1996. The goal of the HCP is to provide a mechanism to allow orderly growth and development in Washington County without further jeopardizing the status of Federally listed or candidate species, focusing on protection of the desert tortoise. The HCP has four objectives:

- Provide adequate protection for desert tortoises by implementing aspects of the Desert Tortoise Recovery Plan through the creation and management of the Red Cliffs Desert Reserve;
- Provide protection for other listed and candidate species and their habitats;
- Meet the growth and development needs of the County; and
- Create a framework within the County to deal with current and future listed species.

Underlying these objectives are three guiding principles intended to influence conservation actions in the Reserve: preservation of existing ecological values; preservation of existing biodiversity; and reliance on preservation. Ecological values include native species, the desert vegetation that provides food and cover for these species, and the relatively



**History of the Washington  
County HCP, continued...**

undisturbed landscape that provides a dramatic scenic backdrop for the area. Biodiversity is clearly reflected in the multitude of species that make the Reserve their home. Diversity is related to ecological stability. Reliance on preservation, to the extent possible, is considered preferable to attempting to recreate these conditions after disturbance. However, restoration and enhancement of ecological conditions will be needed in areas of the Reserve which have been heavily impacted by grazing, roads, off-road vehicle use, and other disturbances.

The central element and primary mitigation measure in Washington County's HCP is the establishment and management of the Red Cliffs Desert Reserve, a 61,000-acre reserve, approximately 38,000 acres of which is occupied desert tortoise habitat. The Bureau of Land Management and Utah State Parks and Recreation, through cash purchases and exchanges, were charged with acquiring 18,600 acres of private or state land for the Reserve, of which 4,300 acres have been acquired to date. Washington County is charged with joint management responsibility and has expended significant resources fencing the Reserve to prevent unauthorized activities, acquiring and retiring grazing permits, funding law enforcement and monitoring activities, and providing information and education to local entities. Many historical uses, such as off-road vehicle use, mining, and grazing, have been significantly reduced or eliminated throughout the Reserve in order to offset impacts to tortoises and tortoise habitat elsewhere.

Without the need to protect tortoise habitat in Washington County, roughly 18,600 privately-owned acres within what is now the RCDR would never have been brought into public ownership, and would presumably have been developed as housing subdivisions and commercial areas. For example, Paradise Canyon which was formerly privately owned and was recently acquired by the BLM, was

originally slated to be developed as a golf course community. This canyon has overstory riparian habitat and dense populations of tortoise. It is also a popular area for recreationists.

Although the Reserve has been established, serious threats to the tortoise population remain, including habitat deterioration, collection, elevated predation levels (including purposeful and accidental killing of tortoises), disease, and unlimited human access. Recreational access, if not properly managed, has the opportunity to degrade critical tortoise habitat or directly contribute to mortality and lowered reproductive rates. (see Appendix D).

### **Why A Plan For Public Use?**

The purpose of the Red Cliffs Desert Reserve Public Use Plan is to refine management prescriptions for recreation and other public uses compatible with habitat preservation within the Reserve. Although the Washington County Habitat Conservation Plan (HCP) provides general parameters for recreation within, and management of, the Reserve, it does not provide specific trail designation, access points, or prescriptions for the Reserve. Therefore, the Public Use Planning Team, designated by Washington County, was formed to develop specific recreational and management prescriptions while still working within the parameters and requirements of the HCP. The development of the Public Use Plan—an activity-level management plan—is anticipated by the HCP and is required by the BLM to provide specific prescriptions for management of public lands within the Reserve.

### **The Team Process**

In August 1998, the Washington County Commission approved a proposal to complete the Red Cliffs Desert Reserve Public Use Plan using a broad-based collaborative team process. Nominations for team membership were solicited

**The Team Process,  
continued...**

from stakeholders and the general public. Following the closure of nominations, the Commission appointed a nine-member team which represented diverse interests. Their initial meeting was on October 28, 1998. The team members included:

**Glenn Ames**, Red Rock Bicycle  
**Rick Arial**, Congressman Jim Hansen  
**Tim Duck**, St. George BLM Field Office  
**Rick Fridell**, Utah Division of Wildlife Resources  
**G. Scott Hansen**, Outback Club  
**Scott Hirschi**, Washington County Economic Development Council  
**John Ibach**, Snow Canyon State Park  
**Bob Nicholson**, St. George City Community Development Director  
**John Rex**, Backcountry Horsemen of Washington County  
**Lori Rose**, Facilitator  
**Chrissy Stauffer**, Plan Writer  
**Bill Mader**, HCP Administrator

Throughout the planning process, members of the public and agency representatives attended planning meetings to provide the team with input.

The plan's ultimate goal is to protect the resources necessary to ensure the long-term survival of the desert tortoise while providing recreational opportunities as provided in the HCP. When designating trails in the Reserve, the team adopted guidelines for preferred routes. Consideration was given to designating trails that would provide: east/west, north/south access between different areas; perimeter trails that avoided critical "core" habitat areas; rim trails or upland trails which also avoided critical tortoise habitat; and trails along existing roads to mitigate further impact. Also, existing utility corridors, such as those in Mill Creek and Paradise Canyon, were utilized to minimize impacts.

In order to prevent the arbitrary consideration of

## **The Team Process, continued...**

some uses over other uses, the planning team thought it necessary to develop a standardized approach for every use proposed within the Reserve. Therefore, a process was devised to systematically evaluate existing and proposed uses. The planning team identified six specific checkpoints through which all recreational uses, either existing or proposed, were filtered. Using systematic checks and balances strongly reduced the possibility of reaching decisions based purely on emotional or arbitrary value. Protecting habitat for the desert tortoise and other species of special concern was paramount when developing the systematic process.

The checkpoints designated by the RCDR Planning Team included:

- recognize the restrictions and goals of the Habitat Conservation Plan (HCP);
- develop a range of alternatives based on HCP parameters with supporting evidence and logic;
- designate a preferred alternative for each recreational use in the reserve; based on the evidence and logic;
- develop management prescriptions for the preferred alternatives;
- identify support needs (i.e. signage, staging areas, trailheads, etc.); and
- utilize scientific monitoring to ensure the continued protection of critical habitat in the reserve.

## **The Public Process**

From its inception, the Red Cliffs Desert Reserve Public Use Planning Process was, and continues to be by way of adaptive management, a collaborative

**The Public Process,  
continued...**

and dynamic effort involving community, city, county, state and federal entities. Community consideration and participation was a crucial component in the planning team's decision-making process.

The planning team met monthly for over a year, from October 1998 to January 2000. Public involvement was encouraged by: publishing notices of team meetings in the newspaper; holding meetings with user groups; numerous news articles; holding three open houses; and staffing a booth at the County fair. These efforts shared information on the purpose of the Plan, the Reserve's location, history and objectives, and provided opportunities for comments and input.

During the public comment period on the first draft, August 24-October 1, 1999, the County aggressively publicized the plan to generate public discussion and comment. The plan was featured during an hour-long talk radio segment, and highlights of the plan and the fact that public input was being sought were the subject of front page newspaper articles and a guest column by the Reserve Administrator. Copies of the draft plan were given to local recreation retailers (Hurst Ben Franklin, Outdoor Outlet, Dixie Gun and Fish, A.A. Callisters, and IFA) for review and display. In addition, presentations were made to the following groups:

- Kiwanis Club
- Exchange Club
- Backcountry Horsemen of Washington County
- Rock Climbing community
- Audubon Society
- Hurricane City Council
- Leeds City Council
- St. George Planning Commission
- St. George City Council
- Washington City Council
- American Society of Civil Engineers

**The Public Process,  
continued...**

Thirty-nine (39) written comments were received on the draft plan prior to the Planning Team's October 21, 1999 meeting to consider public comment and to revise the plan appropriately. After revisions, the draft was again publicly advertised and circulated, and written comment was received from March 14-April 14, 2000. The Habitat Conservation Advisory Committee (HCAC) held a public hearing on March 28, 2000 which was attended by over 50 people. Following up on public comments, the HCP Administration met with concerned individuals and user groups to work through remaining issues. The HCAC then made final revisions to the draft and recommended its adoption to the County Commission on May 23, 2000.

## **Reserve Management into the Future**

The Red Cliffs Desert Reserve Public Use Plan is designed to be flexible and subject to revision through adaptive management. After management prescriptions are implemented, monitoring will ensure the success of habitat management by evaluating and updating prescriptions when necessary to continue to meet conservation goals. If the Plan fails to meet conservation goals, the County, BLM and Reserve administrators will assess and refine management prescriptions using adaptive management provisions on page 17.

## **Plan Parameters**

Creation of the Public Use Plan required consideration of other related plans. These plans included the Desert Tortoise Recovery Plan (1994), BLM's St. George (formerly *Dixie*) Resource Management Plan (1998), the Washington County General Plan (1997), the Coordination Plan for Washington County's Urbanizing Region (1997), and the Virgin River Management Plan (1999). The HCP (1996) was especially important because it provided the guiding principles for management prescriptions that would ensure the continued protection of threatened or endangered species and habitat for all species found within the 61,000-acre Reserve.

## **Part II: Plan Administration**

### **Interagency Cooperation**

#### **Reserve Managers**

The Red Cliffs Desert Reserve is managed as a collaborative partnership between Washington County, the Bureau of Land Management, Utah Division of Parks and Recreation, Utah Division of Wildlife Resources, participating municipalities, and those landowners with private holdings within the Reserve. This structure exists both out of necessity because the area within the Reserve is owned by multiple entities and because it creates a beneficial sharing of responsibilities and resources. References to "Reserve managers" found in this plan generally refer to this partnership, though primary responsibility for specific actions may be assigned to or otherwise understood to be held by a particular agency or landowner.

For those public lands within the Reserve managed by BLM, the BLM will work collaboratively with the local, state, and federal HCP partners to accomplish the goals and the objectives of the HCP.

#### **Implementation of the Plan**

Implementation of the plan will be the joint responsibility of Washington County and BLM working with the cooperation and assistance of other local, state, and federal HCP partners. In implementing the Public Use Plan, Washington County and the BLM intend to focus their resources on highest-priority issues such as immediate habitat protection enforcement.

#### **Interim Management**

Until such time as the BLM issues a Record of Decision for the RCDR Public Use Plan, Washington County and the BLM will continue to manage the lands in the Reserve in a manner compatible with existing plans (HCP, BLM Resource Management Plan and Virgin River Management Plan).

## **Enforcement of Management Prescriptions**

Public support for the Reserve is noticeably increasing, and the long-term success of the Reserve relies on community pride and a growing sense of responsibility for protecting tortoises and the open space they use.

It follows that reasonable approaches to law enforcement matters should be taken which will continue to build cooperation and good will between Reserve managers and the public. To this end, any enforcement approach will start with education. Users found to be in violation of prescriptions, for example traveling off of designated trails where it is prohibited, will be informed of the regulation and advised to stay on the trail. It is anticipated that user groups or individuals who are frequently in the Reserve could be recruited as volunteers to help extend the reach of the education program. However, appropriate law enforcement action, including citation and prosecution, will be taken in cases where groups or individuals are: 1) willfully or carelessly destroying or degrading natural resources or habitat; 2) harassing or harming protected wildlife within the Reserve; and 3) in repeated violation of Reserve regulations.

## **Land Ownership and the Applicability of This Plan**

At the time that this plan was written, land ownership within the current boundaries of the Reserve consisted of a mix of interests, including private property owners. Also, the exact boundaries of the Reserve remain somewhat dynamic, within the limits imposed by the HCP.

The plan is intended to apply only to property currently owned *or later acquired* by the Bureau of Land Management, State of Utah Division of Parks and Recreation, Washington County, or other properties for which access agreements have been negotiated within the boundaries of the Reserve. Use of all other property within the boundaries of the Reserve requires compliance with generally applicable law, including, where applicable,



permission from the landowner. This plan is not intended to imply that permission has been granted for use of any property not owned by the Bureau of Land Management or State of Utah Division of Parks and Recreation.

As additional properties are acquired and added to the Reserve, land use prescriptions called for in the HCP, as supplemented by this Public Use Plan, will be applied consistent with prescriptions for similar, adjacent lands. Final determinations will be made by the applicable Reserve managers.

Like the HCP, the Public Use Plan will have no legal effect on private property and the PUP will place no restrictions on private land use within the Reserve.

## **Adaptive Management**

This section describes the manner by which this plan could be modified in the future. While the plan is intended to comprehensively address human activities within the RCDR, it acknowledges that management needs and practices might change over time. New information will become available, regulations or policies evolve, and other changes occur that make some flexibility necessary if this plan is to continue to be a workable, "living" document.

In order for this plan to be most effective it must be proactive, not reactive, and rely on objective scientific information. To this end, adaptive management and monitoring are interdependent. The adaptive management protocol will be used to refine management prescriptions in response to information revealed through monitoring and other sources. The monitoring program will seek to evaluate direct and indirect impacts to tortoises and their habitat that result from permitted recreational uses inside of the Reserve.

The Adaptive Management protocol is included in the plan as a structured way to allow continual

refinement of the plan, within bounds, and when and where it is appropriate. The protocol establishes the criteria that will direct future plan adaptations.

**Adaptive Management Protocol: Three Paths**

There are three paths that can be followed to make changes to this plan:

**1 Formal Amendment:** A plan amendment would be used to change goals or objectives or to address issues that cannot be addressed appropriately under this current plan. Under this process BLM would prepare documentation in compliance with the National Environmental Policy Act (NEPA). Consultation would occur with the Fish and Wildlife Service under Section 7 of the Endangered Species Act (ESA). The NEPA process provides for public participation.

**2 Adaptive Management:** Under this process Reserve managers would administratively determine that the proposed change would occur using the criteria and process described below.

**3 Emergency Measure:** Reserve managers could, in cooperation and consultation with the Washington County HCP Administrator, modify management prescriptions on an emergency basis in order to prevent significant or irreversible damage to the Reserve without prior consultation with, or approval from, the HCAC. As soon as practical, any emergency action would be reviewed using Path #1 or #2.

Path #2, Adaptive Management, is the preferred method for making changes. Path #3, Emergency Measures, is an option available only in emergency situations, and requires follow-up review. Path #1, Formal Amendment, is to be used only when it is

deemed inappropriate to use the Adaptive Management Path.

### **Criteria for Adaptive Management Path**

Reserve Managers may use the preferred method, Adaptive Management, when all of the following criteria are met:

- the Habitat Conservation Advisory Committee (HCAC) has recommended the change;
- there will not be an increase in the amount or level of authorized "take" of any federally listed species and no adverse modification of critical habitat;
- there will not be a significant impact to other resources;
- the change is consistent with the goals and objectives of the HCP, applicable land use plans, and the goals and objectives of the Public Use Plan;
- the change is based upon the best available information; and
- the change is in accordance with all applicable ordinances, laws, and regulations.

Each criterion is examined more closely to provide clear guidance on the process:

*Criterion: The HCAC has recommended the change.*

Under normal circumstances, the HCAC would recommend adaptations to the plan after consulting with local residents, the Technical Committee (TC), experts on the subject, BLM, and the Fish and Wildlife Service. The County Commission would need to formally approve the HCAC recommendation.

Criteria for Adaptive Management Path, continued...

Criterion: There will not be an increase in the amount or level of authorized "take" of any federally-listed species and no adverse modification of critical habitat. "Take" is defined by the ESA as hunting, wounding, shooting, killing, harming, capturing, collecting, harassing a species, or attempting to engage in any of these activities against a species listed by the Fish and Wildlife Service as threatened or endangered. Take is prohibited by Section 9 of the ESA, unless a permit has been issued by the Fish and Wildlife Service. No take is currently authorized within the RCDR, though it is anticipated that with the issuance of a Biological Opinion on this use plan by the Fish and Wildlife Service, a small amount of incidental take may be authorized.

Criterion: There will not be a significant impact to other resources. In addition to federally-listed species, there are a number of species existing within the Reserve considered by the State of Utah to be sensitive. (A complete listing of species of concern can be found in the HCP document.) There are also important watershed, viewshed, and ecosystem resources within the RCDR that need to be protected. Additionally, there is a variety of human uses, also considered resources, ranging from utility development and flood control to recreation that must be considered when making decisions.

Examples of "significant impacts" which would not qualify for Adaptive Management:

- Elimination of a population of plants or animals, or the reduction in a species population or habitat below the point of viability.
- Drastic reductions to human activities that are allowed under the Public Use Plan (e.g. a prohibition of all mountain biking).

Criteria for Adaptive Management Path, continued...

- Creation of a situation where the goals and objectives of the HCP are unattainable or that results in a financial burden for the Reserve managers that is unsustainable.

Criterion: The change is consistent with the goals and objectives of the HCP, applicable land use plans, and the goals and objectives of the Public Use Plan. The goals and objectives of the HCP are defined on page 9 of the Washington County, Utah, Desert Tortoise Incidental Take Permit Application and are reiterated here:

- Provide adequate protection for desert tortoises by implementing aspects of the Desert Tortoise Recovery Plan through the creation and management of the RCDR
- Provide protection for other listed and candidate species and their habitats
- Meet the growth and development needs of the county
- Create a framework to address current and future listed species

Criterion: The change is based upon the best available information. In addition to the Desert Tortoise Recovery Plan, there are other studies and articles that provide important information across a wide range of topics including: geology, ecology, and human use. Adaptations to the Public Use Plan will be evaluated in light of this information, and new information as it becomes available. Decisions must be consistent with the best available information. There must be a correlation between the proposed change and desired result, as well as an indication that the change will not violate the goals and objectives of the HCP.

**Criteria for Adaptive Management Path, continued...**

*Criterion: The change is in accordance with all applicable ordinances, laws, and regulations.*

Adaptations of Reserve management must include a review of the proposed change in regard to all applicable ordinances and laws. For example, it would be inappropriate to authorize the discharge of firearms within an area of the Reserve where a city ordinance prohibits such a discharge.

**Process to Propose Changes to the Plan**

A proposal to modify the Public Use Plan could originate from a variety of sources. An agency may discover that unacceptable impacts are occurring, a user group may make a proposal for additional access, or a new law may be passed that requires a management response that may not be authorized in the Plan. The Plan may be silent on certain activities proposed in the future and management prescriptions will need to be developed to ensure that those activities are acceptable in light of the Plan objectives and decisions.

For all but emergency actions, the proposal would be reviewed first by the HCAC. The HCAC has the option of assigning technical review of the proposal to the Technical Committee. The Fish and Wildlife Service, Utah Division of Wildlife Resources (UDWR), BLM, and private citizens have representation on the HCAC. Following its review, the HCAC would recommend to the County Commission either that the plan/management strategies be modified, and to what extent, or that the plan/strategies remain unchanged. The HCAC would recommend the "path" to be used to make any proposed changes.

The choice of path #1 would lead to a formal amendment of this Plan that is consistent with the HCP and the County's incidental take permit. The choice of Path #2, Adaptive Management, could lead to modification in management prescriptions but would not rise to the level of a formal amendment. In either case, BLM and the County

**Process to Propose  
Changes to the Plan,  
continued...**

would cooperate to encourage public participation in the process.

Where public lands are involved, BLM would document the adaptation to the Plan through a decision record or determination of NEPA adequacy which would then be incorporated into the HCAC minutes at the next opportunity. Once a proposal is adopted, Reserve managers and Washington County would cooperate to implement the proposal, including an information and education program where necessary.

Following emergency actions, the HCP administrator and affected Reserve managers shall present a summary of the action to the HCAC for review. The HCAC shall determine whether the action taken: 1) was supported by the current plan, 2) was not justifiable and requires mitigation, 3) meets the criteria for adaptive management, or 4) was necessary due to a situation that requires a significant modification to the plan by formal amendment. Where public lands are involved, federal law and regulations require BLM to coordinate with the Fish and Wildlife Service.

**Reserve  
Monitoring**

The Red Cliffs Desert Reserve is a unique and scenic ecosystem dependent on interrelationships between soils, plants, animals, people and water. Human activities can affect key attributes within such a system including its functional ability (energy and nutrient cycles) as well as its structure and ultimately its composition and diversity of organisms. Significant human impacts can not only impact sensitive animals and plants but also negatively impact the quality of recreational opportunities by the simple fact that people want to see wildlife and plants in natural settings untarnished by human disturbance.

The degree of human impact can be dependent on a number of ecosystem factors including its

**Reserve Monitoring,  
continued...**

elevation, volume of rainfall, latitude, and timing of impact (Hammitt and Cole 1998). Most everyone would agree that monitoring the "health" of such a system is a prudent initiative especially when threatened and sensitive species are involved. For example, Clark et. al's (1994) book *Endangered Species Recovery, Finding the Lessons, Improving the Process* makes it clear that ongoing monitoring of not just target species but their environment is highly desirable. They make the point that such programs can best be accomplished through partnerships that minimize bureaucracy. The County has funded the Utah Division of Wildlife Resources in their efforts to establish a systematic, scientific monitoring program for tortoises inside the Reserve. In its fourth year, this program will help determine whether tortoise populations are stable, declining or increasing. Although highly important, this monitoring provides only one dimension of a needed two-dimensional approach. Monitoring must also assess the condition of the habitat in question and preferably source causes of change. Not surprisingly, the National Research Council (1995) in their book *Science and the Endangered Species Act* came to the same conclusion.

To monitor human impacts on an ecosystem such as the Reserve, the big challenge comes in determining: (A) the precise goal and objectives of the monitoring, (B) how it will be done, (C) how it will be funded, and (D) defining a mechanism to facilitate adaptive management decisions pertaining to recreation. This type of monitoring is distinct from monitoring tortoise populations and in effect targets a different series of questions more concerned with the broad "health" of the system at hand. In the last decade or so, monitoring of human recreational impacts has started to evolve into its own discipline. Recently entire books have been written on the subject including Hammitt and Cole's *Wildland Recreation* (1998) and *Wildlife and Recreationists* by Knight and Gutzwiller (1995).



**Reserve Monitoring,  
continued...**

Members of the Technical Committee and the Public Use Planning Team have recognized and recommended that a human impact monitoring plan be launched after careful analysis and design that both quantifies and documents human impacts in the Reserve. In terms of design, it is recognized that the project should not be taken lightly because not all such monitoring programs have worked in the past. Classic mistakes include quantifying either the wrong targets or simply quantifying too much beyond what is actually necessary. Furthermore, past evaluations of conservation threats, including those that attempted to measure human impacts, have not always been cost effective and some have had inconclusive results, raising the question of whether the whole exercise was worth the effort (Salafsky and Margoluis, 1999).

Although Washington County's initiative to start monitoring is hampered by the fact that the 20-year HCP budget sets aside no funds for this activity, Washington County, UDNR, and BLM will lead efforts to obtain outside funding. The Habitat Conservation Advisory Committee (HCAC) may also choose to propose an amendment to the HCP budget, subject to County approval, which would transfer existing funds to this new line item.

The goal of the monitoring plan will be to quantify recreational impacts, how such impacts change over time and limits of change thought acceptable. If possible, their relationship to populations of certain species will also be ascertained. The goal will require a scientific design that samples biological and physical resources in the Reserve, most principally vegetation, soil, and possibly selected vertebrates that could be used as indicator species. The variety and amount of human use and how these uses change over time will also need to be documented. Baseline documentation will be compiled utilizing Reserve-wide, up-to-date aerial photographs, historic photographs, ground level photos of identified sampling points in the Reserve

**Reserve Monitoring,  
continued...**

depicting current conditions, and other objective and descriptive data. Photographic documentation of "baseline" plant communities and existing recreational impacts will start in the year 2000. Already, in the four years since the incidental take permit was signed, impacts have been reduced—by eliminating damaging activities—and reversed by reclamation, including the purchase of grazing rights, installation of fencing to restrict motorized vehicle access, the collection and removal of trash, and reseeded. These improvements, some of which were substantial, may be difficult to document in the baseline but should not be ignored.

Monitoring will be done in two phases. The first phase, during the years 2000-2001, will focus on compiling baseline documentation. Particular attention will be paid to sensitive areas such as City Creek and Paradise Canyon. Data of a general nature will be gathered on key trails. The second phase of the monitoring program will start about two to three years out, after funding has been secured, and will focus on implementing a scientifically based sampling program to quantify current and changing levels of human impacts to vegetation communities and where possible wildlife, within the Reserve.

After consultation with a human-impact researcher from the Northern Arizona University (NAU), it has been concluded that much of the expertise necessary to design such a program is probably available locally in southern Utah. Numerous universities in the west have staff and/or graduate students who can act as peer reviewers of the proposed program, and who may be willing to work with Reserve managers to conduct research and monitoring activities within the Reserve. The County HCP Administration and BLM may make on site field trips to other areas to understand first hand the lessons learned in conducting human impact studies in preparation for finalizing our own program tailored to the Reserve's needs.

Reserve Monitoring,  
continued...

## Habitat Reclamation

## Protection of Biological Soil Crusts

In summary, although the goal of developing a human impact monitoring program is clear, its precise approach is not. It is anticipated that a small team of individuals representing different agencies and expertise will draft a concise plan, for review and approval by the HCAC and County Commission that meets the long term needs of the Reserve and facilitates adaptive management.

The reclamation of deserts in the West that have been disturbed by off-road vehicles and related traffic is considered vital to stabilizing sensitive ecosystems before they are further impacted by erosion and become unrecoverable. The Reserve has many old dirt roads and trails which were in use prior to its establishment. Some of these will be closed while others will remain open to recreational users. Many of the closed roads and trails can be reclaimed by tilling and/or reseeding with native seed mixtures that complement natural communities. Indeed, Washington County has already started this process in areas north of St. George. Although this is a useful start, reclamation will be done over the next several years to help areas recover before even more serious erosion starts. Reseeding in the Reserve will be concentrated in the fall to spring time frames, optimum times for rainfall and seed germination. Key areas identified for reclamation include Paradise Canyon, City Creek, and Pioneer Park. Disturbed areas not designated by this Plan as roads or trails will be targeted for reclamation.

Scientific studies of biological soil crusts, including "cryptobiotic" or "cryptogamic" soils, consistently identify 3 primary and important roles played by these organisms; stabilization of soils, increased soil fertility and moisture retention. Unlike physical soil crusts, which increase surface water runoff and prohibit seed germination, biological crusts are considered a visible indicator of rangeland health.

**Protection of Biological  
Soil Crusts, continued...**

Biological crusts are fragile, but new research demonstrates that the cyanobacterial structure of the crust can recover from trampling more quickly than previously thought, generally in 5 years. Some of the biological processes of these crusts are slower to recover. It is estimated to take the symbiotic lichens an additional 5 years and the mosses 65 years to fully recover. More damaging than scattered trampling is concentrated, expansive loss of crusts over a large area. When areas of crust are entirely destroyed, due to vehicle use, concentrated trampling or other mechanism, they are noticeably slower to re-establish, but this still occurs more rapidly than previously thought, taking an estimated 14 years. The associated lichens and mosses will take an estimated 56 years and 375 years respectively. (Belnap, et al. 1999)

Many areas of the Red Cliffs Desert Reserve have well established communities of biological soil crusts. Recreational use of the Reserve does not have to overly impact established crusts. Concentrating the majority of travel on designated trails limits impacts to occasional trampling. Thoughtful location of trailhead facilities and well-contained campsites or viewpoints in heavily-used areas can avoid damage to large areas of crusts.

Problems associated with crust damage include; 1) increased water erosion along heavily-trampled paths, and 2) wind erosion, loss of soil, and loss of other crust benefits in areas where soil crusts have been removed by excessive impacts. Dispersed trampling is generally not a problem, though continued use over the same area will become rapidly visible as a new trail and will likely attract other users.

Unlike biological crusts, physical soil crusts are considered by many range managers to be a problem associated with desertification because they form hard soil layers, impermeable to water. Holistic range management practices advocate

**Protection of Biological  
Soil Crusts, continued...**

short-term, concentrated grazing of 'brittle environment grassland communities" to break up these kinds of crusts, thereby increasing water retention, and encouraging seed germination. This theory promotes the concept that such communities have evolved with the presence of large numbers of migrating ungulates, and that "over resting" rangelands only increase the dominance of bare soil crusts (Savory 1999).

Since biological crusts are fragile and can be difficult to re-establish, protection of existing crusts is generally easier and more effective. Reserve managers will continue to document the distribution of biological crusts in the Reserve; these crusts are common in the Reserve and they play a key role in ecosystem stability and health. The primary strategy utilized in this plan to reduce recreational impacts to cryptobiotic soils is to encourage the use of trails.

**Control of  
Predators and  
Other  
Detrimental  
Species**

The HCP Administrator, in coordination with Reserve managers, USFWS, UDWR, and Wildlife Services, can authorize appropriate persons or groups to conduct programs to manage predators, nuisance animals, and exotic, noxious plant and wildlife species. Examples include authorizing qualified hunters to control coyote, mountain lion, raven and beaver populations, or authorizing the use of herbicides for noxious weed control. Administrative control of certain species is important for protecting tortoise populations, protecting other beneficial wildlife and plant species, and for human safety reasons.

**Wildfire  
Suppression**

In the Reserve, BLM will suppress wildfires in accordance with the guidelines in *Fighting Wildfire in Desert Tortoise Habitat: Consideration for Land Managers* (Duck et al, 1994). Generally, the guidelines call for applying the principle of "minimum tool". Under this concept, BLM will

**Wildfire Suppression,  
continued...**

coordinate with the county and city fire department to use the least disruptive approach to fire suppression while meeting other resource objectives for the area. Qualified resource advisors will be on-site whenever possible during fire suppression to guide activities so as to minimize harm to tortoises and their habitats.

## **Wilderness Study Areas**

The Red Mountain and Cottonwood Wilderness Study Areas (WSA) lie within the Red Cliffs Desert Reserve; additional management restrictions are enforced within WSA's as a result of BLM's obligations under federal laws pertaining to the designation and management of wilderness areas. The BLM Manual, *Interim Management Policy for Lands Under Wilderness Review* (IMP), provides guidance for specific activities in Wilderness Study Areas.

The IMP states "The general standard for interim management is that lands under wilderness review must be managed so as not to impair their suitability for preservation as wilderness."

Perhaps the most noticeable restrictions, in addition to those created under Washington County's Habitat Conservation Plan, include the closure of these areas for mountain bike use and the increased restrictions on motorized access, even in emergency situations. Refer to the BLM Resource Management Plan for further details on mountain bike management in WSAs.

## **Cultural Resources**

Any historical art, sites, and artifacts located on federally managed lands, whether Native American or other, are protected by federal law. Disturbance or removal of any artifacts is prohibited.

## Service Access

Because there are numerous municipal utility developments in the Reserve, including water wells, water lines and electrical transmission lines, it is necessary for certain authorized individuals to access service roads which may be otherwise closed to public use. To control service access, access roads shall be posted, fenced and locked. All service access, new developments and maintenance activities must be in accordance with adopted utility development protocols, as outlined in the HCP and, if the project is located on BLM managed lands, with the current Biological Opinion issued by the U.S. Fish and Wildlife Service.

Examples of service access permitted after coordination with HCP/BLM utility protocols where applicable:

- inspecting, constructing, or maintaining facilities
- conducting official government business
- law enforcement
- fire suppression
- search & rescue
- monitoring of plants, wildlife, soils, human activities, etc.
- predator control and other authorized wildlife management activities, as required

## Search and Rescue

Within the boundaries of the Red Cliffs Desert Reserve, it is anticipated that search and rescue situations could occur necessitating emergency access to locate missing persons, to assist injured recreationists, or to rescue people from downed aircraft. It is the goal of the Reserve managers, particularly Washington County and the BLM, to work closely with the Washington County Sheriff's

**Search and Rescue,  
continued...**

Office and local search and rescue volunteers to encourage that all reasonable precautions are taken to minimize impacts to wildlife and habitat that might result from a search and rescue operation.

In emergency situations where human health and safety are in jeopardy, wildlife and habitat protection goals are secondary. However, with prior planning and training of emergency personnel, impacts to wildlife and habitat can be reduced.

To this end, strategies to be implemented shall focus on 1) training and providing S&R dispatch with critical information regarding ecological sensitivity of the Reserve, and 2) building and maintaining a cooperative relationship between Reserve and Search and Rescue managers. The Washington County HCP administration will work closely with the Washington County Sheriff's Office to structure and schedule training for S&R personnel and to develop a "Rescue Pre-Plan" for activities within the Reserve. Examples of actions that could be part of a plan for emergency rescue operations inside the Reserve include 1) emphasizing the use of designated emergency roads and trails; 2) placing maps of emergency roads and trails on file at the Washington County Sheriff's Office for easy reference; 3) providing keys to locked Reserve gates to rescue personnel; 4) holding seminars for rescue teams on tortoise biology to reduce risks to these animals; and 5) holding joint meetings periodically between Reserve managers and Rescue personnel to keep key parties informed and coordinated on rescue matters.

Through this cooperative relationship and pre-planning, search protocol can be developed that reduces impacts to the Reserve, including an emphasis on aerial search and the use of mountain bikes and equestrians to minimize ground impacts.



## Part III: Use Management—Strategies and Prescriptions

### General Provisions

The Red Cliffs Desert Reserve provides myriad opportunities for public use, recreational use in particular. However, direct and indirect take of tortoise and other species, trail erosion, trampling of vegetation and delicate soil crusts, and habitat disturbance are the main concerns regarding use in the Reserve. The Reserve has an abundance of slow-growing desert scrub vegetation and fragile ephemeral species which take advantage of seasonal moisture. Therefore, trails are located in a manner which reduces impacts on Reserve vegetation and concentrates use through thoughtfully placed, well-defined trails, some of which are utility maintenance roads. Well-placed trails reduce the tendency for short-cutting, reduce erosion from poor drainage and steep slopes, and reduce the creation of redundant trails, all of which contribute to greater environmental degradation.

To ensure the health and viability of the habitat, specific considerations must be taken when traveling in the Reserve. These provisions apply to activities (exceptions noted) in all areas:

***Upland and Lowland Zones.*** Within the Reserve there are a variety of habitats, ranging from lower elevation Mojave desert communities to pinyon-juniper woodlands to rugged slickrock canyons. The biological sensitivity, ecological durability and resiliency of these habitats also vary. To account for these differences, but in keeping with the commitments of the HCP, the Reserve has been divided into management zones. Specific boundaries of these zones are depicted on the Reserve map. Generally speaking, the Upland Zone is less biologically sensitive and more ecologically

General Provisions,  
continued...

durable, whereas the Lowland Zone is more sensitive (particularly for Mojave desert species) and less durable.

The boundary between these two zones was located by balancing biological requirements with social practicality; areas of highly sensitive habitat needed to be protected yet the location of the boundary needed to be easily identifiable to user groups so that enforcement was reasonable.

The Upland Zone accommodates recreational users who desire the freedom to responsibly travel off-trail. Hikers and equestrians are free to travel across country where the terrain permits, or they may utilize the trails within the zone which access the most popular areas. Camping and campfires are also allowed, with some limitations, in the Upland Zone (see *camping* section for more detailed explanation). The Lowland Zone protects sensitive species and their habitat by restricting travel to designated trails and by limiting camping and campfires to designated campgrounds.

Areas within the Upland Zone include: the majority of Red Mountain, the higher elevations below the National Forest, the rocky canyons of the proposed Cottonwood Wilderness Area, and the Babylon/Sandstone Mountain area.

***Stay On Designated Trails.*** Because the Reserve was established to protect the tortoise and its habitat, off-trail use is prohibited, except within the Upland Zone (see map). Much of the habitat traversed is delicate, and off-trail travel interrupts fragile ecosystems. For example, cryptobiotic soil, the black "crust" visible in much of the Reserve, is actually a living organism that prevents erosion and increases soil humidity and nutrients; off-trail travel tramples this crust and leaves soils more susceptible to erosion. The established trails provide access into the Reserve and create links between geographic areas and trailheads. The trail system in

**General Provisions,  
continued...**

the Reserve, over 130 miles in length and ranging from 2200 feet to 5500 feet in elevation, provides a diverse, high quality outdoor experience for user groups.

However, persons who: 1) are licensed or permitted under state, county, or federal law and regulation are permitted to go off trail east of the Cottonwood Road where necessary to accomplish the purposes for which the license or permit was issued (researchers, educators, hunters, etc.); and 2) in the performance of their official duties must travel off-trail (Reserve managers, law enforcement officers, emergency personnel, etc.) are permitted to travel off-trail in the Reserve as necessary.

***Trail Etiquette.*** Shared-use trail systems require that the different types of users understand and follow a simple right-of-way formula that has been adopted throughout the country. Within the Reserve, the following trail right-of-way will be used:

Horses always have the right-of-way. Hikers and bikers should move to the downhill side of the trail.

Hikers have the right-of-way over everyone except horses

Mountain bikers yield to both horses and hikers

When two users approach, the right-of-way generally belongs to the traveler moving uphill (except in the case of horses, who always have the right-of-way). Mountain bikers, which can move very quickly and quietly, should warn equestrians and hikers of their presence to avoid startling them.

***Campfires.*** In the Lowland Zone of the Reserve, campfires are restricted to established fire rings within official campgrounds. In the Upland Zone, which is dominated by pinyon-juniper habitat,

**General Provisions,  
continued...**

campfires are allowed subject to closures for high fire danger. Wood gathering is prohibited in the Lowland Zone; in the Upland Zone wood gathering is restricted to dead and down wood only. For areas outside of official campgrounds, camp stoves are strongly encouraged.

***Parking.*** Many people wishing to recreate in the Reserve will travel to specific Reserve trailheads by automobile. This plan anticipates the need to establish trailheads with adequate vehicle parking to accommodate this demand, including the parking of trucks with horse trailers. Proposed locations for access points and parking areas are included in this plan. Where geography and habitat does not allow the location of parking areas within the boundaries of the Reserve, it may be necessary to negotiate for parking opportunities with neighboring landowners, public or private.

To minimize impacts to the Reserve, parking is allowed in designated staging areas only and staging areas will be carefully located. Overnight parking for backcountry camping, hunting, or shuttling is permitted, but in established staging areas only. No camping is permitted in the staging areas. Whenever possible, parking areas located within the Reserve will be restricted to previously disturbed areas, located on a developed boundary, or will otherwise not result in a reduction of habitat.

***Altering Rock Surfaces and Damage to Vegetation.*** Damaging practices such as removing, chipping rock or destroying vegetation to enhance a trail are prohibited. Reserve managers may need to minimally damage or alter rock surfaces and vegetation in order to maintain trails or to install signs; in both of these instances, such action is intended to reduce overall impacts to the Reserve. Marking trails should be accomplished in the least obtrusive way possible to achieve the desired result.

***Snow Canyon.*** Snow Canyon State Park is located almost entirely within the boundaries of the Reserve, and generally Reserve management prescriptions apply to activities inside the Park. Recreational uses within the Park are restricted to designated trails, to slickrock areas, or to designated rock climbing areas, and the same concerns for impacts to desert tortoise and their habitat apply. Some State Park designated trails may not appear on the Red Cliffs Desert Reserve Public Use Plan map. Additional Utah State Parks and Recreation regulations may also apply, including entrance fees which are required and can be paid at the ranger station. The 1998 Snow Canyon State Park Resource Management Plan details management objectives for the park. For comprehensive information regarding uses within Snow Canyon call (435) 628-2255.

***Pioneer Park.*** Pioneer Park is a municipal park operated by the City of St. George within the boundaries of the Reserve. For the purpose of this plan, the park is bounded on the north by the Pioneer Rim Trail, on the west by Turtle Road, on the south by Skyline Drive and on the east by municipal government facilities. Existing uses within the developed area may continue, such as picnicking, hiking, rock scrambling, and rappelling. The park's master plan, adopted in 1977, identifies park roads and facilities. The park will continue to be managed by the City of St. George who, as an HCP participant, has committed to support the goals and objectives of the HCP. Proposed changes in use or new development must be coordinated through the HCP Administration and the HCAC.

***Day Use Limits.*** Maximum use numbers could be established in the future to protect Reserve resources and visitor experiences. No limits are proposed at this time. Should limits be considered, they will be consistent with the following criteria:

- Limits would be imposed only as necessary to

General Provisions,  
continued...

protect important resources and achieve HCP goals;

- Limits would be applied to the minimum area necessary to achieve goals;
- A 30-day public notice and comment period would be provided; and

***Fees.*** Except for commercial activities or authorized competitive events, no fees to access the Reserve are required at this time, outside of Snow Canyon State Park.

***Pets in the Reserve.*** All pets in the Reserve must be on a leash to prevent habitat and wildlife disturbance and to avoid user conflicts. Hunting dogs are allowed to travel off-leash with a licensed hunter in the act of hunting during official hunting seasons.

***Motorized Vehicle Use.*** Motorized vehicles are permitted in the Reserve on designated roads only. Motorized vehicle use on surfaces other than designated roads is prohibited; this includes recreational vehicles such as three-wheelers, four-wheelers, other four-wheel-drive vehicles, motorcycles, all-terrain vehicles, trucks, and automobiles.

Oiled roads, such as Turtle Road, Highway 18, Tuacahn Road, and the Snow Canyon road, may not be compatible with all motorized vehicles. ATV's and certain types of motorcycles may not be licensed to operate on oiled roads.

## **Special Provisions**

***Stay on designated roads.*** Using roads specifically designated for motorized vehicle use lessens impacts to soil, vegetation and animals. A comprehensive list of all designated roads

**General Provisions,  
continued...**

within the Reserve open for public use can be found in Appendix A. Much of the habitat is delicate, and off-road travel interrupts fragile ecosystems; therefore, motor vehicle travel off of designated roads is prohibited. Designated roads for motorized vehicles include:

- Snow Canyon Road
- Snow Canyon Parkway
- Tuacahn Road
- SR 18
  
- Turtle Road (Snow Canyon Parkway extension, a.k.a. "Skyline Drive")
  
- The *Cottonwood Road/Danish Ranch Road* is accessed north of the St. George Industrial Park. This is an oil and dirt road that also passes through Forest Service property and ends in Silver Reef, north of Leeds, Utah.
  
- *Turkey Farms Road* is accessed off of the east side of Cottonwood Road and services the active turkey farm located in that area. Public use of this road is discouraged.
  
- The main *Babylon Road* in Leeds is accessed north of the town of Leeds. This road is sandy and provides access to the Virgin River and an old mill site.
  
- The *Toquerville Cutoff* is a proposed 4WD vehicle link along the north boundary of the Reserve near the Town of Leeds which provides the community of Toquerville more direct access to the Babylon Road.
  
- The *Sand Cove Spur* allows vehicles to park at the Sand Cove campground on the west side of Sandstone Mountain.
  
- A short trail, *The Sandstone Mountain Link*, is located on the north end of Sandstone

General Provisions,  
continued...

Mountain outside of Toquerville. This trail is near the Reserve Boundary, and allows continued travel on a popular OHV trail.

***All-Terrain Vehicles (ATV's).*** Vehicle access in the Reserve is limited to designated roads; however, these roads may not be compatible with ATV use. It is the vehicle operator's responsibility to know regulations governing the use of these vehicles on public roads.

***Practice proper etiquette.*** Motorized vehicles yield right-of-way to all other user groups in the Reserve. Drivers should remain alert to others in the area and reduce speed when approaching others, particularly equestrians.

***Motor Vehicle Events within BLM Managed Lands.*** The BLM Resource Management Plan (RMP) and the current Biological Opinion issued by the U.S. Fish and Wildlife Service on the RMP restrict motor vehicle events on BLM lands within the Reserve. Motorized speed events are explicitly prohibited. The following additional regulations apply to any non-speed vehicle events (or non-speed portions of speed events) requiring permitting by the BLM:

1. No organized non-speed events shall occur from March 15 through October 15;
2. Permits shall be required for events with 50 or more participants;
3. No more than 400 motorcycles or all terrain vehicles, or 300 three- or four-wheeled vehicles shall be allowed in any one event; and
4. Events shall have enough monitors to ensure compliance with regulations



***Other Vehicles.*** Buggies, wagons, or other animal-drawn vehicles are limited to travel on designated roads, and are prohibited from single-track trails where their passage would create new surface disturbance.

***Wheelchair Access.*** Although much of the Reserve's backcountry is difficult to access by wheelchair, some areas of the Reserve are wheelchair accessible, such as portions of Pioneer Park and Snow Canyon State Park. Paved municipal trails within the Reserve also offer some opportunity to enjoy the scenic beauty of the area; currently there is a paved trail along Highway 18. In the future, there may be an opportunity to pave a trail within the right-of-way along Turtle Road when and if it is widened and improved, or to provide vehicle pull-outs here and elsewhere in the Reserve, including Cottonwood Road.

In the event that an education center and visitor facilities are constructed to service the Reserve, they will be constructed to meet the requirements of the Americans with Disabilities Act (ADA).

***User Facilities.*** Amenities such as picnic tables, restrooms, trash receptacles, bridges over riparian areas, and hitching posts may be necessary additions to contain, concentrate, and reduce user impacts. Each facility shall be approved by Reserve management and placed strategically in areas of popular use, such as trailheads and along specific trails. Care shall be taken to install facilities that do not contribute to the proliferation of predators; for example, trash receptacles shall be designed to be inaccessible to wildlife. Providing user facilities will mitigate user impacts such as tethering horses to scrub vegetation or dispersing randomly for picnicking. Water development in the future may include spigots placed in popular-use areas such as trailheads.

**Signing.** At all trailheads Washington County will install or coordinate the installation of signs that inform users of their responsibilities and provide information on route locations and distances. Signs will be developed in coordination with (where applicable): the HCP Administrator, Snow Canyon State Park, cooperating cities, BLM, Utah Department of Transportation, Utah Division of Wildlife Resources, and the U.S. Fish and Wildlife Service. Reserve signage shall be readily identifiable, with consistent design elements.

Signs may be installed at trail junctions. Interpretive signing may be developed for trails and at locations in the Reserve as recommended by the HCP Administrator and/or BLM. Signs will be installed at rock climbing areas and in other activity concentration areas to provide information and reinforce restrictions.

**Leave No Trace (LNT) Principles.** Reserve management has adopted the principles of low-impact recreational use as outlined by the Leave No Trace Program. These principles were revised in the spring of 1999, and the newly-completed list follows:

**General Considerations of Leave No Trace**

**(LNT) Use:** These considerations apply when traveling in the Reserve via horse, bicycle, or foot.

- *Plan ahead and prepare.* Know the area in which travel is planned. Knowing terrain and possible challenges helps determine which provisions reduce impacts and lessen the chance of hasty decisions regarding water, campsites, parking, etc.
- *Travel and camp on durable surfaces.* Avoid areas of delicate soil and vegetation. Use designated trails. In areas of heavy use, camp in established areas to avoid creating another campsite. Disperse use in remote areas;

**General Provisions,  
continued...**

spread out and avoid areas where impacts are just beginning.

- *Dispose of waste properly.* Pack out what was packed in. If there are no restrooms available, use areas away from water, trails, and campsites. Practice good sanitation, which includes burying human waste.
- *Leave what you find.* Unless it's garbage that can be packed out, leave in the Reserve what you find in the Reserve. Natural objects and cultural artifacts must remain in the Reserve.
- *Minimize campfire impacts.* Although efficient and easy-to-use camp stoves are popular, some still feel a traditional campfire is part of an enjoyable outdoor experience. However, in the Reserve, campfires are restricted. See the campfire section, pg. 35, for more information.
- *Respect wildlife.* Although it may be tempting to approach wildlife, doing so can disrupt feeding, increase stress and harm individuals. View wildlife from a distance, and resist the temptation to offer food. It is a violation of the Endangered Species Act to pick up a tortoise (unless you are removing it from harm's way), harass, or kill it, or attempt to do any of these acts.
- *Be considerate of other visitors.* Most people are using the Reserve for a peaceful recreational experience in beautiful surroundings; therefore be conscientious of noise level, proximity to others, and trail etiquette.

*A more comprehensive listing of LNT principles can be obtained by contacting the BLM office located at 345 E. Riverside Drive, St. George, Utah.*

## Research and Educational Programs

With the signing of the Washington County HCP, Reserve managers acknowledged the opportunity to develop educational programs that both inform the public about the purpose of the Reserve and offer general nature education for the community.

**Regional Education Center.** References within the HCP briefly suggest the vision of a regional educational center located within the Reserve and identify environmental education as both a management goal and a mitigation measure. The HCP states that the county has committed \$500,000 of discretionary funds over twenty years to the envisioned education center. The HCP further states that "the education center will be part of a larger organization, which as of yet is undefined."

More groundwork by the Habitat Conservation Advisory Committee (HCAC) refined the vision to include Snow Canyon State Park (SCSP) as a cooperator with Washington County and its other partners in the construction and operation of the facility. This would help State Parks, which is in need of a visitor center and administrative offices. A prominent location at the mouth of Snow Canyon is being acquired by the park and has received conceptual approval as the preferred location for the visitor education center.

The County will continue to work cooperatively with its partners to fully develop a joint vision for the facility, to analyze the financial feasibility of such a venture, and to propose an educational curricula that meets the goals of the HCP.

**Educational Programs.** The Reserve provides educational opportunities for a broad range of age groups. Scientific field studies of wildlife at both the graduate and undergraduate levels can provide Reserve managers with valuable data that could expand current understanding of the Reserve's wildlife and plant communities and can help managers recognize when recreational impacts

**Research and Educational Programs, continued...**

significantly affect Reserve resources.

Other examples of the potential components of a successful educational program include the following: experiential field opportunities for primary, secondary, and high school students; on-site classrooms; outreach; volunteer opportunities (naturalists, docents, etc.); publications; interpretive signing; guided nature hikes; and elder hostel programs.

An education committee was appointed by the County to help design educational programming and materials, including interpretive displays.

**Scientific Research and Collection.** Educational and research uses of the Reserve may require, on occasion, special access so individuals or groups can visit sensitive areas of the Reserve. Special access permits will be arranged with the County HCP Administration and coordinated with other Reserve managers as necessary. Without a special access permit, educational or research groups shall follow the same regulations required of other Reserve users. Collection of scientific specimens requires appropriate USFWS/UDWR permits, as well as coordination with the HCP Administrator. Collection of specimens without a permit is prohibited.

**Commercial Uses in the Reserve**

Commercial uses within the Reserve, such as guided activities, instructional programs, or commercial film making, require a commercial use permit issued by the BLM or State Parks in coordination with the HCP Administrator. Application forms and other information are available through the Bureau of Land Management, St. George Field Office, located at 345 E. Riverside Drive, St. George, Utah.

With the exception of the Education Center in Snow Canyon, commercial uses requiring on-site facilities within the Reserve are not permitted.

## **Organized & Competitive Events**

Organized competitive and recreational sporting events found to be low-impact to habitat are only permitted in the Reserve with a special use permit issued by the BLM or State Parks in coordination with the HCP Administrator. An organized recreational activity is any scheduled event with a specific planned purpose. Those organized recreational activities which conflict with the intended protection of the desert tortoise or, due to the nature of the event, are unable to provide the degree of supervision necessary to prevent harm to desert tortoises or prevent damage to habitat will not be permitted within the Reserve. These activities and events should generally be staged on designated roads only. Monitoring for previous-use impacts, habitat density and quality, numbers of spectators and participants, and time of year will all be factors in the decision to issue/re-issue a permit.

All requests to use the Reserve shall be first screened by the HCP Administrator to determine conformance with the HCP and this Plan. The Administrator shall advise the proponent where conformance cannot be achieved and, in the absence of suitable remedy, shall deny the request. Any entity denied permission to use the Reserve can appeal the Administrator's decision to the HCAC. The HCAC shall make an initial review of the appeal and, where necessary, shall forward its recommendations to the appropriate Reserve manager(s) with jurisdiction over the area(s) in question for a final determination. Agency procedures for administrative review vary and the process can take several months.

## **Activities: Introduction**

The Red Cliffs Desert Reserve provides an opportunity for a high-quality outdoor experience for a variety of user groups. In addition to the historic use of the Reserve by equestrians, hikers, and hunters, more "modern" uses such as mountain biking and rock climbing have also gained popularity in recent years. The diverse recreational

## Hiking

opportunities within the Reserve ensure people of all ages, abilities, and interests can enjoy what this unique area has to offer. The trail system in the Reserve, the result of careful planning, provides access into some of the most spectacular areas southern Utah has to offer while protecting the habitat crucial to threatened and endangered species and the many other plants and animals in the Reserve.

Because hikers and trail runners can access all designated trails in the Reserve--whether sandy, rocky, steep, or narrow--and they are able to scramble through the Upland Zone's rugged terrain, pedestrian use provides myriad opportunities to experience the Reserve's diversity.

Activities such as birdwatching and photography are popular with hikers. However, leaving the designated trail to do so is prohibited, except in the Upland Zone. Wildlife should be observed from a distance; disturbing animals may force the animal to flee preferred habitat. A good pair of binoculars or a telephoto lens can assist in observing wildlife "up close" while preventing habitat disturbance. Respecting wildlife and habitat is important to the overall health of the Reserve.

### Special Provisions

***Off-Trail Use Areas.*** Although trails have been designated in most of the Reserve, there remain some areas where off-trail use is permitted. In the Upland Zone, trails are designated, but off-trail travel is permitted. Areas within the Upland Zone include: the majority of Red Mountain, the higher elevations below the National Forest, the rocky canyons of the proposed Cottonwood Wilderness Area, and the Babylon/Sandstone Mountain area.

# Camping

Camping overnight in sensitive habitat areas generally disturbs wildlife more than the occasional user passing by on a trail. Therefore, within the Reserve camping is restricted as follows:

**Lands Managed by the BLM:** Camping is limited to no more than 7 consecutive days in any one area. In addition, Upland/Lowland Zone restrictions apply.

**Upland Zone:** Camping is allowed within the Upland Zone. In the Babylon/Sandstone Mountain area, camping is restricted to the Sand Cove primitive campground. In addition, this plan envisions a designated campground near the Virgin River close to the Babylon mill site. At this time, camping in other areas of the Upland Zone is not restricted to designated sites. However, Reserve managers anticipate that as use in the Reserve increases, a transition to designated camping is likely to occur throughout the zone. When necessary, consistent with the goals of the HCP and this plan, Reserve managers may designate suitable areas for camping in high-use areas and restrict camping to these sites.

This plan designates a primitive campground at Sand Cove (near Sandstone Mountain). Camping at this popular group site shall require a permit issued by the appropriate Reserve Manager. In the future, primitive facilities may be installed to service the area (e.g. a sanitary toilet) and a use fee may be charged to support facility maintenance.

**Lowland Zone:** Camping is limited to designated campgrounds. At this time, the only designated campground within the Lowland Zone is the drive-in campground in Snow Canyon State Park. The campground at Red Cliffs Recreation Area is just outside of the Reserve boundary, but does provide access to



the Quail Creek drainage inside of the Reserve.

### **Special Provisions**

**Water.** With a few exceptions, water is largely unavailable in most of the Reserve, so drinking water should be packed in when camping in the Reserve.

**Campfires.** In the Lowland Zone of the Reserve, campfires are restricted to established fire rings within official campgrounds. In the Upland Zone, which is dominated by pinyon-juniper habitat, campfires are allowed subject to closures for high fire danger.

Wood gathering is prohibited in the Lowland Zone; in the Upland Zone wood gathering is restricted to dead and down wood only. For areas outside of official campgrounds, camp stoves are strongly encouraged.

**“Leave No Trace” Principles.** To promote outdoor ethics and the preservation of the Reserve’s biologic, scenic, and natural resources, LNT principles must be utilized.

**Off-Trail Travel.** In the Red Cliffs Desert Reserve, off-trail travel is permitted within the Upland Zone. These areas are largely out of critical tortoise habitat and may be traversed without causing significant impacts. In the Upland Zone, trails are designated, but off-trail travel is permitted.

## **Bicycling**

Bicycling is a popular recreational use in the Reserve. The spectacular scenery and varied terrain provide cyclists with unique opportunities aesthetically and technically. There is a need to effectively manage the natural resources of the Reserve, especially in association with its various sensitive species, while still providing a scenic and

enjoyable recreational experience.

Mitigation of vegetation trampling and soil erosion will occur by designating, signing, and maintaining designated bicycling trails in the Reserve. Bicycles are prohibited off of designated trails. Maintenance of the trails will be a cooperative effort among the Reserve, riding organizations, and local groups. Where erosion, vegetation damage, habitat disturbance, or cultural site impact is significant, trail closure or restricted access may be necessary.

### **Special Provisions**

***Stay on Designated Trails.*** Because of the growing popularity of mountain bike use in the Reserve, the impacts of off-trail mountain bikes to delicate desert soils, and the likelihood of newly developed mountain bike trails if the expansion of this use is not restricted, bicycles shall be restricted to designated trails regardless of whether they are traveling in the Upland or Lowland Zone of the Reserve.

***WSA Restrictions.*** Public lands within the Red Mountain and Cottonwood Wilderness Study Areas (WSA) are closed to mountain bike use by the BLM's Resource Management Plan for the St. George Field Office, March 1999.

***Slickrock Group Stops.*** To mitigate trampling of vegetation and trail erosion, all group discussions and/or stops must occur in slickrock areas whenever possible. If slickrock is not available, groups must stay in a single-file fashion so trails are not widened over time.

***Trail Erosion.*** To protect trails and prevent erosion, riders should avoid "skidding" stops and/or skidding around corners. Riders should not spin tires when climbing. In single-track areas, riders should travel single-file to avoid widening single-track trails.

Bicycling, continued...

***Weather Conditions.*** Riders should avoid riding in muddy conditions. Bicycling on muddy trails accelerates erosion. Trail closures to mitigate erosion may occur in areas determined to be impacted.

***Trail Signing.*** The signing of trails will be done by Reserve management. The painting of rocks or otherwise altering rocks and/or vegetation to designate trails is prohibited, except as authorized by Reserve managers.

***Trail Etiquette.*** Most trails in the Reserve are shared-use, so trail etiquette must be used. Bicyclists yield right-of-way to pedestrians and equestrians. When encountering other cyclists, downhill riders yield to uphill riders. When approaching blind corners, speed should be reduced to avoid startling hikers and horses. Also, verbal cues should be used to announce the presence of cyclists on trails.

## Equestrian Use

The management of the Red Cliffs Desert Reserve considers the long-term partnership with horse users to be critical to an effective equestrian management program.

Horseback riding in the Reserve has primarily taken two forms--short trail rides and extended backcountry travel by individuals and small groups who use the Reserve because of the unique riding opportunities it provides. Strategies such as those outlined in the Leave No Trace backcountry horse use guide offer minimal impact suggestions that must be followed for equestrians using the trails in the Reserve.

Mitigation of vegetation trampling and soil erosion will occur by designating, signing, and maintaining horse-use trails through the Reserve. Maintenance of the trails will be a cooperative effort among the Reserve, riding organizations, and local groups.

Where erosion, vegetation damage, habitat disturbance, or cultural site impact is significant, trail closure or restricted access may be necessary.

## **Special Provisions**

***Camping.*** Camping with horses is permitted only in the Upland Zone of the Reserve. Also, with a few exceptions, water is largely unavailable in most of the Reserve. When camping in the upper reaches of the Reserve, minimal impact Leave No Trace guidelines must be followed. No off-trail and/or overnight horse use is permitted in Snow Canyon.

***Confinement of Horses When Camping.*** Ideally, horses should spend the shortest amount of time possible in camp. Horses should be checked frequently to ensure as little damage as possible to the environment. Observing behavior can help minimize impacts as well. Once an area has been identified as camp, there are several ways to confine horses to the area for the night that reduce impacts.

***Weed-Free Hay.*** Users of BLM-administered lands in Utah, including the Red Cliffs Desert Reserve, are now required to use only certified noxious weed-free hay, straw or mulch. Approved products for livestock feed on public lands include pellets, hay cubes, processed and certified hay. For more information regarding use of weed-free hay on public lands in Washington County, contact the Range Conservationist at the St. George BLM office (435) 688-3200.

***Hobbling.*** Hobbling causes little environmental impact. The idea behind hobbling horses is to give them freedom to graze yet restrict their travel to the general area near camp. It is necessary to frequently check the location of hobbled horses, as some horses may be more agile in hobbles than expected.

Equestrian Use,  
continued...

**Pickets.** Picketed horses require good feed, as they cannot roam to graze. It is necessary to move pickets frequently to prevent overgrazing in one area and trampling. Picketing is often hard on vegetation and soil because of the concentrated movement of the horse in one area. The picket line can also “rub” the ground and damage vegetation.

**Highlines.** Highlines are another option when large trees are available. A highline consists of a rope running between two trees, providing a place to tie horses that does not “rope rub” vegetation.

**Tree Tying.** Because tree tying horses has substantial vegetation impacts, it is not permitted in the Reserve.

A complete guide to Equestrian LNT principles can be obtained by contacting the Backcountry Horsemen of Washington County, P.O. Box 3174, St. George, UT 84771.

## Rock Climbing and Sport Rappelling

Within the Red Cliffs Desert Reserve there are three areas where authorized rock climbing and rappelling activities occur: Snow Canyon State Park, Paradise Canyon, and Pioneer Park. Climbing and rappelling outside of designated areas is prohibited.

The Snow Canyon Climbing Management Plan provides the framework to manage the habitat and safety concerns related to climbing use in Snow Canyon. Some of the provisions in this plan will be expanded to include concerns in Paradise Canyon and Pioneer Park, specifically the provisions which apply to visual aesthetics, hardware or bolt replacement, webbing and chalk, trails/erosion, and wildlife. The climbing advisory team (CAT) may be utilized to address the issue of replacement

**Rock Climbing and Sport  
Rappelling, continued...**

hardware; however, since no new routes are allowed to be developed in Paradise Canyon, this function of the CAT will not be extended outside of the State Park. There are four climbing areas in Paradise Canyon: Chuckwalla, Black Rocks, Turtle Wall, and Cougar Cliffs.

Trail erosion, trampling of vegetation, animal behavior modification and habitat disturbance are the main concerns regarding climbing in the Reserve. Access to the base of many climbs in the Reserve requires hiking through high quality tortoise habitat and fragile desert scrub vegetation. Climbing routes can negatively impact cliff-dwelling species, such as nesting raptors.

Vegetation trampling and soil erosion is mitigated by designating and maintaining approach trails from staging areas to the base of the cliffs. Braided trails will be consolidated and signed to reduce impacts. Trail maintenance will be a cooperative effort among the RCDR staff, Snow Canyon staff, BLM, and local climbing groups.

**Climbing Access**

Approved climbing routes in the Reserve occur in Paradise Canyon, Snow Canyon, and Pioneer Park. Access to climbs will be on designated trails. Outside of Snow Canyon State Park, climbing and rappelling is allowed on established routes in approved areas only.

**Paradise Canyon.** Climbing and rappelling areas in Paradise Canyon are accessed from well-established staging areas along Highway 18:

**Chuckwalla** is located just west of Highway 18 at milepost 3. It is the climbing area most easily accessed and provides sandstone routes ranging in difficulty from 5.10 to 5.12 .

**Turtle Wall** is located northwest of Chuckwalla in the bottom of Paradise

**Rock Climbing and Sport Rappelling, continued...**

Canyon. The wall, which faces east, offers the most technical routes established in Paradise Canyon. Turtle Wall is accessed from the same staging area as Chuckwalla and can be found by following the well-established trail along the canyon floor.

**Black Rocks** is located west of Highway 18 at milepost 5 and is accessed from a staging area along Highway 18. A short trail provides easy access to all climbs in this small area; these routes provide premier winter climbing as the sun warms the dark rock during the colder months. This area provides basalt routes ranging in difficulty from 5.9 to 5.11.

Because of additional concerns regarding habitat connectivity in this area, the Black Rocks climbing area will be seasonally closed from March 15-June 30 during the peak spring tortoise activity period.

**Cougar Cliffs** is the northernmost of the four areas. Located west of Highway 18 at milepost 6, Cougar Cliffs is accessed via a staging area on the west side of the road. From there, a trail descends to and continues along the base of the rocks. There are sandstone routes here ranging in difficulty from 5.10-5.12. This is the most popular site for sport rappelling, and is known by many local residents as "movie rocks."

**Snow Canyon.** For more information about climbing in Snow Canyon State Park, contact Park managers at (435) 628-2255.

**Pioneer Park.** Climbing, bouldering and rappelling within Pioneer Park is under the management of St. George City. For more information about activities in this municipal park, contact St. George Parks and Open Space Department at (435) 634-5869.

## Special Provisions

***Seasonal Use.*** Due to tortoise and habitat concerns in the Black Rocks area, seasonal use will be in effect. The area will be closed for climbing from March 15-June 30 each year.

***Route Closures for Raptors.*** Reserve managers may initiate seasonal route closures in Paradise Canyon if raptors are found to be nesting or attempting to locate nest sites in close proximity to established climbing routes. The period during which raptors lay and incubate eggs and fledge their young is particularly sensitive; disturbance can result in reproductive failure. The most critical time period for most raptors is between February 1 to June 1. Reserve managers will work with the climbing community to implement a reasonable policy for seasonal cliff management using the recommendations outlined in *Raptors and Climbers: Guidance for managing Technical Climbing to Protect Raptor nest Sites* published by the Access Fund.

***Camping.*** Camping is available in the Snow Canyon campground. Overnight camping in Paradise Canyon, where the four climbing areas exist, is not permitted.

***Altering Rock Surfaces and Damage to Vegetation.*** Chipping, drilling, gluing, manufacturing holds, or otherwise altering the rock surface or vegetation is prohibited.

***Inclement Weather Climbing in the Reserve.*** Climbing within 24 hours of significant precipitation is discouraged due to the weakening of sandstone and the increased damage to vegetation that result from moisture in the rock and soil. Both climber safety and reserve resources can be negatively affected.



## Rock Scrambling

Less technical than rock climbing or rappelling is the popular activity known as “scrambling.” Typically, this implies moving over rocky terrain using one’s hands and feet, but no equipment is used for protection. As an activity, it can be dangerous if people do not exercise good judgment and take proper precautions to avoid falling.

It is not the intent of this plan to prevent people from scrambling on rocks—at their own risk—but this activity may only occur in areas where off-trail use is allowed, specifically in the Upland Zone, in Pioneer Park and at Movie Rocks.

## Hunting

Hunting is allowed, as described below, within the Red Cliffs Desert Reserve throughout the Upland Zone, and within the Lowland Zone on the east side of Cottonwood Road. Hunting within the Lowland Zone west of Cottonwood Road is prohibited due to human safety concerns and to reduce impacts to tortoises and tortoise habitat in the most sensitive areas of the Reserve. *Off-trail use in the Lowland Zone is not allowed for any other user group.*

The discharge of firearms in the Reserve is prohibited except in the act of hunting big game and upland game species by licensed hunters in accordance with this Plan, current city and county ordinances, and state laws during prescribed seasons. Big game species include deer and elk. Upland game includes: mourning dove, band-tailed pigeon, Chukar partridge, pheasant, quail (California and Gambel’s), and cottontail. Specifically excluded from lawful hunting in the Reserve include all non- game species, furbearers (including coyote and raccoon), jackrabbits, cougar and black bear, except where permitted by the applicable state agency and the HCP Administrator in keeping with this Plan (see *Control of Predators and Other Detrimental Species*, pg. 29).

## Hunting, continued...

Because hunting will take place in the Reserve, an area of recreational use, consideration is necessary to ensure the safety of all recreational users. It is expected that hunters will practice caution in all areas of the Reserve since the area is heavily used by recreationists during the hunting season. Educating user groups about the presence of hunting during hunting seasons, from September to the end of February, will help facilitate safety and coexistence among hikers, equestrians, climbers, bicyclists, and other user groups.

### Special Provisions

***Hunting Dogs.*** An exception to the general rule that requires pets to be on leash at all times inside of the Reserve, hunting dogs are allowed off-leash in the Reserve when accompanied by a licensed hunter in the act of hunting during official seasons.

***City Ordinances.*** Hunters accessing the Reserve during prescribed seasons must comply with current city ordinances as outlined below or as may be amended from time to time:

**St. George:** No discharge of firearms within the Reserve inside city limits except by licensed hunters in the act of hunting during prescribed seasons.

**Hurricane:** No discharge of firearms within the Reserve inside city limits except by licensed hunters in act of hunting during prescribed seasons.

**Ivins:** No discharge of firearms within city limits.

**Washington:** No discharge of firearms within the Reserve inside city limits unless expressly proclaimed for that year by the mayor that hunting is allowed, and only by licensed hunters in the act of hunting during proclaimed seasons.

Hunting, continued...

## Miscellaneous Sports and Activities

**Washington County:** No discharge of firearms within the Reserve in the unincorporated parts of the County except by licensed hunters in act of hunting during prescribed season and except areas as designated by the HCP Administrator.

There may be other non-consumptive recreational uses which would be compatible with the goals and objectives of the Red Cliffs Desert Reserve and the Public Use Plan that are not listed or not anticipated at this time. For the purposes of protecting species and habitat, all activities not specifically identified in this Plan are prohibited unless otherwise approved by the HCP Administrator.

Permitted uses, other than those already discussed, include picnicking, wildlife viewing, trail running, walking, backpacking, fishing and swimming.

Other activities are not compatible with the goals and objectives of the Reserve and are expressly prohibited. These sports and activities include, but aren't limited to: target shooting, any off-road motorized equipment, paint ball, inner-tubing, in-line skating and skate boarding (except on paved municipal trails), horseshoes, darts, badminton, golf, tournaments of any kind, remote-controlled aircraft, residential camping, and littering.

Activities such as hot air ballooning, family reunions, other social functions (including weddings), or compatible activities which are not listed above require a special use permit if conducted within (or above) the Reserve. Reserve managers will review the activity before a permit is granted.

## **Part IV: Maps & Trailheads**

### **Introduction**

It is anticipated that in the years ahead, public use of the Reserve is likely to increase as word spreads of the recreational opportunities so conveniently located next to the municipalities of St. George, Washington, Hurricane, and Ivins. Because the County expects this use, and because the public's responsible use and enjoyment of the Reserve relies on them having adequate information about Reserve boundaries and area specific management regulations, when the Plan is finalized, a trails map will be published for public use. As envisioned, this map will include information about the Reserve and will summarize the general provisions and activities discussed in this plan.

For the immediate purpose of this plan—to communicate locations of trails, trailheads, municipal boundaries, WSA's, the Upland and Lowland Zones, and other spatial information—basic maps of the Reserve have been included with this document.

### **Trailheads**

As proposed, there are at least 38 trailheads which access the Reserve: some of these trailheads are "staging areas" where parking is provided (or planned for in the future), and some are simply step-over gates, approximately 20" tall, which allow pedestrians, horses, and those carrying mountain bikes to easily access the Reserve. Equestrian users may want to practice with their horses before attempting to enter the Reserve for the first time.

The map to be produced for public use will give directions on how to reach trailheads, and will describe the facilities which are available and which are proposed, and what the anticipated timeline might be for the installation or improvement of

Trailheads, continued...

facilities such as parking areas or hitching posts.

With the development of the Public Use Plan, the County will be able to install and maintain signs at the trailheads and along the trails so that they are easier to locate and to follow.

## **Upland/ Lowland Zones**

The designation of the **Upland Zone**, which contains areas generally above critical tortoise habitat in which off-trail travel is not likely to result in significant impacts to tortoises or other species of special concern, and the **Lowland Zone**, which contains quality tortoise habitat, is important to note, as it effects uses allowed in each area. Using topography and trails, Reserve managers and biologists were able to designate boundaries between the Upland and Lowland Zones which are easily visible to recreationists. In areas where this boundary may be less distinct, it will be signed.

It is important to review the boundaries of the Upland and Lowland Zones, as well as the municipal boundaries and the boundaries of the WSA's as each is important to understanding Reserve rules for public uses.

## Part V: Resources and Citations

Belnap, Jayne, et al. 1999. Biological Soil Crusts: Ecology and Management. USDI-USGS; 84 p.

Boarman, William I., September 21, 1999, Review Draft: Threats to the Desert Tortoise: A Critical Review of the "Scientific" Literature, USGS Western Ecological Research Center.

Chavez, Deborah J. 1996. Mountain biking: issues and actions for USDA Forest Service managers. Res. Paper PSW-RP-226-Web. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 33 p.

Clark, T. W., R. P. Reading, and A. L. Clarke. 1994. Endangered Species Recovery: Finding the Lessons, Improving the Process. Island Press, Washington D.C. 450 p.

Cole, David N. 1989. Wilderness campsite monitoring methods: a sourcebook. Gen Tech. Rep. INT-259. Ogden, UT: U.S. Department of Agriculture, forest Service, Intermountain Research Station. 57 p.

Cole, David N. 1989. Low-impact recreational practices for wilderness and backcountry. Gen Tech. Rep. INT-265. Ogden, UT: U.S. Department of Agriculture, forest Service, Intermountain Research Station. 131 p.

Duck, T.A., T.C. Esque, and T.J. Hughes. 1995. Fighting Wildfire in Desert Tortoise Habitat: Considerations for Land Managers. In Proceedings—Fire Effects on Rare and Endangered Species and Habitats Conference, Couer d'Alene, ID. International Association of Wildland Fire.

Hammitt, W. E. and D. N. Cole. 1998. Wildland Recreation, Ecology and Management. John Wiley & Sons, Inc., New York. 361 p.

Kleiner, Edgar F. and K.T. Harper 1977. Soil Properties in Relation to Cryptogamic Groundcover in Canyonlands National Park. Journal of Range Management: vol. 30(3) 202-205.

Knight, R. L., and K. J. Gutzwiller. 1995. Wildlife and Recreationists: Coexistence Through Management and Research. Island Press, Washington D.C. 372 p.

**Resources and Citations,  
continued**

McClaran, Mitchel P.; Cole, David N. 1993. Packstock in wilderness: use, impacts, monitoring, and management. Gen. Tech. Rep. INT-301. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 33 p.

National Research Council. 1995. Science and the Endangered Species Act. National Academy Press, Washington D.C. 271 p.

Outdoor Recreation Coalition of America. 1993. Human Powered Outdoor Recreation: State of the Industry Report. Outdoor Recreation Coalition of America, Boulder, CO. 15 p.

Regional Environmental Consultants. 1994. Clark County Desert Conservation Plan. Regional Environmental Consultants, San Diego, California. 123 p.

Salafsky, N. and R. Margoluis. 1999. Threat Reduction Assessment: A Practical and Cost-Effective Approach to Evaluating Conservation and Development Projects. Conservation Biology: (Vol. 13) 830-841

Savory, Allan. 1999. Achieving the Triple Bottom Line—Really. Allan Savory Center for Holistic Management Web Page, [www.holisticmanagement.org/art\\_triple.cfm](http://www.holisticmanagement.org/art_triple.cfm)

Savory, Allan. 2000. Rest: The Tools We Use to Manage Our Ecosystem. Allan Savory Center for Holistic Management Web Page, [www.holisticmanagement.org/oll\\_rest.cfm](http://www.holisticmanagement.org/oll_rest.cfm)

Sonoran Institute. 1999. Beyond the Hundredth Meeting: A Field Guide to Collaborative Conservation on the West's Public Lands. Sonoran Institute, Tucson AZ, pgs. 1-16, 71-79.

Stankey, George H.; Cole, David N.; Lucas, Robert C.; Peterson, Margaret E.; Frissell, Sidney S. The Limits of Acceptable Change (LAC) system for wilderness planning. General Technical Report INT-176. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station; 1985. 37 p.

U.S. Fish and Wildlife Service. 1994. Desert Tortoise (Mojave Population) Recovery Plan. U.S. Fish and Wildlife Service, Portland OR.

U.S. Fish and Wildlife Service. 1995. Final Environmental Impact Statement for Incidental Take Permit Issuance for Desert Tortoise, Washington County, Utah. U.S. Fish and Wildlife Service, Portland OR.

**Resources and Citations,  
continued**

United States Department of the Interior, Bureau of Land Management. 1999. Proposed General Management Plan and Draft Environmental Impact Statement for Red Rock Canyon National Conservation Area. U.S. Government Printing Office.

United States Department of the Interior, National Park Service. 1999. Zion National Park Draft General Management Plan/Environmental Impact Statement: Visitor Management and Resource Protection Plan. U.S. Government Printing Office.

Washington County, Utah. 1995. Habitat Conservation Plan. Washington County Commission, Washington County, UT.

Washington County, Utah. 1997. Washington County General Plan. Washington County, UT.

Washington County, Utah. 1997. Coordination Plan for Washington County's Urbanizing Region. Washington County, UT.

Washington County Water Conservancy District. 1999. Virgin River Management Plan. Washington County Water Conservancy District, St. George, UT.



## **Part VI: Appendices**

Appendix A: Designated Roads Within the Red Cliffs Desert Reserve

Appendix B: HCP Directives by Zone

Appendix C: Recreation Ecology and Human Impacts to Resources: A Primer

Appendix D: Ecology of the Desert Tortoise

Appendix E: Impacts of Recreation on the Desert Tortoise and Other Wildlife in the Red Cliffs Desert Reserve

Appendix F: Comments,  
Public Use Plan Draft  
March 14, 2000