GLEN CANYON NATIONAL RECREATION AREA

RESOURCE MANAGEMENT PLAN

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Prepared by: _____ Date 9/6/95

Approved
~~Recommended~~: _____ Date 9/6/95

I. INTRODUCTION

RECREATION AREA PURPOSE AND SIGNIFICANCE

Glen Canyon National Recreation area was established by Congress on October 27, 1972, (Public Law 92-593, 86 Stat. 1311). It was established to "...provide for public outdoor recreation use and enjoyment of Lake Powell and lands adjacent thereto in the states of Arizona and Utah and to preserve the scenic, scientific, and historic features contributing to public enjoyment of the area..." The Act further directs that "The Secretary shall administer, protect, and develop the recreation area in accordance with the provisions of the Act of August 25, 1916, (39 Stat.535; 16 USC 1 et seq.) as amended and supplemented..." (National Park Service Organic Act).

The recreation area comprises approximately 1,255,400 acres in the heart of the Colorado Plateau. The environment is semi-arid, receiving about 6-12 inches of precipitation a year, and elevation ranges from 3600 to 7400 feet. The recreation area includes 15 miles along the Colorado River below Glen Canyon Dam as well as Lake Powell (163,000 surface acres at full pool and elevation 3700 feet, and represents only 13 percent of the total acreage) which extends 186 miles upstream from Glen Canyon Dam with 1960 miles of shoreline. The Paria River enters the recreation area at Lees Ferry (located below Glen Canyon Dam) while four rivers flow into Lake Powell; the Colorado, San Juan, Escalante, and the Dirty Devil.

Within the recreation area is a continuous record of climatic change. Bedrock geology, shaped by erosion and uplift, is overlain with a continuum of alluvial and eolian deposition. Deposits from the Quaternary period include mega-fauna and flora from a spruce-fir environment. Rudimentary inventory work has resulted in identification of over 1,000 plants, 80 mammals, 200 birds, and 40 species of reptiles and amphibians.

Three endangered fish, as well as one being considered for listing, exist in the recreation area along with two listed birds and two plants. There are over 26 isolated buttes and mesas, supporting insular communities, and larger identified relict plant communities.

Cultural remains span the last 11,000 years. The area was an interface of cultures due to trade and proximity with evidence of Paleo Indian, Archaic, Fremont, and Anasazi cultures. The year-round human habitation 1,000 years ago probably exceeded today's. Archeological sites include lithic and ceramic scatters, habitation sites, and structures.

European man's history in the area began with the Dominquez and Escalante expedition in 1776 and continued through the explorer, settler, and prospector periods to the modern dam builder and river runner. Close historic, traditional, and cultural ties exist between the recreation area and at least eight modern American Indian tribes. The museum collection includes approximately 10,000 items of natural, cultural, and ethnographic significance.

ADMINISTRATION AND MANAGEMENT

Management of natural, cultural, and recreational resources in Glen Canyon National Recreation Area is complex as a result of the varied resources, authorized consumptive use, Native American concerns, and impacts on resources from over 3.5 million visitors. The recreation area is bounded by public land administered by the Bureau of Land Management (BLM); the Navajo Nation; the City of Page, Arizona; and three national parks: Capitol Reef, Canyonlands, and Grand Canyon. The average length of stay for visitors is 4.5 days. There are over 1.5 million visitor-nights spent camping on the shores of Lake Powell. Four percent (48,270 acres) of the recreation area lies in the State of Arizona with the remaining 1,207,130 acres in Utah.

The Bureau of Reclamation operates Glen Canyon Dam and reservoir for river regulation, irrigation, flood control, and generation of hydroelectric power.

Grazing is authorized in the enabling legislation and, at the present time, approximately 950,000 acres are being grazed. A Memorandum of Understanding (MOU) between BLM and the National Park Service (NPS) provides for BLM administration of the program in such a manner as to not conflict with the values and purposes of the recreation area. This requires NPS to establish management objectives for park resources that are impacted by grazing and grazing-associated activities.

The 1979 General Management Plan identifies four management zones: Natural, Recreation and Resource Utilization (RRU), Development, and Cultural. Each zone has prescribed management goals and objectives defining accepted activities and impacts on resources. There are two designated Research Natural Areas in the recreation area. Existing action plans that affect resources are listed in Appendix IX.

Hunting, trapping, and fishing are allowed except that the NPS may, after consultation with the appropriate State fish and game department, designate zones where, and establish periods when, no hunting, fishing or trapping may take place for reasons of public safety, administration, or public use and enjoyment.

The Mineral Management Plan (1980) identifies those areas open to consideration for mineral leasing and extraction. Within the RRU zone, 558,000 acres are so identified. There are no existing claims in the recreation area, but there are 34 leases and 17 lease applications. One privately-owned section is in the recreation area and the State of Arizona owns 491 acres in fee. The State of Utah has 82 school sections (41,000 acres) in fee and 10,000 acres of subsurface rights.

The recreation area contains six properties on the National Register. The only one that includes prehistoric resources, the Davis Gulch Rock Art Panel, has received extensive damage from lake inundation. Numerous districts, as well as individual sites, need to be studied for nomination to the Register.

Three periods of archeological research have taken place: exploratory and reconnaissance prior to 1950, eight years of salvage/pre-inundation surveys prior to the filling of Lake Powell, and studies since the early 1960's including survey and excavation associated with compliance and research.

Four cultural stages are represented: Paleo-Indian, Archaic, Anasazi, and Protohistoric. Approximately two percent of the recreation area has received intensive survey. Of the estimated 22,000 sites, approximately 2,250 have been recorded. The lack of a thorough inventory and staff to carry out required monitoring and stabilization on known sites is resulting in deterioration and loss of cultural resources due to vandalism, theft, unintentional visitor impacts, and livestock impacts on habitation sites and structures.

Recorded history began in 1776. The Lonely Dell Ranch, Lees Ferry, Spencer Steamboat, and Hole-in-the-Rock Trail National Register Districts include structures, a steamboat, and the trail constructed by European man.

The recreation area collection presently includes approximately 10,000 objects from Glen Canyon National Recreation Area and Rainbow Bridge National Monument. A Scope of Collection Statement exists (1990), but other planning documents are needed to manage the collection which is now stored at the recreation area as well as other National Park Service and educational institutions or museums.

An Ethnographic Overview and Assessment addressing the Navajo and Hop Indian Tribes (to be completed in 1991) is the first effort initiated to address ethnographic issues that influence recreation area management. The Navajo, Hopi, Ute Mountain Ute, Haulapai, Havasupi, San Juan Piute, Kaibab Piute, and Santa Domingo Pueblo tribes have historic, traditional, or cultural affiliations with the recreation area.

PURPOSE OF THE RESOURCE MANAGEMENT PLAN

This Resource Management Plan for Glen Canyon National Recreation Area describes the natural, cultural, recreation, ethnographic, and museum resources within the recreation area, as well as the ongoing and needed activities for preserving those resources. A wide variety of research, inventory, monitoring, compliance, interpretative, protection, and management activities are integrated into a comprehensive resource management program.

MANAGEMENT OBJECTIVES FOR RECREATION AREA RESOURCES

Identify and protect the scenic, scientific, and historic resources in Glen Canyon National Recreation Area.

Monitor environmental changes in the quality of the atmosphere, aquatic, and terrestrial environment resulting from activities within, and external to, the

area and develop actions or strategies to prevent degradation of recreation area resources.

Manage the recreation area in ways that interfere as little as possible with natural processes and do not cause loss of natural, cultural, recreational, or ethnographic resources.

Determine the significance of the recreation area's cultural resources and maintain the integrity of these resources.

Inventory and monitor the natural and cultural resources of the area to provide factual data on which to base management and development responses.

Maintain high water quality and perpetuate the natural flow of water.

Manage mineral and grazing use to preserve scenic, scientific, and historic features in conformance with enabling legislation.

Promote the recreation area's scientific values and encourage its use as an area for research.

Protect and allow appropriate use of museum objects.

Manage as de facto wilderness the 588,855 acres recommended for wilderness designation until Congress takes specific action for such in Glen Canyon National Recreation Area.

II. PRESENT STATUS OF NATURAL RESOURCES

NATURAL RESOURCES BASELINE INFORMATION

Most biotic and physical resources of Glen Canyon National Recreation Area have been inventoried to a minimum level, or "checklist" standard of information corresponding to partial fulfillment of "level of effort I" resource inventories as described in the draft NPS-75, Guideline for Natural Resources Inventorying and Monitoring. This level of inventory exists for vegetation, geophysical resources, mammals, birds, reptiles, sound levels, chemical factors, and human use other than recreation. Substantial inventories corresponding to NPS-75 "level of effort II" exist for soils, recreational use, air quality, and two protected species; the peregrine falcon and bald eagle. Inventories are largely lacking for invertebrates, rare plants, fish, non-vascular plants, and paleontological resources. A Geographic Information System (GIS) has been partially constructed (in the initial stages) and is in active development.

NATURAL RESOURCES

Vegetation

The recreation area is within the Colorado Plateau and supports a characteristic mosaic of desert-shrub, grassland, pinon-juniper woodland, riparian, and aquatic vegetation. Variations and ecotones exist based on hydrologic and elevational gradients. Local specialized plant communities are common at seeps (hanging gardens) and sites with unusual soil conditions. The region is noted for endemism. Introduced tamarisk, russian olive, and russian thistle have invaded extensively and present threats to native vegetation.

Wildlife

Because of habitat diversity, the recreation area supports quite a variety of animals. Eighty mammal species are known from the area, the largest being mule deer, bighorn sheep, and coyote. The Colorado River Basin serves as a migration corridor for birds, and bird life is varied (205 species are on the checklist). Reptiles are common and the insect fauna is poorly known, but is comparatively sparse due to the semi-arid environment. Wildlife inventories are incomplete and reference collections have not been made. Almost nothing is known of wildlife populations and trends except for a few species being intensively managed for recovery.

Aquatic Resources

The fish fauna of the recreation area has been extensively altered by man's activities, chiefly by introduction of non-native fish into the Colorado River System. Of the 29 fish species habitating in the recreation area, 21 were introduced. Little is known of the distribution and populations of the native fish except that three species are listed as endangered and one as a candidate species.

Water quality of the reservoir is monitored for a few parameters, but very little data is available on chemical constituents. Generally speaking, the lake is considered oligotrophic and has very good water quality except for shallow coves heavily used by recreationists. Potential problems exist due to the lake's position as a nutrient and trace contaminant trap for waters from the Upper Basin.

Streamflow data is inadequate for the Escalante River and numerous small perennial drainages throughout the area. Aquatic habitats supported by these springs and associated springs and seeps are critical resources.

Shoreline aquatic environments are subject to reservoir fluctuation and as a consequence are still developing and adapting to lake conditions.

Geology

Geologic features dominate the area's landscape, including canyons, buttes, mesas, plateaus, igneous mountains (laccoliths), and special forms such as arches, windows, and waterpockets. Jurassic sandstones are the main surface formations. Geologic hazards along the shore of Lake Powell exist and are partially inventoried. These are mainly associated with instability caused by a fluctuating reservoir. A few studies have been done on seismicity, but the region is not active. Digital topographic quadrangles will soon be obtained for the entire recreation area, forming the basis for a GIS.

Soils

Sandy, shallow soils are prevalent. These soils are sensitive to disturbance and have poor reclamation potential. Third-order soil surveys are available for the entire unit; these have been mapped in digital form. Stable soils are known to be a critical factor for maintaining terrestrial and aquatic resources in the recreation area. In drainages where the soils have been extensively disturbed by grazing, the channels have become silted in and flow reduced.

Air Resources and Aesthetics

The recreation area is located in a region of good to excellent air quality, but which is subject to contamination from a large, local coal-fired power plant and air masses from the west bearing particulate loads. The unit is a Class II Federal Air Quality area where standards are generally maintained except near the power plant. Visual range averages 150-170 km. Threats to air quality exist from a power plant (NOx, SOx, visibility degradation), regional development of minerals (especially coal), and future power plants.

Air quality and scenic resources are known to be important attributes to the visiting public, and consequently must be adequately protected to maintain recreational quality.

Endangered, Threatened, and Rare Species

The endangered peregrine falcon is present throughout the recreation area and is expanding its population; however, evidence is great that pesticide loads and eggshell thinning in the birds are still significant. The falcon population has been monitored in recent years on a "special project" basis. The threatened bald eagle winters in the recreation area and is monitored annually, but additional research is needed on food and habitat requirements. Three endangered species of fish exist in the recreation area: the Colorado squawfish, humpback chub, and boneytail chub (the razorback sucker is a candidate species). Information on the populations, habitat use, and reproductive status of these species is severely limited. One plant species in the recreation area is endangered and another is threatened. Nearly two dozen plant species which could occur in the park are candidates for listing as threatened or endangered. Inventory and monitoring programs need to be instituted on a long-term basis for all of these species.

Recreational Opportunities and Use

Recreational use data are collected parkwide at the ranger districts and from the concessioners. Recreational use studies have also been completed for Lake Powell (1988), backcountry areas (1989), and the Lees Ferry subdistrict (1985-1986). A carrying capacity study for Lake Powell boating use has been completed (1987), and a study of the recreational capacity of the Lees Ferry subdistrict is underway. A zoning system for recreational opportunities, based on the "Recreational Opportunities Spectrum" concept, has been developed and used in several planning and assessment documents. A study of the recreational impacts on the San Juan River corridor is underway. A Backcountry Management Plan is lacking.

Consumptive Uses

Legislatively authorized consumptive uses in the recreation area include mineral leasing, grazing, hunting, trapping, and fishing. A Minerals Management Plan has been written for Glen Canyon National Recreation Area. There are 34 existing oil and gas leases covering 47,000 acres and 17 oil and gas lease applications (26,000 acres) under consideration. One proposed exploration well is in review. No mining claims exist in the recreation area, which is now closed to filing, and there are no lease applications for non-hydrocarbon minerals. A major tar sand deposit extends into the recreation area at Orange Cliffs. This is an area where development proposals have been filed in the past and could resurface at any time.

Grazing takes place on approximately 950,000 acres of the recreation area and affects all habitats. A Grazing Management Plan is in preparation that will establish NPS objectives for managing this use; meanwhile, agreements between the NPS and BLM are in place and BLM Allotment Management Plans are current for most areas. Grazing has taken place on recreation area lands for many years, and it is certain that many changes in vegetation, soils, and wildlife communities have been induced. The majority of allotments are rated by the BLM as being in "fair" or "poor" condition, and there are conflicts with recreation in some locations.

Hunting, trapping, and fishing are harvest programs governed by state regulations for bag limits and licensing requirements. State officials also perform population estimates, carry out enforcement activities, and have instituted various management programs. There is currently little or no NPS involvement with managing these programs.

III. NATURAL RESOURCE MANAGEMENT PROGRAM

OVERVIEW OF CURRENT PROGRAM AND NEEDS

Current natural resource management activities emphasize program development and coordination, with 3.5 professional FTE devoted to these activities and certain monitoring programs. Resource inventory, monitoring, and protection are inadequate in virtually all areas. Additional management capability is critically needed for fish and wildlife resources, river recreation, and grazing (vegetation and soil protection). Resource protection needs are especially acute in terrestrial backcountry areas.

IV. PRESENT STATUS OF CULTURAL RESOURCES

CULTURAL RESOURCES BASELINE INFORMATION

The status of cultural resource documentation is indicated on the Cultural Resource Documentation Checklist. (Appendix III)

CULTURAL RESOURCES

Sites

Definition: Sites are distinguishable pieces of ground upon which occurred some historic or prehistoric event or which are significantly associated with historic or prehistoric events, persons, or cultures, or which were subjected to sustained human activity.

Approximately two percent of the 1.2 million acres in the park has been intensively surveyed for cultural resource sites. Nearly 2,250 sites have been recorded, the great majority of which date to the prehistoric period. Using an estimate of 14 sites per square mile, approximately 22,000 sites have not yet been recorded.

Of the approximately 1,700 sites recorded during the pre-inundation studies, it is estimated that 60 percent, or 1,120 sites, were inundated by the rising waters of Lake Powell. Approximately 1,000 sites remain in the present site pool of recorded sites, 600 from pre-inundation studies and 400+ from studies since then.

Most prehistoric sites date to the late formative period (Pueblo II - Pueblo III) of the Anasazi culture, although Paleo-Indian and Archaic period occupations have been identified in limited sections of the park. Proto-historic Native American sites are known, but rare.

Historic sites, relating to early pioneer ranching and mineral development, were mostly destroyed with the filling of the Glen Canyon Reservoir. A significant complex is still intact, however, at Lees Ferry below the dam. The Wolverton cabin, dating to early ranching in the Orange Cliffs, still stands in the northern part of the park.

Six sites in the park are currently listed on the National Register (Lees Ferry, Lonely Dell Ranch, Defiance House, Hole-in-the-Rock Trail, the Davis Pool Pictograph Panel, and Spencer Steamboat). This does not reflect the high research and interpretive values represented in the overall site pool. Numerous National Register nominations are needed.

Although precise figures are not available, the majority of sites in the Glen Canyon National Recreation Area site pool are considered to be in good to fair condition. The primary natural impact agents include weathering, plant and

animal disturbance, and structural decay. The most significant are impacts caused by man, including digging, graffiti, vandalism, and damage by domestic cattle. Cattle damage is especially troublesome because cattle tend to cluster in shady alcoves, which also contain the most significant cultural sites. Several incidents of criminal site destruction have been recorded in the park, although no ARPA prosecutions have been initiated to date.

Especially heavy damage has been noted for sites close to the shoreline of Lake Powell where hundreds of thousands of people camp for several days at a time. Loss of structures, digging in and sloughing of midden deposits, and malicious defacement and destruction of ruins are common. The rate of site loss is especially alarming when one considers that most areas have only been subjected to such intensive impacts for 12 years.

Structures

Definition: Structures are works of humans, consciously constructed to serve some form of human activity. The structures are usually immovable by nature or design.

Sites with structures are relatively rare at Glen Canyon, representing only 20 percent of the sites recorded prior to 1984 (513 sites). Of these sites, 92 percent had five structures or fewer. Of the 400+ sites recorded since 1984, only 19 percent, or 80 sites, had structures, and no sites had more than five structures.

It is estimated that only 40 percent, or 205 of the 513 sites with structures recorded prior to 1984, survived the inundation. These sites, together with the 80 sites with structures recorded since 1984, yield a total estimate of 285 recorded structural sites. This represents approximately 29 percent of the current total estimated site pool of 1,000 recorded sites. Of these recorded structural sites, only 11 percent, or 30 sites, have received stabilization assessment or evaluation.

Of the approximately 650 recorded structures in the park which have survived inundation, 69 percent have not been evaluated for over 30 years. Only 17 percent, or 109 structures, have received stabilization assessment or evaluation.

Projecting to the total estimate site population of 22,000 sites, there are an estimated 4,309 sites within this group. Using an estimate of three structures per site, we can estimate a total number of structures at near 13,000.

It is highly probable that no additional sites having over ten structures will be found in the park because the areas where such sites are most likely to occur have all been inundated. This places a high premium for protection and preservation on all known samples of sites of this type. Sites with more than five structures are no doubt almost as rare.

Structural sites, especially larger sites with greater complexity in construction techniques, are important for the technological and cultural information contained in their architectural components. Virtually any structural site would be considered eligible for the National Register of Historic Places. Many structural sites also have outstanding interpretive values and receive extremely heavy visitation during peak visitation in the summer months.

The overall condition of structural sites is considered poor. Impacts include natural weathering, and plant and animal disturbance, as well as domesticated cattle trampling, visitor graffiti, digging, climbing, and vandalism. As a rule, structural components are in poorer condition than non-structural components because of their high visibility and fragile construction.

At least 15 historic structures are present at Lees Ferry. Most of these have received some type of stabilization work in the past. Their condition is currently considered stable overall, although over $100,000 in maintenance needs were identified in 1990.

Cultural Landscapes

Definition: A cultural landscape is a geographic area, including both cultural and natural resources, prehistoric and historic archeological resources, and the wildlife or domestic animals therein, that has been influenced by or reflects a human activity, or was the background for an event or person significant in human history.

No cultural landscape inventory has been completed for the park. No landscapes have been formally identified within the park. It is probable that several types of landscapes will be found associated with historic and ethnographic use.

Ethnographic Resources

Definition: Ethnographic resources, in this context, are park resources that have traditional subsistence, sacred ceremonial or religious, residential, or other cultural meaning for members of contemporary park-associated ethnic groups, including Native Americans.

No ethnographic studies have been completed for the park as of this writing. A limited ethnographic Overview and Assessment is underway in 1990-1991 addressing the Navajo and Hopi Tribes. Glen Canyon National Recreation Area is bordered to the south by the Navajo Indian Reservation. Navajo, Hopi, Ute Mountain Ute, Kaibab Piute, San Juan Piute, Hualapai, Havasupai, and Santo Domingo Pueblo Native American groups are considered to have potential traditional, religious, or cultural interests in park lands. Anglo descendents of early pioneers, ranchers, miners, prospectors, and river runners may also have socio-cultural ties to the park.

Objects

Definition: Objects are material things possessing functional, aesthetic, cultural, symbolic, and/or scientific value. An object is usually movable by nature or design.

The following objects are currently in the Glen Canyon National Recreation Area catalog record system, organized by object type: archeology-2031, ethnography-40, history-384, archive-166, biology-952, paleontology-1325, geology-0.

The collections are considered to be in good condition overall. However, the lack of dedicated storage space has resulted in poor storage security and loss of several objects in the past; and secure, environmentally-controlled space is urgently needed.

Several large collections are accessioned in the Glen Canyon National Recreation Area system, but are stored out of the park with no catalog information available at the present time. These include paleontological specimens at Northern Arizona University, and archeological collections at Midwest Archeological Center and Western Archeological Center.

Catalog backlogs include a large historic photo collection stored in the park and a collection of historic objects at Lees Ferry. A backlogged collection of archeological materials at Northern Arizona University is currently undergoing processing. Due to an extremely restrictive collections policy, the backlog of objects to catalog is not growing appreciably; however, the park collections are not meeting the needs of the interpretation or resource management staff under the present conditions.

CULTURAL CONTEXT/THEME

Listed below are major cultural themes represented by sites and collections from the park. The themes are taken from "History and Prehistory in the National Park System and the National Historic Landmarks Program," dated 1987. After each theme, the types of sites in the park which relate to each theme are listed, together with museum objects as appropriate.

I. Cultural Developments: Indigenous American Populations

A. The Earliest Inhabitants

1. The Early Peopling of North American: artifact scatter

10. Archaic Adaptations of the Southwest: artifact scatters, middens

19. Early Man and Late Pleistocene Environmental Adaptations: possible alcove deposits

B. Post-Archaic and Pre-Contact Developments

7. Southwestern Hunters and Gatherers: archaic, Basketmaker sites, all types

8. Southwestern Farmers: formative period sites, all types

9. Post-Archaic Adaptations: formative period sites, all types

C. Prehistoric Archeology: Topical Facets

1. Prehistoric Architecture/Shelter/Housing

2. Prehistoric Technology

3. Prehistoric Social and Political Organizations

4. Prehistoric Science/Intellectual Developments

5. Prehistoric Arts/Handicrafts

6. Prehistoric Communication

7. Prehistoric Diet/Health

8. Prehistoric Economics/Trade

9. Prehistoric Warfare

10. Prehistoric Religion, Ideology, and Ceremonialism

11. Prehistoric Social Differentiation

12. Prehistoric Settlements and Settlement Patterns

15. Prehistoric Transportation and Travel

16. Prehistoric Agriculture/Plant Domestication/Horticulture

18. Prehistoric Demographics

19. Prehistoric Cultural Change

21. Major Contributions to the Development of Culture Histories

22. Major Contributions to the Science of Archeology

23. Paleoecology

24. Prehistoric Human Physical Remains

Sites: Primarily formative period, with middens, rock art, features, perishable remains, structures, hand-and-toe holds, skeletal materials.

D. Ethnohistory of Indigenous American Populations

1. Native Cultural Adaptations at Contact

e. Native Adaptations to Southwestern Environments: sites dating to early Hopi, Navajo, Piute use.

4. Native Contributions to the Development of the Nation's Cultures

b. Native Roles in decorative and Fine Arts, Literature, and Music: Navajo rugs and baskets

II. European Colonial Exploration and Settlement

A. Spanish Exploration and Settlement

3. Southwest: River crossings used by Dominquez-Escalante expedition

X. Westward Expansion of the British Colonies and the United States, 1763-1898

A. British and United States Explorations of the West

3. Scientific and Topographic: locations explored by John Wesley Powell expedition, and others

D. Western Trails and Travelers

5. Mormon Migration and Settlement: trails, historic ranch, river crossings

E. The Mining Frontier, 1750-1900

3. Southwest: Arizona aned New Mexico: campsites, locations of mineral extraction, artifacts from inundated sites

G. The Cattlemen's Empire

3. Ranches: old line shack, inscriptions, cowboy camps, trash dumps

XIV. Transportation

B. Ships, Boats, Lighthouses, and Other Structures: shipwreck, ferry crossing, first motorboat up the Colorado

G. Automobiles, Buses, Wagons, and Highways: trails relating to Mormon migration, major bridges across the Colorado

site due to undermining of talus monoliths caused by talus slope erosion, and reflects park management commitment to the preservation of large structural sites.

Unfunded activities which are also considered critical to the long-term protection of structures include several stabilization projects; cyclic maintenance of structures; preparation of Historic Structure Preservation Guides, Historic Structures Reports and Historic Furnishings Reports; updating the List of Classified Structures; preparation of a parkwide Stabilization Assessment; and completion of emergency structural repairs.

These projects relate to the following systemwide cultural resource issues: Inadequate Planning (C01), Historic Structure Reports (C05), Historic Structure Preservation Guides (C06), List of Classified Structures (C07), Stabilization and Cyclic Maintenance (C12), Visitor Impacts (C18), Emergency Stabilization (C21), and Cultural Resource Management (C25).

Cultural Landscapes

Cultural landscapes in the park are subject to deterioration caused by such projects as new construction, road upgrades, rehabilitation of existing structures, mineral development, and livestock range improvements. The primary issue in this program is the lack of inventory and identification efforts.

The primary management activity identified in this plan is the completion of a parkwide cultural landscape inventory. This is necessary before any short- or long-term funding commitment can be made. It relates to systemwide cultural resource issue Cultural Landscape Report (C11).

Ethnography

Ethnographic issues include the need to develop an active consultation program with potentially interested Native American and Anglo socio-cultural groups, and the need to complete several studies for the purpose of identification of Native American values.

Staff time sufficient to initiate consultation with the Navajo Tribe is funded for FY91. Unfunded studies include Traditional Use Studies, Ethnohistories, Overview and Assessments, Oral Histories, consultation with non-Navajo tribes, and Ethnographic Resource Inventories.

These relate to the systemwide cultural resource issue Ethnographic Overviews and Assessments (C04).

Objects

The primary issue concerning the museum collection is the lack of secure, environmentally-controlled storage space. Additional concerns are the need to monitor off-site collections, develop Cooperative Agreements with non-NPS facilities, and complete specific object conservation projects.

Given current staffing levels, only accessioning and preparation of annual reporting documents is being accomplished. Unfunded activities include photographing museum collection, artifact conservation projects, preparation of Collection Management and Storage Plans, cataloging of historic photos and artifacts at Lees Ferry, and monitoring of off-site collections.

These projects relate to systemwide cultural resource issues concerning Cataloging of Museum Objects (CO3), Preparation of Plans and Studies (CO9), Conservation of Museum Objects (C15), and Storage of Museum Objects (C16).