

# COOPERATIVE PARK STUDIES UNIT

## UNIVERSITY OF IDAHO

### A METHOD FOR SURVEYING THE STATE OF THE PARKS <sup>1</sup>

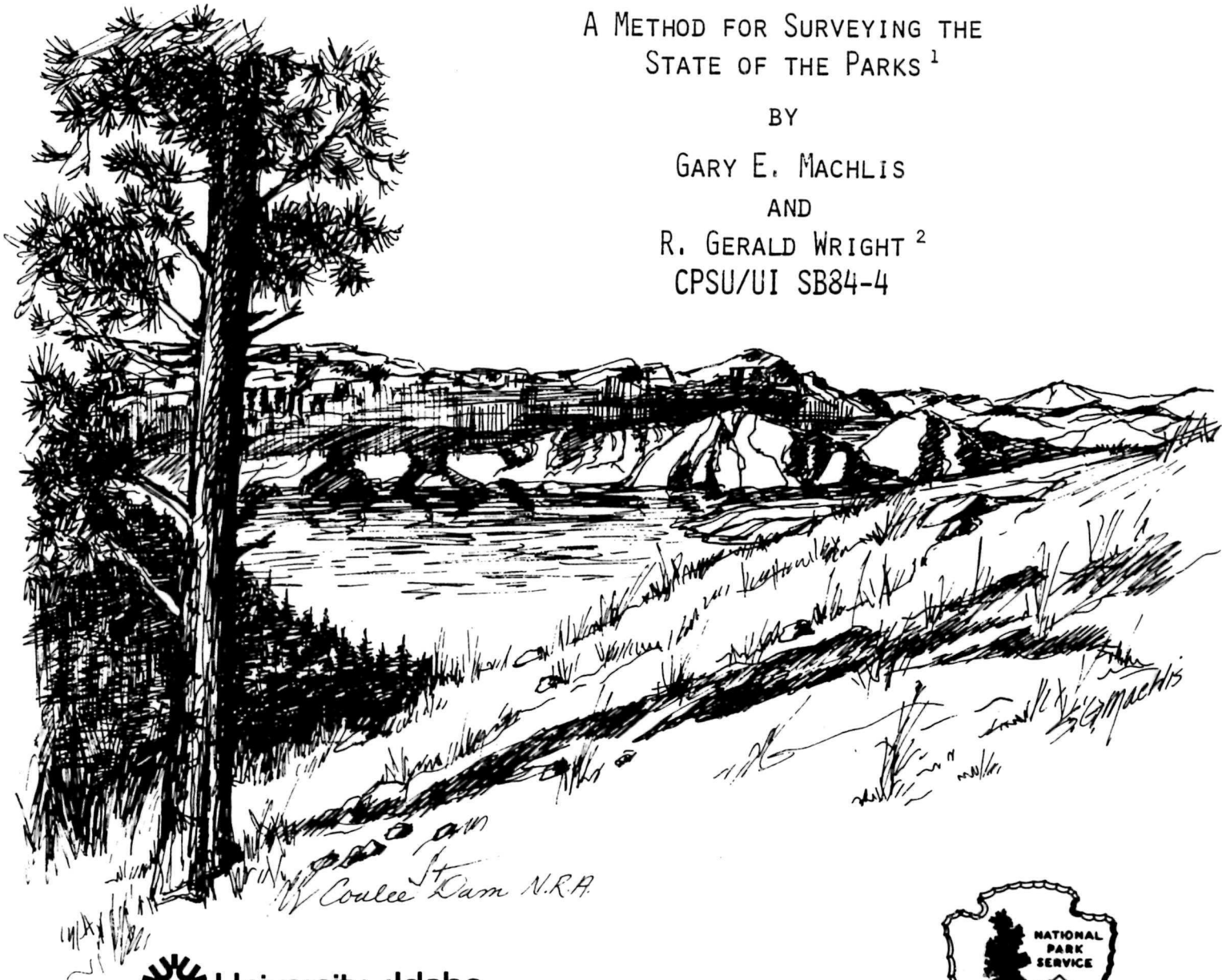
BY

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## INTRODUCTION

The National Park Service was established in 1916, and has become the responsible agency for preserving and managing a wide range of natural landscapes and cultural sites throughout the country. Unfortunately, the maintenance of these ecosystems has become increasingly difficult. Natural changes and fluctuations due to succession, climate and population dynamics continually work to disrupt the stability of park environments. Many of the ecosystems within parks are extremely susceptible to overuse and can be easily damaged. Changes in park ecosystems as a result of industrial activities and resource development both within and adjacent to parks are even more difficult to deal with, and there is increasing evidence that such activities are adversely affecting park resources at an accelerating rate. An ability to monitor the ecological condition of parks, recreation areas and historic sites is important if the NPS is to continue to wisely manage these lands.

The purpose of this study was to develop an efficient and reliable means to survey the ecological status of units within the National Park System. This objective was carried out through the development of a questionnaire which enumerates potential problems facing natural and cultural resources of the parks, and asks managers to estimate their occurrence and characteristics.

The report begins by briefly tracing the history of efforts to monitor resource problems in the national parks. This is followed by a review of literature pertaining to questionnaire design and the theoretical framework behind the development of the State of Parks Survey. We then discuss the methods employed in designing the questionnaire, describe its various

pretests and revisions, and suggest its limitations. Next, the techniques for data analysis are presented, along with a copy of the questionnaire, the software for computer analysis, and recommendations resulting from the study.

## BACKGROUND

### The Problem

Many early national parks were established in an attempt to save unique resources from market hunters, land speculators, treasure hunters, and timber barons (Runte 1979). A chief duty of the first park managers was to protect the resource. The formal establishment of the NPS in 1916 legislatively established this basic philosophy of resource protection, along with visitor use.

For the first 25 years of NPS management, the policy of resource protection was taken literally. Resources were viewed as fixed entities, and little change was permitted. For example, fires, irrespective of origin, were rigidly suppressed in all parks, and predator control programs for species such as cougar, coyote, and wolf were undertaken in Mt. McKinley, Glacier, Grand Canyon, Yellowstone, and many other large parks (Wright et al. 1933).

To protect park resources, the NPS initiated standard procedures for monitoring, or more specifically, observing and documenting the ecological status of park resources. In the early years of the NPS, particularly in the large western parks, rangers were required to travel a certain amount of miles within their district each month. In doing this, they kept detailed logs of their observations, which were incorporated into the superintendent's annual reports. These early observations were essential in developing a knowledge of the then little understood park resources, and were a valuable means to document changes in park biological systems. These early observations also often represent the only baseline data available to contemporary scientists seeking to reconstruct historic landscapes in parks,

or to analyze the past condition of various plant and animal resources (Houston 1982; Keating 1983).

As diligent as the early rangers were, the highly qualitative nature of their descriptions and lack of proper uniformity among observers diminishes the usefulness of much of these data. The early systematic observations provided little overview from an ecosystem perspective, and many problems were neglected or went unnoticed. It was not until the early 1930s that the ecological effects of management activities such as predator control and fire suppression became apparent to NPS biologists.

In 1933, the NPS published its first monograph describing wildlife management problems in the national parks (Wright et al. 1933). It was a landmark document, and in essence, the first 'threats to the parks' study. Wright argued that habitat was not a fixed entity that should be preserved in a given state, but that change was natural in biological communities. He also recognized the threats posed by exotic species and human activity both within and external to the parks.

Some of the recommendations in this early report (such as banning predator control) were undertaken immediately, but most appeared unacceptable to management and traditional views prevailed (Stottlemeyer 1981). Over the next thirty years, the needs of resource management and science in the parks were generally neglected (Wauer and Supernaugh 1983). Reasons include the personnel and funding shortages caused by World War II, and the explosive increase in park visitation in the 1950s which diverted funds into visitor facilities. The untimely death of George Wright in 1936 also removed a leading advocate of park resource management. Conditions in the 1950s were

such that Sumner (1967) described resources in parks as "biological timebombs. . .ticking through all the years of inattention."

Concerns about the condition of natural resources in the parks surfaced again in the 1960s. At that time, two evaluations of the science and natural resource management programs of the NPS were undertaken; one by the Secretary's Advisory Board on Wildlife Management (Leopold et al. 1963), and one by the National Academy of Sciences Advisory Committee to the NPS (Robbins et al. 1963). Both reports restated the conclusions reached by Wright et al. (1933). However, they received considerably more attention. The Robbins' Report was responsible for the initiation of several programs to monitor and inventory the resources of the parks. Based on the recommendations of the Leopold Report, several attempts were made to reintroduce previously extirpated species.

The era of 'the environment' that came about in the early 1970s contributed to a growing awareness of the role of ecological processes in the management of park resources (Bratton and White 1980; Dolan et al. 1978). There was renewed pressure on the NPS and related agencies to address the deterioration of park natural and cultural resources. A second Secretarial Advisory Board was convened (Allen et al. 1981) to review and make recommendations on wildlife problems and management needs in particular parks. Again, its recommendations were similar to those of earlier studies.

Of great significance was the increased Congressional interest in evaluating the condition of NPS resources. Under the direction of the Washington Office of Science and Technology, the NPS (1980) conducted the first service-wide examination of threats to the U.S. parks. A survey

questionnaire was sent to all 326 units in the system. In the first part of the questionnaire, potential threats were listed under seven major categories such as air pollution and aesthetic degradation. Respondents were requested to indicate how adequately each threat was documented, whether the source of the problem was internal or external to the park, and if it was addressed in the park resource management plan. If a threat was reported, respondents were further asked to list its specific sources and the resources that were impacted.

The report concluded that no parks in the system were immune to threats that were causing irreversible damage and that would require immediate action to amend. The report found that the sources of more than 50 percent of the reported threats were external to the parks; that threats located within park boundaries were significantly impacting park resources; and that 75 percent of the reported threats were inadequately documented.

The magnitude, scope, and prevalence of the problems revealed by this report surprised and alarmed many people. Following the 1980 report, Congress requested the NPS to prepare a second document outlining means to prevent and mitigate the problems described in the 1980 study. This second report (NPS 1981) was submitted to Congress in 1981 and identified numerous measures underway or anticipated to address the problems (Wauer and Supernaugh 1983).

Congressional interest in developing a means to better understand and document the relationships between potential adverse activities within and outside a park, and the resources of a park, remained high. This interest was summarized in the introduction of several Congressional bills, the most

recent of which is H.R. 2379; "The National Park System Protection and Resources Management Act of 1983." It states that . . .

the welfare and integrity of the natural and cultural resources of the National Park System are being seriously degraded. . . and that no comprehensive process exists for the gathering of data, the identification, analysis, and documentation of trends, and the identification of problems regarding the condition of the National Park System's natural and cultural resources, and for the development of a program to prevent and reverse the degradation of the natural and cultural resources of the National Park System.

The present study is an outgrowth of NPS concerns to address the needs expressed in that and previous Congressional bills.

U.S. National Parks are not the only protected ecosystems that face critical resource problems, and a few surveys of other areas have been conducted. A study documenting resource management problems facing parks throughout the world was recently undertaken by the University of Idaho Cooperative Park Studies Unit, with support from the World Wildlife Fund-U.S. (Tichnell and Machlis 1984). This study sampled 135 national parks, chosen to facilitate comparisons of problems among parks in countries at different stages of economic development, in different biomes, and that were affiliated with different management programs. A mail questionnaire was used to survey managers about natural resource problems in each of the selected parks. The study revealed substantial and diverse threats to the natural resources of national parks world-wide. Many threats were not well documented, were influenced by activities outside park boundaries, and were caused by man.

A similar study of state parks was undertaken by the State of California in 1983 (State of California 1983). This study considered 73 potential types

of threats organized into seven categories, five dealing with the natural system, one with esthetic values, and one dealing with management and administration. It covered all 300 units of the California State Park System. The study found that virtually every unit had known or suspected threats to the natural or scenic resources. Human activity was identified as the cause of more than 75 percent of all reported threats, and 33 percent of all reported threats occurred entirely within park boundaries. Hence, the use of such surveys in tracking the status of parks and preserves has recently increased.

### The Use of Mail Surveys

The mail survey is a common research tool in the social sciences, and in the applied fields of public polling, market research and advertising. It has significant advantages—in sampling certain populations, avoiding interviewer interference, and in cost. It also has disadvantages—potential bias from non-response, limited follow-up opportunities, and lengthy time requirements. Table 1 compares mail surveys to other techniques, and illustrates that for compiling state-of-the-parks data from all NPS units, the mail survey may be preferable.

A large literature on the mail survey exists. General research texts given often include chapters on survey design (Kerlinger 1965; Sellitz et al 1959; Miller 1970) and specialized texts are also available (Oppenheim 1966; Erdos 1970; Berdie and Anderson 1974; Hyman 1975; Dillman 1978). Studies have examined ways to improve response rate (Dillman 1972), the impact of survey structure and question ordering (Bauer and Meissner 1963; Bradburn and Mason 1964), mailing procedures (Alluto 1970) and effective questionnaire length (Sheth and Roscoe 1975).



Table 1. Rating of Face-to-Face Interviews, Telephone Interviews, and Mail Questionnaires for Selected Performance Characteristics.

Performance Characteristics	METHOD			Performance Characteristics	Face-to-Face	Mail	Telephone
	Face-to-Face Interviews	Mail Questionnaires	Telephone Interviews				
I. Obtaining a Representative Sample				4. Success with controlling sequence.	High	Low	High
A. Known opportunity for all members of population to be included in the sample.				5. Success with tedious or boring questions.	High	Low	Medium
* 1. Completely listed populations.	High	High	High	* C. Success in avoiding item non-response.	High	Medium	High
2. Populations which are not completely listed (e.g., household occupants).	High	Medium	Medium	D. Insensitivity to questionnaire construction procedures.	High	Low	Medium
* B. Control over selection of respondents within sampling units.	High	Medium	High	III. Obtaining Accurate Answers			
* C. Likelihood that selected respondents will be located.	Medium	High	High	* A. Likelihood that social desirability bias can be avoided.	Low	High	Medium
D. Insensitivity to substitution of respondents and households.	Medium	Low	Low	* B. Likelihood that interviewer distortion and subversion can be avoided.	Low	High	Medium
* E. Response rates.				C. Likelihood that contamination by others can be avoided.	Medium	Medium	High
1. Heterogeneous samples (e.g., general public).	High	Medium	High	* D. Likelihood that consultation will be obtained when needed.	Medium	Medium	Low
2. Homogeneous, specialized samples (e.g., agency directors, ministers, students).	High	High	High	IV. Administrative Requirements			
F. Likelihood that unknown bias from refusals will be avoided.	High	Low	High	* A. Likelihood that personnel requirements can be met.	Low	High	High
II. Questionnaire Construction and Question Design				B. Potential speed of implementation.	Low	Low	High
* A. Allowable length of questionnaire.	High	Medium	Medium	C. Keeping costs low.			
B. Type of question.				* 1. Overall potential for low per interview costs.	Low	High	Medium
* 1. Allowable complexity.	High	Medium	Low	* 2. Insensitivity of costs to increasing geographical dispersion.	Low	High	Medium
2. Success with open-ended questions.	High	Low	High				
3. Success with screen questions.	High	Medium	High				

\*Special State of the Parks Survey Requirements. Adapted from Dillman (1978)

The literature is fragmented, and suggests that no one characteristic will determine the success or failure of a mail survey. In response, Dillman (1978) has developed a "Total Design Method" (TDM) for questionnaire design and administration. Its premise is that. . .

to maximize both the quantity and quality of responses, attention must be given to every detail that might affect response behavior. The TDM relies on a theoretically based view of why people do and do not respond to questionnaires and a well-confirmed belief that attention to administrative details is essential to conducting successful surveys (Dillman 1978:viii).

This design method has been tested in over 50 surveys, and results have been noteworthy. The average response rate was 74 percent for the surveys, and non-response for individual items was approximately two percent. Further, the TDM method has allowed the administration of lengthy and sometimes complex surveys.

The TDM method begins with the development of a general set of questions, based on a sound theoretical framework. That is, there must be a theory-based rationale underlying construction of the questionnaire. Questions are then revised to improve validity, clarity and precision. The physical construction of the questionnaire is given special attention, including design, layout, printing and so forth. Screening questions, the use of arrows, graphics and different typeface are all details included in the TDM.

Once a TDM questionnaire is developed, a set of pretests are required—including evaluation by other specialists and a trial run with potential respondents. Table 2 lists several of the evaluation criteria. Based on the pretests, the TDM questionnaire is revised and made ready for

implementation. The State of the Parks Survey followed as closely as possible the TDM method. Hence, we turn to a brief discussion of the theoretical framework underlying the survey.

Table 2. Criteria for Evaluating the Questionnaire.

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Is each of the questions measuring what it is intended to measure?

Are all the words understood?

Does each close-ended question have an answer that applies to each respondent?

Does the questionnaire create a positive impression, one that motivates people to answer it?

Are questions answered correctly? (Are some missed, and do some elicit uninterpretable answers?)

Does any aspect of the questionnaire suggest bias on the part of the researcher?

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- adapted from Dillman (1978)

## THEORETICAL FRAMEWORK

National parks have often been categorized and managed as single and separate entities (Garratt 1982). However, as the inextricable link between parks and their surrounding environs has become apparent, a new paradigm recognizing parks as systems has evolved. As stated by Hart in A Systems Approach to Park Planning:

Within a given land area, all parks, no matter how large they may be, or for what purpose they were established, are related to each other, to the use of resources in the landscape which includes them, and to the society which supports them (1966:XI).

This 'systematic paradigm' implies an ecological approach. Indeed, the concept of viewing environmental systems, holistically rather than as a collection of unrelated objects, forms the foundation of ecology. Because of the importance of Homo sapiens in parks systems (as visitors, inhabitants, or managers), it is a *human* ecological perspective that is implied.

The human ecological perspective has been applied to parks (Darling 1969; Machlis and Field 1981; Machlis and Field 1984). The key components that make up a park, recreation area or historic site can be analyzed as subsystems of the park; the park is imbedded in a regional ecosystem and is influenced by the population, organization, technology and environment that surrounds and interacts with it.<sup>1</sup> Likewise, the biophysical and social systems of a park can influence regional populations, environments and so forth. Figure 1 illustrates this idea.

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<sup>1</sup>The typical problems of systems analysis exist: boundaries are sometimes difficult to define, linkages may be complex, and the structure of the system may change over time. For a discussion of these problems, see Miller (1979).

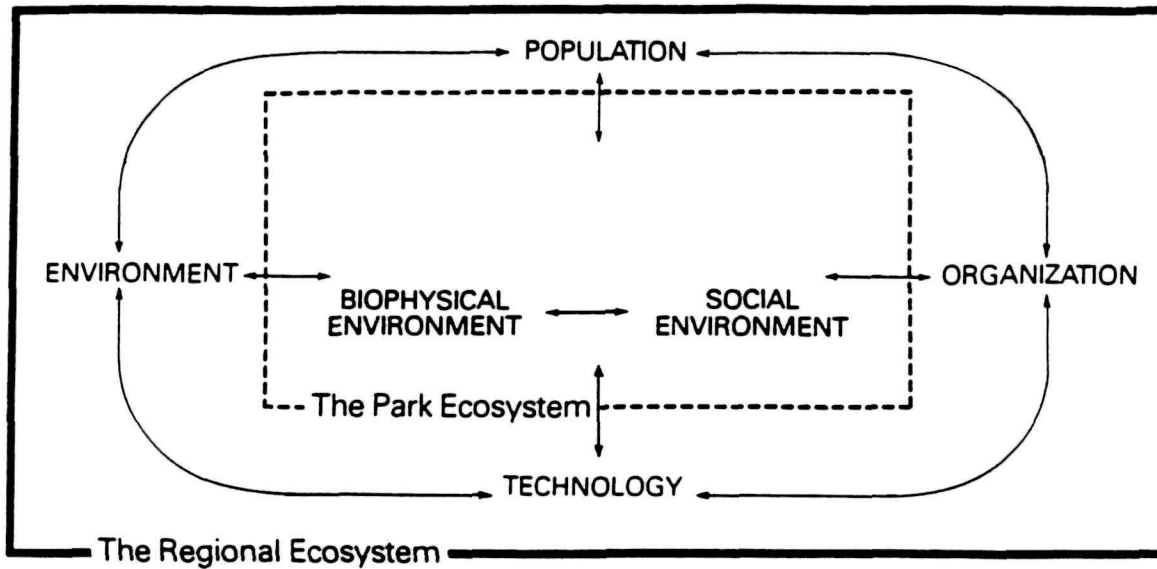


Figure 1. Conceptual Diagram of Park Ecosystem.

The components of a park system can be further specified, and several subsystems emerge as important. These include air, water, soil, vegetation, animal life, cultural resources, management and administration, and visitors (Tichnell and Machlis 1984). Between these subsystems, there is a flow of energy, materials, information, money and population. Figure 2 illustrates key relationships (for a detailed discussion of this and other park models, see Wright and Machlis, in press). Although linkages exist between these subsystems, problems associated with one subsystem may not impact all others similarly. Hence it is more useful to examine resource

problems associated with particular subsystems, than for the park system as a whole. For example, organic pollution may cause unacceptable changes in the water subsystem, acceptable change in the soil subsystem, and little or no change in the cultural resources subsystem.

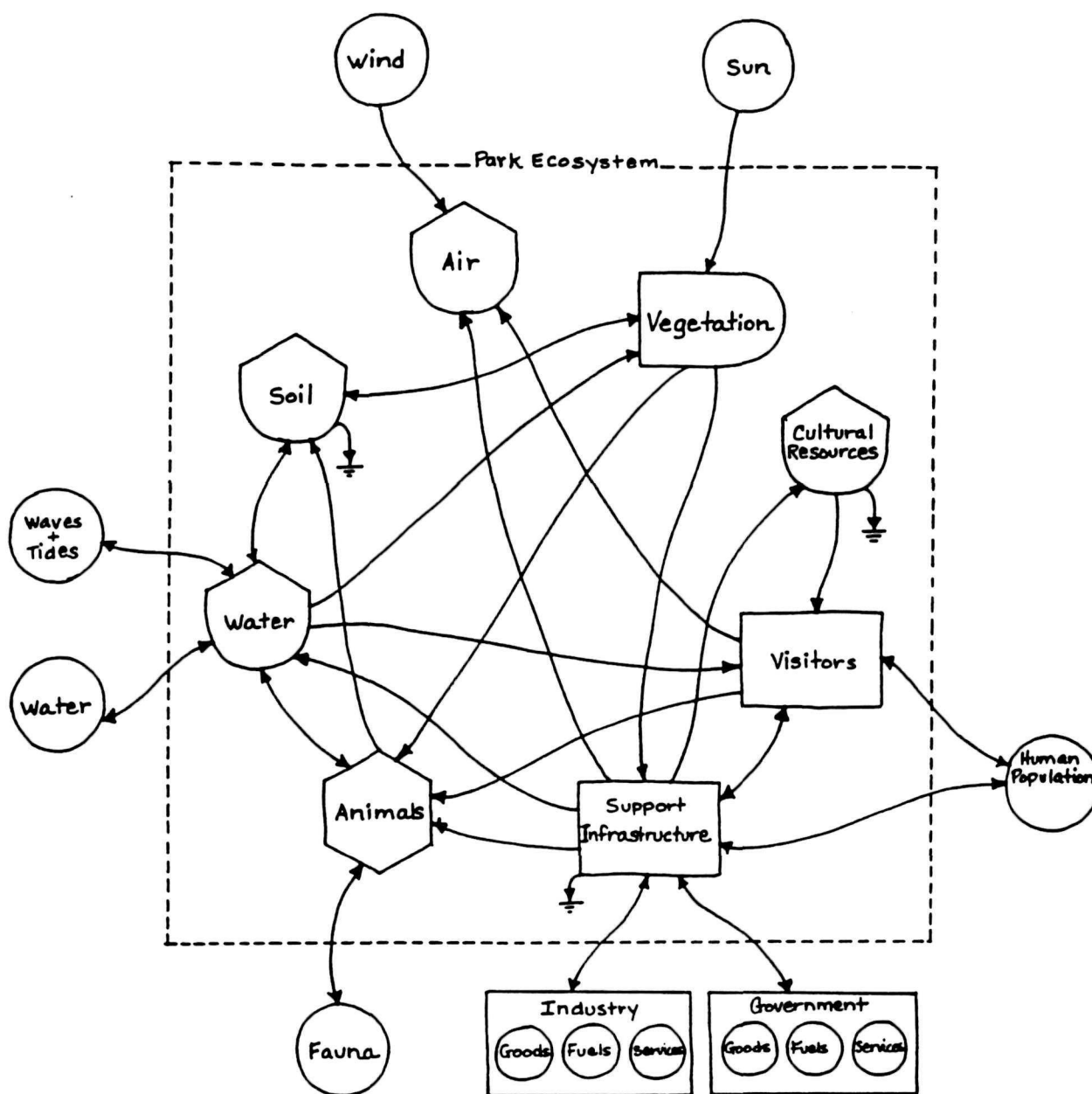


Figure 2. Specified Diagram of Park Ecosystem.

The specific and cumulative changes for an overall park system must be measured against some specified standard; not all subsystems in a particular park will have equal importance ecologically or in terms of park policies. Hence, the 'state of the parks' is a qualitative judgement of the ecological health of the park systems. A normal flow of visitors or water is needed to keep the system operating well; too many visitors or too little water may strain certain subsystems, and serious problems may threaten the ability of the entire park system to function, temporarily or long term. The critical nature of a problem is a qualitative judgement of how much biophysical or social change is acceptable, and is a threshold measure.<sup>2</sup> The critical nature of a problem also depends upon the stated purposes for which the park was established and is being maintained. Critical problems can thus be defined as those activities of either human or natural origin which may damage park resources or conflict with the objectives of park administration and management.

Beyond this critical threshold of acceptability, the 'seriousness' of a problem may vary significantly. Seriousness may reflect or be influenced by the resiliency with which an ecosystem can respond to change. A critical problem may emerge that impacts a particular subsystem, but the problem may have effects lasting only a short period. Other problems may have long-lasting effects. Hence, the possible duration of a critical resource problem is one measure of its seriousness.

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<sup>2</sup>While quantitative data may be used to measure biophysical or social change, the setting of threshold levels of acceptable change is a qualitative decision, often based on conventional scientific wisdom, legal requirements, and so forth. Examples include range carrying capacity, automobile emissions, and risk associated with nuclear power plants (Burch and DeLuca 1984).

## PRETESTS AND REVISIONS

### Initial Design

The theoretical framework just discussed was used to conceptualize the State of the Parks Survey. The initial version of the questionnaire (Version 1) was divided into seven main subsystems defined as follows:

1. Water: as found in different natural forms such as lakes, rivers, and oceans. The concern of the questionnaire was only with ground and surface water found within park boundaries.
2. Air: referring to the particles and layers of gases which surround the earth and make up its atmosphere.
3. Soil: referring to the loose mineral and organic material on the surface of the earth in which plants grow.
4. Vegetation: referring to living photosynthetic organisms (plants) such as trees and grasses, which manufacture their own food from inorganic substances.
5. Animal life: referring to living non-photosynthetic organisms such as birds, mammals, and fish, which are unable to manufacture their own food from inorganic substances.
6. Management and Administration: referring to services which were required to manage and administer all park resources.
7. Other: a category which includes problems which are not specific to any of the other resource categories.

Each subsystem was included with a list of potential threats that applied specifically to it. The initial list of 72 threats was compiled from literature primarily surveyed by Tichnell (1984). A final section of the questionnaire sought information concerning the attributes of respondents, such as level of education, years of work experience in the particular park, and in park management in general, and the respondent's current job title.



Several professionals in the biological and social sciences were asked to review the design and structure of the initial questionnaire (see Table 3). Their suggestions were incorporated into Version 2.

Table 3. Individuals who Reviewed the Design and Structure of the State of the Parks Questionnaire.

---

Dr. Robert B. Ditton Texas A & M University	Dr. Don Dillman Washington State University
Dr. William J. McLaughlin University of Idaho	Dr. William R. Burch Yale University
Dr. Robert Lee University of Washington	Dr. Rabel Burdge University of Illinois
Dr. Raymond F. Dasman University of California	Dr. Edwin E. Krumpe University of Idaho
R. Michael Wright World Wildlife Fund	

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### Testing and Further Revisions

#### 1. World Parks Congress

In the first pretest, Version 2 of the questionnaire was used to survey participants at the World National Congress in Bali, Indonesia, on 15-22 October 1982 (Tichnell et al. 1983). In this test, questionnaires (in English) were distributed to participants at the conference, to be returned to a member of the research team attending the meeting. Sixty-four questionnaires were returned, representing 37 different countries, for a response rate of 20 percent. Three general questions, shown in Table 4, were asked of each potential threat. Based on this pretest, the questionnaire was further revised; it was expanded to include a cultural resources section, and an additional question was added that sought information on how much of the park area was affected by each threat. A Version 3 was prepared.

Table 4. Structure of the Initial Questionnaire.

Threat list	What is the current status of the threat in the park?	If the threat is present, what is primary cause of it?	Where is the source of the threat located?
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## 2. Glacier National Park

A pretest of Version 3 was conducted in May 1983, using selected members of the management, research, and operations staff at Glacier National Park (Kusel *et al.* 1983).

In the Glacier test, there was a significant variance between individual responses of personnel in the park, and only modest correlation between responses of individuals with similar park experience, position of responsibility, or education. For example, the three research biologists, all with considerable park experience and similar educational backgrounds, had dissimilar responses for several subsystems.

Following the Glacier test, substantial modifications were made in the questionnaire design. The question asking how much of the park was affected by each problem was eliminated. Responses were solicited for each problem on the immediacy and potential harm to the park. Based on these revisions, Version 4 of the questionnaire was prepared.

## 3. Pacific Northwest Regional Office

Version 4 of the questionnaire was then reviewed and evaluated by approximately 20 staff members of the Pacific Northwest Regional Office in

June 1983. These individuals were representative of all functional units in the office. This review focused on the cultural resources section of the questionnaire. Subsequent meetings with cultural resource personnel of the PNRO resulted in the expansion of this section to include three subsections: one concerning historic structures and buildings, one dealing with sites, and a third concerning historic objects in parks. The structure of the responses for each problem was also altered to the form shown in Table 5, and Version 5 of the questionnaire was prepared.

Table 5. Revised Structure of the Questionnaire.

Critical resource problems	What is the current status of the problem in the park?	If the problem is suspected or documented, where does it originate?	If the problem is suspected or documented, how serious is the problem?
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#### 4. Pacific Northwest Parks

In November 1983, Version 5 of the questionnaire was sent to personnel of each of the 16 parks in the Pacific Northwest Region. An attempt was made to sample all staff functions. The response rate for this survey was 60 percent without a follow-up. This survey was undertaken primarily to test the analysis software developed by the University of Washington CPSU, and to refine implementation techniques. Each respondent was asked to fill out the questionnaire for their respective park. This survey yielded only minor comments relative to the design of the questionnaire, but provided a valuable set of data to test and refine the software.

## 5. Resource Management Trainees

A second test of Version 5 was undertaken in March 1984, when the questionnaire was mailed to all current NPS Resource Management Specialist Trainees. Each participant was asked to evaluate the questionnaire rather than to fill it out for the respective park. Four questions were asked: (1) was the questionnaire reasonably complete? (2) was it clearly and logically designed? (3) would the results provide useful information on management's perception of significant resource problems? and (4) how could the questionnaire be improved? Approximately 65 percent of the trainees responded in time for their comments to be included in this report. As a result of this mailing, we also received several additional requests from NPS personnel to evaluate the questionnaire.

The resource management trainees made many helpful suggestions. The directions were rewritten, and the terms "critical resource problem" and "seriousness" were more clearly defined. Several potential critical resource problems were added, and the spacing of the questions was also adjusted to provide additional space. The size of the questionnaire also was increased. Based on these changes, Version 6 of the questionnaire was prepared.

## 6. WASO Office of Science and Technology

Version 6 of the questionnaire, along with the computer program pretested in the Pacific Northwest Region, were then combined in a draft report. This report was presented in April of 1984 to a group of NPS staff members in the WASO Office of Science and Technology. The review dealt with the utility of the methodology, difficulties in defining critical resource problems, and reliability of the data. Written comments were received from

the Biological Resources Division, suggesting changes in the questionnaire, computer program and draft report. A Version 7 of the questionnaire is included in this Final Report, along with an updated computer program designed to analyze data using Version 7.

Hence, the questionnaire is the result of several pretests and revisions. Over 250 park managers have completed some version of the questionnaire, and over 75 others have evaluated its content and design.

### Limitations

There are two major limitations to the State of the Parks Survey. The first is its validity, i.e., does it measure what it purports to measure? Managers' perceptions of critical resource problems may not reflect the actual kind, extent, or seriousness of the problems that face a particular park. Documentation and available scientific knowledge may be lacking in many cases. Hence, as a measure of actual problems, the State of the Parks Survey may be invalid to an unknown degree. Comprehensive data do not exist for many areas (Machlis and Wright 1984), and hence the validity of the responses can neither be refuted nor supported based on empirical evidence.

Yet as a measure of what managers perceive to be critical resource problems, the Survey is reasonably valid. Problems of definition have been largely removed and social desirability bias (respondent's answering what they think the interviewer wants to hear) is minimal. Non-response to items within the survey throughout all the pretests was low, suggesting the questions were well understood by respondents.

The second limitation is related to the survey's reliability--i.e., the concern that results could be repeated. The Glacier pretest suggested that variation between respondents within the same park is high and that the choice of respondent is critical. Even respondents with similar backgrounds had different perceptions of critical resource problems facing the same park. Such variation may bias results to an unknown degree, and in an unknown direction. Hence, the collection of data on who filled out the questionnaire is critical, along with caution in interpreting the results.

## TECHNIQUES FOR DATA ANALYSIS

The development of a data analysis procedure involved four distinct steps: (1) coding the test questionnaires, (2) entering data, (3) preparing the data for analysis, and (4) developing and testing statistical analysis procedures (Fig. 3). The Statistical Package for the Social Sciences (SPSS) served as the main statistical tool, aided by the use of FORTRAN and specific procedures available at the University of Washington. A copy of the codebook developed to analyze the data from Version 7 of the questionnaire is included in this report.

### Coding and Data Entry

#### 1. Coding Strategy

Two data coding approaches were developed. The first applies to situations when data sets are small and individuals are assumed to make few and random errors in responding to the questions. In this approach, inconsistencies can be corrected during the coding process, and an evaluation and checking of the responses takes place during the coding process. This approach was taken in the data analysis used to develop the software presented in this report. When this strategy is followed, it is important that the coder keep detailed notes on problems and patterns of error encountered.

The second approach is used for larger sets of data or those data sets with systematic errors. Then, responses should be coded as they are listed, rather than correcting the errors as encountered. The errors can then be listed using one of several computer programs. This method allows information

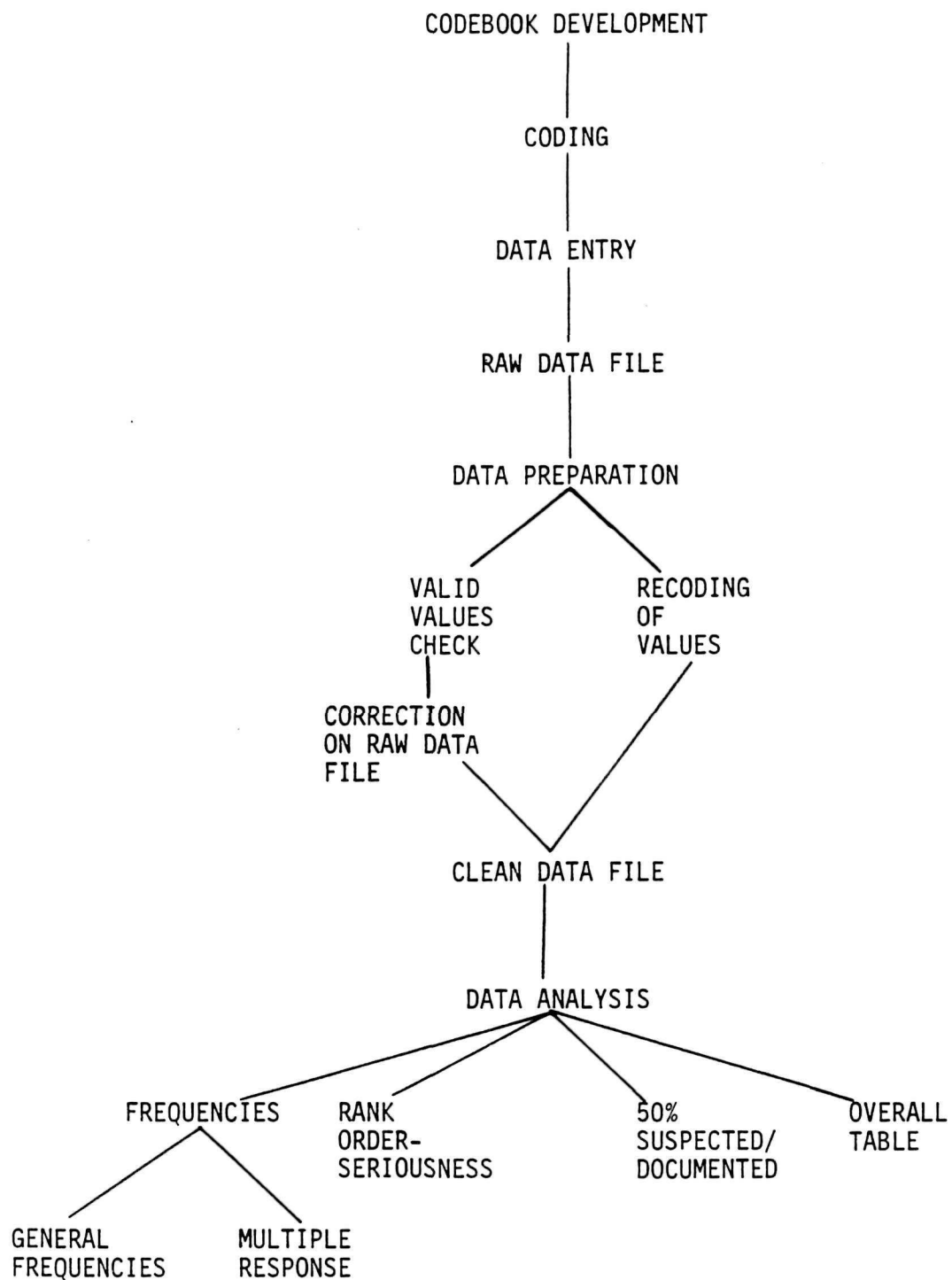


Figure 3 Flow chart for data analysis of State of the National Parks questionnaire.



to be retained and available to the researcher on questionnaire design and ways that questions might be rephrased.

The status, origin, and seriousness of the Critical Resource Problems (CRP) were listed in a vertical fashion in order to minimize errors in analysis. It was also felt that this would simplify data interpretation. For example, the variables representing "current status" of the CRP for water were kept together in a string rather than in a disjointed fashion.

## 2. Data Entry

The coding of the test data was done on 80 column FORTRAN sheets and then keypunched off these sheets. This is in contrast to coding directly on each questionnaire. The individual respondent served as the unit of analysis (case) for the software development pretest. The responses of each individual consisted of a total of seven computer cards (or seven lines of data if entered on a computer terminal). The data were coded in such a way so that all of the card 1 data were on a FORTRAN sheet separate from card 2, and so on. This was done to minimize keypunch errors, and is helpful with a large number of cases. Following this, data were sorted by case number, and the data were prepared for analysis.

### Preparation of the Data

The preparation of the data for analysis involved two separate steps working with raw data: (1) a check for values of range and (2) recoding of divergent values.

### 1. Valid Values Check

The SPSS procedure FREQUENCIES was initially run to determine if the values coded and entered for each of the variables were within the specified range of values. If values were found to be outside of the specified range, the SPSS file retrieval procedure LIST CASES was used to identify the case number and values that diverted from those specified. Alternatively, the use of the SPSS procedure CROSSTABS would provide similar information.

The coding sheets, questionnaires, and raw data files were then consulted in order to determine the origin of the bad values. Once identified, these values were then corrected on the raw data file.

### 2. Recoding of Values

This step was carried out to ensure that the contingency questions following a screening question were coded as they should have been (i.e., as set forth in the codebook). Response to a contingency question is dependent upon how one responds to an initial screening question. Given the size of the present study and the nature of the responses, this step ensured that the responses were coded correctly. In larger studies, this step serves to identify and correct divergent contingent values.

The recoding was done in two instances in the present study. First, the major questions in each subsystem served as a screening question, with the "current status" of the CRP (contingency question) to be coded depending on how the major question was answered. See Table 6 for this recoding scheme.

The second instance in which values were recorded was to make certain that the responses to "origin" and "seriousness" of the CRP (contingency

Table 6. Recoding major questions to "current status"

Major question	Current status coded
YES (code 1)	as is
NO (code 2)	ABSENT (code 1)
DON'T KNOW (code 3)	UNKNOWN (code 4)
missing (code 9)	missing (code 9)

question) were consistent with the manner in which the "current status" (screening question) was answered. See Table 7 for this recoding scheme.

Table 7. Recoding "current status" to "origin" and "seriousness"

Current status	Origin, seriousness-coded
ABSENT (code 1)	NOT APPLICABLE (code 0)
SUSPECTED (code 2)	as answered
DOCUMENTED (code 3)	as answered
UNKNOWN (code 4)	NOT APPLICABLE (code 0)
missing (code 9)	missing (code 9)

A general FREQUENCIES was once again run to ensure that the data were clean (i.e., that all the values were within the specified range). Once the data were verified, a copy of the clean data was transferred to magnetic tape for more permanent storage.

## Data Analysis

The SPSS subroutines set up to analyze questionnaire data are discussed below.

### 1. Frequencies

The SPSS FREQUENCIES procedure was set up so that the frequency counts and percentages of all responses could be obtained. The SPSS procedure MULT RESPONSE was used for those sections of the questionnaire in which respondents could list more than one open-end response ("other" CRPs or potential problems). This procedure provided a composite list of values for that particular group of responses.

### 2. Rank Order of CRPs by Level of Seriousness

A method by which data from questionnaires could be used to produce ranks of the variables in terms of level of seriousness listed in the questionnaire was developed. Three steps were involved: (1) computing counts of valid responses for each variable of interest by level of seriousness and printing out these counts using the SPSS AGGREGATE procedure, (2) value numbers and value labels joined with the listed counts from the previous step (this was done using a FORTRAN program), and (3) ranking CRPs by level of seriousness in descending order. This was done as part of the above FORTRAN program.

### 3. Status of CRPs--Suspected and Documented Combined

A program was developed using the SPSS procedure AGGREGATE to list those CRPs whose "suspected" and "documented" status was greater than or equal to 50 percent of the total response. The AGGSTATS=PCTBTN specification

of AGGREGATE allows one to examine percentages that encompass certain values for variables of interest.

## THE QUESTIONNAIRE

Following is a copy of the questionnaire (Version 7). It was typeset, reduced, and offset on stock paper using standard size sheets. The inside front cover provides space for a cover letter describing the State of the Parks Survey.



# STATE OF THE NATIONAL PARK SYSTEM

---

## A Survey



Cooperative Parks Studies Unit  
College of Forestry, Wildlife and Range Sciences  
University of Idaho  
Moscow, Idaho 83843



## DIRECTIONS

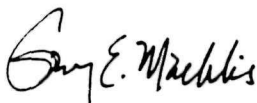
In this questionnaire, park resources are grouped into eight main categories; water, air, soil, vegetation, animal life, cultural resources, management and administration, and other. There is a list of critical resource problems that apply to each specific category. *Critical resource problems are those activities of either human or natural origin which may damage park resources or conflict with the objectives of park administration and management.*

A three-part question is asked of each problem. The first concerns the current status of the problem in the park. If a problem listed is not currently affecting this park, circle ABSENT and skip to the next problem. If you don't know the status of a problem at your park, please circle UNKNOWN. The second question concerns the origin of the problem. Again if you are uncertain, please circle UNKNOWN.

The final question seeks to determine how serious the problem is. This is a subjective determination. We define VERY SERIOUS as those problems which may cause damage to park ecosystems that might not be corrected within a human lifetime. MODERATELY SERIOUS problems are those whose effects may extend over a decade or more. SLIGHTLY SERIOUS problems may have effects lasting a period of a few years.

After completing the questionnaire, please place it in the self-addressed envelope that is provided and mail it. Feel free to contact us if you have any questions about the study. Thank you!

Sincerely yours,



Dr. Gary E. Machlis  
Sociology Project Leader



Dr. R. Gerald Wright  
Biology Project Leader

University of Idaho  
Cooperative Park Studies Unit

Please indicate which NPS unit you are describing (use the official NPS abbreviation) and the date this questionnaire was completed.

UNIT \_\_\_\_\_

MONTH \_\_\_\_\_ DAY \_\_\_\_\_ YEAR \_\_\_\_\_



# WATER

Water is found in different natural forms such as lakes, rivers, and oceans. We are concerned with effects upon ground and surface water found within park boundaries. Some examples of water-related critical resource problems include: organic or inorganic pollution, blocking of river or stream flow, silt in the water and increased demand for water.



Q-1. Are there critical resource problems related to ground and/or surface waters in the park? (Circle the number of your answer)

1 YES

2 NO

3 DON'T KNOW

If not or don't know, please go to Q-2 on page 3.



If so, please proceed to the list below and answer the questions in Part One, Two and Three. If a critical resource problem is not currently affecting this park, circle ABSENT and skip to the next problem.

## [Part One]

What is the current status of the problem in the park?  
(Circle only one)

Current Status?			
ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## [Part Two]

If the problem is suspected or documented, where does it originate?  
(Circle only one)

Origin?			
INSIDE PARK	OUTSIDE PARK	BOTH	UNKNOWN
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## [Part Three]

If the problem is suspected or documented, how serious is the problem to water?  
(Circle only one)

Seriousness?			
VERY SERIOUS	MODERATELY SERIOUS	SLIGHTLY SERIOUS	UNKNOWN
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Critical Resource Problems

1 Organic or inorganic pollution . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
2 Depletion of aquifer . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
3 Blocking of river or stream flow . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
4 Silt in the water . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
5 Increased demand for water . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
6 Water temperature changes . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
7 Acid rain . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
8 Other (please write in below)												
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN

Comments:

# AIR

Air refers to the particles and layers of gases which surround the earth and make up its atmosphere. Some examples of critical resource problems related to air include: smoke, dust and chemical pollution.



Q-2. Are there critical resource problems related to air in the park? (Circle the number of your answer)

1 YES  
2 NO  
3 DON'T KNOW

If not or don't know, please go to Q-3 on page 4.

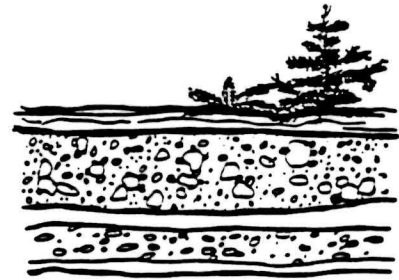
If so, please proceed to the list below and answer the questions in Part One, Two and Three. If a critical resource problem is not currently affecting this park, circle ABSENT and skip to the next problem.

	[Part One] What is the current status of the problem in the park? (Circle only one)				[Part Two] If the problem is suspected or documented, where does it originate? (Circle only one)				[Part Three] If the problem is suspected or documented, how serious is the problem to air? (Circle only one)			
	Current Status?				Origin?				Seriousness?			
	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE PARK	OUTSIDE PARK	BOTH	UNKNOWN	VERY SERIOUS	MODERATELY SERIOUS	SLIGHTLY SERIOUS	UNKNOWN
<b>Critical Resource Problems</b>												
1 Smoke	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNC
2 Dust	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
3 Chemical pollution	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
4 Reduction of visibility	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
5 Odors	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
6 Other (please write in below)												
_____	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
_____	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN

Comments:

# SOIL

Soil refers to the loose mineral and organic material on the surface of the earth in which plants grow. Some examples of critical resource problems related to soil include: erosion, compaction of soil, chemical pollutants, inadequate cover of vegetation, loss of nutrients and increased concentration of salts.



Q-3. Are there critical resource problems related to soil in the park? (Circle the number of your answer)

1 YES

2 NO

3 DON'T KNOW

If not or don't know, please go to Q-4 on page 5.



If so, please proceed to the list below and answer the questions in Part One, Two and Three. If a critical resource problem is not currently affecting this park, circle ABSENT and skip to the next problem.

[Part One]  
What is the current status  
of the problem in the park?  
(Circle only one)

[Part Two]  
If the problem is suspected or  
documented, where does it originate?  
(Circle only one)

[Part Three]  
If the problem is suspected or documented,  
how serious is the problem to soil?  
(Circle only one)

Current Status?  
ABSENT SUSPECTED DOCUMENTED UNKNOWN

Origin?  
INSIDE PARK OUTSIDE PARK BOTH UNKNOWN

Seriousness?  
VERY SERIOUS MODERATELY SERIOUS SLIGHTLY SERIOUS UNKNOWN

## Critical Resource Problems

Erosion . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
2 Compaction of soil . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
3 Organic or inorganic pollution . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
4 Inadequate cover of vegetation . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
5 Loss of soil nutrients . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
6 Increased concentration of salts . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
7 Other (please write in below)												
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN

Comments:

# VEGETATION

Vegetation refers to living photosynthetic organisms (plants) such as trees and grasses, which can manufacture their own food from inorganic substances. Some examples of critical resource problems related to vegetation include: loss of vegetation, inadequate water, fire, floods, trampling, chemical pollution and plants or animals which are not native to the park.



Q-4. Are there critical resource problems related to vegetation in the park? (Circle the number of your answer)

- 1 YES  
2 NO  
3 DON'T KNOW

If not or don't know, please go to Q-5 on page 6.



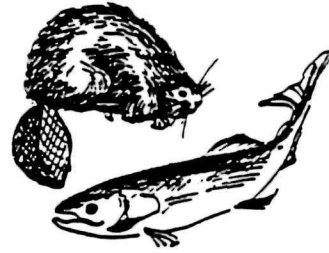
If so, please proceed to the list below and answer the questions in Part One, Two and Three. If a critical resource problem is not currently affecting this park, circle ABSENT and skip to the next problem.

Critical Resource Problems	[Part One] What is the current status of the problem in the park? (Circle only one)				[Part Two] If the problem is suspected or documented, where does it originate? (Circle only one)				[Part Three] If the problem is suspected or documented, how serious is the problem to vegetation? (Circle only one)			
	Current Status?				Origin?				Seriousness?			
	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE PARK	OUTSIDE PARK	BOTH	UNKNOWN	VERY SERIOUS	MODERATELY SERIOUS	SLIGHTLY SERIOUS	UNKNOWN
1 Loss of vegetation	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
2 Inadequate supply of water	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
3 Fire	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
4 Fire suppression	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
5 Flooding	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
6 Trampling	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
7 Chemical pollution	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
8 Plants which are not native to the park	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
9 Illegal removal of vegetation	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
10 Animals which are not native to the park	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
11 Disease	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
12 Insect pests	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
13 Other (please write in below)												
	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN

Comments:

# ANIMAL LIFE

Animal life includes living non-photosynthetic organisms such as birds, mammals and fish, which are unable to manufacture their own food from inorganic substances. Some examples of critical resource problems related to animal life include: loss of habitat, hunting, poaching, inadequate water supply, fire, disease and inadequate food supply.



Q-5. Are there critical resource problems related to animal life in the park? (Circle the number of your answer)

- 1 YES  
2 NO  
3 DON'T KNOW

If not or don't know, please go to Q-6 on page 7.



If so, please proceed to the list below and answer the questions in Part One, Two and Three. If a critical resource problem is not currently affecting this park, circle ABSENT and skip to the next problem.

[Part One]  
What is the current status  
of the problem in the park?  
(Circle only one)

Current Status?			
ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Part Two]  
If the problem is suspected or  
documented, where does it originate?  
(Circle only one)

Origin?			
INSIDE PARK	OUTSIDE PARK	BOTH	UNKNOWN
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Part Three]  
If the problem is suspected or documented,  
how serious is the problem to animal life?  
(Circle only one)

Seriousness?			
VERY SERIOUS	MODERATELY SERIOUS	SLIGHTLY SERIOUS	UNKNOWN
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Critical Resource Problems

Loss of habitat . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
2 Legal removal (hunting or fishing) . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
3 Illegal removal (poaching) . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
4 Inadequate supply of water . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
5 Impacts of animals which are not native to the park . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
6 Fire . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
7 Disease . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
8 Inadequate supply of food . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
9 Overpopulation of a species . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
10 Underpopulation of a species . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
11 Blocking of migratory routes . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
12 Flooding . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
13 Habitat change . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
14 Chemical pollution of habitat . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
15 Human harassment . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
16 Other (please write in below)												
_____	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
_____	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN

Comments:

# CULTURAL RESOURCES

Cultural resources refer to structures and buildings, sites, and objects which are protected and maintained in the park because they have cultural or historical significance. Some examples of problems related to cultural resources include: vandalism, theft, inadequate storage and damage due to natural forces.



Q-6. Are there critical resource problems related to cultural resources in the park? (Circle the number of your answer.)

1 YES

2 NO

3 DON'T KNOW

If not or don't know, please go to Q-7 on page 10.



If so, please proceed to the list below and answer the questions in Part One, Two and Three for all three sub-categories of cultural resources. If a critical resource problem is not currently affecting this park, circle ABSENT and skip to the next problem.

## Structures and Buildings

Structures and buildings are constructions of man that are often large in scale or created to shelter human activity, such as a monument, barn, bridge, or church.

### [Part One]

What is the current status of the problem in the park? (Circle only one)

Current Status?			
ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### [Part Two]

If the problem is suspected or documented, where does it originate? (Circle only one)

Origin?			
INSIDE PARK	OUTSIDE PARK	BOTH	UNKNOWN
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### [Part Three]

If the problem is suspected or documented, how serious is the problem to cultural resources? (Circle only one)

Seriousness?			
VERY SERIOUS	MODERATELY SERIOUS	SLIGHTLY SERIOUS	UNKNOWN
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Critical Resource Problems

1 Inadequate documentation . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
2 Deterioration through inadequate maintenance . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
3 Climate . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
4 Damage by plants . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
5 Damage by animals . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
6 Malicious destruction or defacement . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
7 Damage by toxic substances . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
8 Fire . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
9 Inadequate security . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
10 Flooding . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
11 Other (please write in below)												
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN

Comments:

PROBLEMS RELATED TO CULTURAL RESOURCES ARE CONTINUED ON NEXT PAGE

# CULTURAL RESOURCES

Continued from preceeding page . . .



## Sites

A site is the location of a significant event that maintains historical or archeological value regardless of the value of any existing structures, e.g. a historical scene.

### Critical Resource Problems

	[Part One] What is the current status of the problem in the park? (Circle only one)				[Part Two] If the problem is suspected or documented, where does it originate? (Circle only one)				[Part Three] If the problem is suspected or documented, how serious is the problem to cultural resources? (Circle only one)			
	Current Status?				Origin?				Seriousness?			
	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE PARK	OUTSIDE PARK	BOTH	UNKNOWN	VERY SERIOUS	MODERATELY SERIOUS	SLIGHTLY SERIOUS	UNKNOWN
1 Inadequate documentation . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
2 Malicious destruction or defacement . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
3 Damage by plants . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
4 Damage by animals . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
5 Illegal collecting/theft of artifacts . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
6 Flooding . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
7 Soil erosion . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
8 Fire . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
9 Inadequate archeological clearance prior to construction . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
10 Inadequate maintenance . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
11 Inadequate security . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
12 Plant succession . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
13 Flooding . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
14 Other (please write in below)												
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN

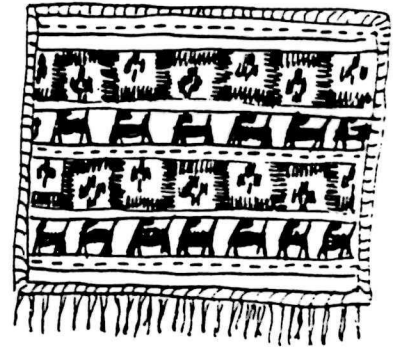
Comments:

PROBLEMS RELATED TO CULTURAL RESOURCES  
ARE CONTINUED ON NEXT PAGE



# CULTURAL RESOURCES

Continued from preceeding page . . .



## Objects

An object is a material thing of cultural, historical or scientific value that may be movable yet related to a specific setting, such as a gun, photograph, book or cart.

### Critical Resource Problems

	[Part One] What is the current status of the problem in the park? (Circle only one)				[Part Two] If the problem is suspected or documented, where does it originate? (Circle only one)				[Part Three] If the problem is suspected or documented, how serious is the problem to cultural resources? (Circle only one)			
	Current Status?				Origin?				Seriousness?			
	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE PARK	OUTSIDE PARK	BOTH	UNKNOWN	VERY SERIOUS	MODERATELY SERIOUS	SLIGHTLY SERIOUS	UNKNOWN
1 Inadequate documentation . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
2 Inadequate storage space. . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
3 Damage by insects, animals or mold . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
4 Damage by toxic substances . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
5 Flooding . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
6 Fire . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
7 Inadequate exhibit maintenance. . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
8 Conflicting uses of collection. . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
9 Inadequate security. . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
10 Other (please write in below)												
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN

Comments:



# MANAGEMENT and ADMINISTRATION

This category refers to services which are required to manage and administer all park resources. Some examples of critical problems in this category include: lack of clearly defined park boundaries, not enough personnel, too many visitors, unlawful entry of local peoples, unsafe conditions for visitors or staff and local attitudes.



Q-7. Are there critical resource problems related to management and administration in the park? (Circle the number of your answer)

1 YES

2 NO

3 DON'T KNOW

If not or don't know, please go to Q-8 on page 11.



If so, please proceed to the list below and answer the questions in Part One, Two and Three. If a critical resource problem is not currently affecting this park, circle ABSENT and skip to the next problem.

## [Part One]

What is the current status of the problem in the park?

(Circle only one)

Current Status?  
ABSENT SUSPECTED DOCUMENTED UNKNOWN

## [Part Two]

If the problem is suspected or documented, where does it originate?

(Circle only one)

Origin?  
INSIDE PARK OUTSIDE PARK BOTH UNKNOWN

## [Part Three]

If the problem is suspected or documented, how serious is the problem to management and administration? (Circle only one)

Seriousness?  
VERY MODERATELY SLIGHTLY UNKNOWN  
SERIOUS SERIOUS SERIOUS

### Critical Resource Problems

1 Lack of clearly defined park boundaries . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
2 Not enough personnel . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
3 Too many visitors . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
4 Unlawful visitor behavior . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
5 Inadequate fire/security systems. . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
6 Unsafe conditions for visitors and staff . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
7 Public attitudes. . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
8 Too much building development . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
9 Conflicting resource uses. . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
10 Inadequate maintenance facilities . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
11 Insufficient visitor use facilities . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
12 Inadequate transportation system. . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
13 Lack of enforcement authority . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
14 Lack of research information . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
15 Inadequate training. . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
16 Other (please write in below) . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
_____ . . . . .	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN

Comments:

**OTHER**

These are current problems which are not specific to any of the resource categories previously mentioned. Some examples include: litter, noise, degradation of geological features and scenic view, and odors.



Q-8. Please proceed to the list below and answer the questions in Part One, Two and Three. Treat each problem listed here separately.



If a critical resource problem is not currently affecting this park, circle ABSENT and skip to the next problem.

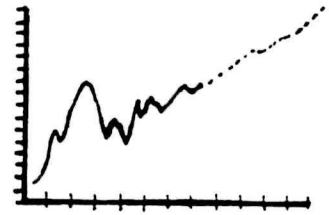


Critical Resource Problems	[Part One] What is the current status of the problem in the park? (Circle only one)				[Part Two] If the problem is suspected or documented, where does it originate? (Circle only one)				[Part Three] If the problem is suspected or documented, how serious is the problem? (Circle only one)			
	Current Status?				Origin?				Seriousness?			
	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE PARK	OUTSIDE PARK	BOTH	UNKNOWN	VERY SERIOUS	MODERATELY SERIOUS	SLIGHTLY SERIOUS	UNKNOWN
1 Litter .....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
2 Noise pollution .....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
3 Degradation of scenic or historical views .....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
4 Mineral exploration or production .....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
<hr/>												
5 Degradation of geological features .....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
6 Grazing .....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
7 Logging .....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
8 Residential or industrial encroachment .....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
9 Other (please write in below) .....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
.....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
.....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
.....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN
.....	ABSENT	SUSPECTED	DOCUMENTED	UNKNOWN	INSIDE	OUTSIDE	BOTH	UNKNOWN	VERY	MODERATELY	SLIGHTLY	UNKNOWN

Comments:

# THE FUTURE

You have just reported on the critical resource problems currently affecting your park. We would like your opinion regarding future critical resource problems.



Q-9. Are there critical resource problems not currently affecting your park that are likely to in the next five years?

1 YES  
2 NO



If not, please go to Q-10.



If so, please list the most serious potential problem(s) in the space provided below.

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Comments:

Finally, we would like to ask a few questions about you. This information is needed to understand who completed the questionnaire. Your answers to these questions will be appreciated.

Q-10. How many people participated in completing the questionnaire?

\_\_\_\_\_ NUMBER OF PEOPLE

For each individual who participated in filling out this questionnaire, please answer each question below. If only one individual completed the questionnaire, please use the line for "participant" #1.

Q-11. What is your official job title? (Please print your title on the appropriate line.)

Q-12. How many years have you worked at this park?

Q-13. How many total years of work experience do you have in park management or other fields directly related to it?

Q-14. Have you completed any university work?



IF YES,

Q-15. What was your major field of study?

Q-16. What degree ( if any) do you have?

	TITLE	YEARS AT PARK	YEARS EXP.	UNIV. WORK	MAJOR	DEGREE
PARTICIPANT #1	_____	_____	_____	_____	_____	_____
PARTICIPANT #2	_____	_____	_____	_____	_____	_____
PARTICIPANT #3	_____	_____	_____	_____	_____	_____
PARTICIPANT #4	_____	_____	_____	_____	_____	_____
PARTICIPANT #5	_____	_____	_____	_____	_____	_____
PARTICIPANT #6	_____	_____	_____	_____	_____	_____
PARTICIPANT #7	_____	_____	_____	_____	_____	_____
PARTICIPANT #8	_____	_____	_____	_____	_____	_____
PARTICIPANT #9	_____	_____	_____	_____	_____	_____
PARTICIPANT #10	_____	_____	_____	_____	_____	_____
additional participants	_____					

6. Is there anything else you would like to tell us that would help us understand the critical resource problems facing this park?

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After completing the questionnaire, please place it in the self-addressed envelope that is provided and mail it. Your contribution to this effort is greatly appreciated.

Thank you!

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## DATA ANALYSIS CODE BOOK

The coding procedure described below was developed by the University of Washington, CPSU to code all data entered by respondents in the questionnaire. There are also provisions for descriptive information, i.e., region and park designation as well as the date of the survey. A provision is also made under all categories for open-ended responses.

The code book is set up so that data can be entered directly on computer punch cards or on a CRT. In either case, seven - 80 column lines of information are coded for each questionnaire.

DECK 1  
Page 1  
Version #7

State of the National  
Park System: A National Survey

DECK 1 Column Number	Variable Number	Question	Response
1-4	V001	<u>NPS Unit</u>	Consult "NPS Unit Code Sheet" for appropriate code. 9999 MISSING
5	V002	<u>Card No.</u>	Code <u>1</u>
6-7	V003	<u>Region Code</u>	Consult "Region Code Sheet" for appropriate code. 99. MISSING
8-9	V004	<u>Park Designation</u>	Consult "Park Designation Code Sheet" for appropriate code.
10-15	V005	<u>Date Returned</u>	Consult Coding Sheet for appropriate codes. 999999. MISSING
16-21	V006	<u>Date Completed</u>	"
		<u>WATER</u>	
22	V007	Q-1 <u>Are there critical resource problems related to ground and/or surface waters in the park?</u>	1. YES CODE 1 in cols. 23-29, 0 in cols. 30-53-2. NO CODE 4 in cols. 23-29, 0 in cols, 30-53-3. DON'T KNOW CODE 9 in cols. 23-53-----9. MISSING
23	V008	Q-1-1-a. <u>Organic or inorganic pollution - current status.</u>	1. ABSENT 2. SUSPECTED 3. DOCUMENTED 4. UNKNOWN 9. MISSING
24	V009	Q-1-2-a. <u>Depletion of aquifer - current status.</u>	"

## CODING "OTHER" OPEN-END QUESTIONS

NOTE In coding open-ended (other) questions for the eight sub-systems (water, air, soil, vegetation, animal life, cultural resources, management and administration, and other), the following coding scheme is to be followed:

- (1) If "other" is left blank and
  - a) responses are blank - code "other" and responses as 0 (not applicable).
  - b) responses are filled in - code "other" as 99 and responses as is.
- (2) If "other" is filled-in and
  - a) responses are blank - code "other" as found on appropriate open-end coding sheet and responses as 9 (missing);
  - b) responses are filled in - code "other" as found on appropriate open-end coding sheet and responses as is.



<u>DECK 1 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
25	V010	Q-1-3-a. <u>Blocking of river or stream flow - current status.</u>	"
26	V011	Q-1-4-a. <u>Silt in the water - current status.</u>	"
27	V012	Q-1-5-a. <u>Increased demand for water - current status</u>	"
28	V013	Q-1-6-a. <u>Water temperature change - current status.</u>	"
29	V014	Q-1-7-a. <u>Acid rain - current status.</u>	"
30	V015	Q-1-7-1a. <u>Other - current status (first mention - rank)</u>	" (see note page two). 00. NOT APPLICABLE
31	V016	Q-1-8-2a. <u>Other - current status. (second mention - rank)</u>	"
32	V017	Q-1-1-b. <u>Organic or inorganic pollution - origin.</u>	1. INSIDE PARK 2. OUTSIDE PARK 3. BOTH 4. UNKNOWN 0. NOT APPLICABLE
33	V018	Q-1-2-b. <u>Depletion of aquifer - origin.</u>	"
34	V019	Q-1-3-b. <u>Blocking of river or stream flow - origin.</u>	"
35	V020	Q-1-4-b. <u>Silt in the water - origin.</u>	"
36	V021	Q-1-5-b. <u>Increased demand for water - origin.</u>	"
37	V022	Q-1-6-b. <u>Water temperature changes - origin.</u>	"
38	V023	Q-1-7-b. <u>Acid rain - origin.</u>	"
39	V024	Q-1-8-1b. <u>Other - origin. (first mention - rank)</u>	" (See note on page two).
40	V025	Q-1-8-2b. <u>Other - origin. (Second mention - rank)</u>	"

DECK 1 Column Number	Variable Number	Question	Response
41	V026	Q-1-1-c. <u>Organic or inorganic pollution - seriousness</u>  To be coded 1,2,3 or 4 <u>only if Part One is suspected or documented</u> (See variable V008.)	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHT SERIOUS 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
42	V027	Q-1-2-c. <u>Depletion of aquifer - seriousness</u>	"
43	V028	Q-1-3-c <u>Blocking of river or stream flow - seriousness.</u>	"
44	V029	Q-1-4-c. <u>Silt in the water - seriousness.</u>	"
45	V030	Q-1-5-c. <u>Increased demand for water - seriousness.</u>	"
46	V031	Q-1-6-c. <u>Water temperature changes - seriousness.</u>	"
47	V032	Q-1-7-c. <u>Acid rain - seriousness.</u>	"
48	V033	Q-1-8-1c. <u>Other - seriousness.</u> (first mention - rank)	" (see note on page two.)
49	V034	Q-1-8-2c. <u>Other - seriousness.</u> (second mention - rank)	"
50-51	V035	Q-1-8a. <u>Other critical resource problem - water.</u> (first mention)	See page two for coding scheme. 00. NOT APPLICABLE 99. MISSING
52-53	V036	Q-1-8b. <u>Other critical resource problem - water.</u> (second mention)	"
54-55	V037	Q-1a. <u>Water - first comment.</u>	Consult coding sheet for appropriate code 99. MISSING
56-57	V038	Q-1b. <u>Water - second comment.</u>	"
58-59	V039	Q-1c. <u>Water - third comment.</u>	"

<u>DECK 1 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
		AIR	
60	V040	Q-2. <u>Are there critical resource problems related to air in the park?</u>	1. YES CODE 1 in cols. 61-65, deck 1 and 0 in cols. 66-74, deck 1, 6-16, deck 2----- 2. NO CODE 1 in cols. 61-65, deck 1 and 0 in cols. 66-74, deck 1, 6-16 deck 2----- 3. DON'T KNOW CODE 9 in cols. 61-74, deck 1 and 6-16, deck 2----- 9. MISSING
61	V041	Q-2-1-a. <u>Smoke - current status</u>  CODE 0 for Parts Two and Three	1. ABSENT 2. SUSPECTED 3. DOCUMENTED 4. UNKNOWN 9. MISSING
62	V042	Q-2-2-a. <u>Dust - current status.</u>	"
63	V043	Q-2-3-a. <u>Chemical pollution - current status.</u>	"
64	V044	Q-2-4-a. <u>Reduction of visibility - current status.</u>	"
65	V045	Q-2-5-a. <u>Odors - current status.</u>	"
66	V046	Q-2-6-1a. <u>Other - current status.</u> (first mention - rank)	" (see note on page two) 0. NOT APPLICABLE
67	V047	Q-2-6-2a. <u>Other - current status.</u> (second mention - rank)	"
68	V048	Q-2-1-b. <u>Smoke - origin.</u>  To be coded 1,2,3 or 4 <u>only if</u> Part One is suspected or documented (see variable V041).	1. INSIDE PARK 2. OUTSIDE PARK 3. BOTH 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
69	V049	Q-2-2-b. <u>Dust - origin.</u>	"
70	V050	Q-2-3-b. <u>Chemical pollution - origin.</u>	"

<u>DECK 1 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
71	V051	Q-2-4-b.	<u>Reduction of visibility - origin.</u> "
72	V052	Q-2-5-b.	<u>Odors - origin.</u> "
73	V053	Q-2-4-1b.	<u>Other - origin.</u> " (first mention - rank)    (see note on page two)
74	V054	Q-2-4-2b.	<u>Other - origin.</u> " (second mention - rank)

<u>DECK 2 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
1-4	V001	<u>NPS Unit</u>	Consult coding sheet for appropriate code 9999. MISSING
5	V002	<u>Card No.</u>	Code <u>2</u>
6	V055	Q-2-1-c. <u>Smoke - seriousness.</u>  To be coded 1,2,3, or 4 <u>only if</u> Part One is suspected or documented (see variable V041).	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHTLY SERIOUS 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
7	V056	Q-2-2-c. <u>Dust - seriousness.</u>	"
8	V057	Q-2-3-c. <u>Chemical pollution - seriousness.</u>	"
9	V058	Q-2-4-c. <u>Reduction of visibility - seriousness.</u>	"
10	V059	Q-2-5-c. <u>Odors seriousness.</u>	"
11	V060	Q-2-4-1c. <u>Other - seriousness.</u> (first mention - rank)	" (see note on page two)
12	V061	Q-2-4-2c. <u>Other - seriousness.</u> (second mention - rank)	"
13-14	V062	Q-2-4a. <u>Other critical resource problem - air.</u> (first mention)	See page two for coding scheme. 00. NOT APPLICABLE 99. MISSING
15-16	V063	Q-2-4b. <u>Other critical resource problem - air.</u> (second mention)	"
17-18	V064	Q-2a. <u>Air - first comment.</u>	Consult coding sheet for appropriate code. 99. MISSING
19-20	V065	Q-2b. <u>Air - second comment.</u>	"
21-22	V066	Q-2c. <u>Air - third comment.</u>	"

<u>DECK 2 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
SOIL			
23	V067	Q-3  <u>Are there critical resource problems related to soil in the park?</u>	  1. YES 2. NO 3. DON'T KNOW 9. MISSING
		CODE 1 in cols. 24-29, 0 in cols. 30-51 CODE 4 in cols. 24-29, 0 in cols. 30-51 CODE 9 in cols. 24-51 -----	
24	V068	Q-3-1-a. <u>Erosion - current status.</u>  Code 0 for parts two and Three	1. ABSENT 2. SUSPECTED 3. DOCUMENTED 4. UNKNOWN 9. MISSING
25	V069	Q-3-2-a. <u>Compaction of soil - current status.</u>	"
26	V070	Q-3-3-a. <u>Organic or inorganic pollution - current status.</u>	"
27	V071	Q-3-4-a. <u>Inadequate cover of vegetation - current status.</u>	"
28	V072	Q-3-5-a. <u>Loss of soil nutrients - current status.</u>	"
29	V073	Q-3-6-a. <u>Increased concentration of salts - current status.</u>	"
30	V074	Q-3-7-1a. <u>Other - current status.</u> (first mention - rank)	" (see note on page two) 0. NOT APPLICABLE
31	V075	Q-3-7-2a. <u>Other current status.</u> (second mention - rank)	"
32	V076	Q-3-1-b. <u>Erosion - origin.</u>  To be coded 1,2,3, or 4 <u>only if</u> Part One is suspected or documented (see variable V068)	1. INSIDE PARK 2. OUTSIDE PARK 3. BOTH 4. UNKNOWN 9. MISSING
33	V077	Q-3-2-b. <u>Compaction of soil origin.</u>	"

<u>DECK 2 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
34	V078	Q-3-3-b. <u>Organic or inorganic pollution - origin.</u>	"
35	V079	Q-3-4-b. <u>Inadequate cover of vegetation - origin.</u>	"
36	V080	Q-3-5-b. <u>Loss of soil nutrients - origin.</u>	"
37	V081	Q-3-6-b. <u>Increased concentration of salts - origin.</u>	"
38	V082	Q-3-7-1b. <u>Other - origin.</u> (first mention)	" (see note on page two)
39	V083	Q-3-7-2b. <u>Other - origin.</u> (second mention)	"
40	V084	Q-3-1-c. <u>Erosion - seriousness.</u>  To be coded 1,2,3, or 4 <u>only if</u> Part One is suspected or documented (see variable V068).	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHTLY SERIOUS 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
41	V085	Q-3-2-c. <u>Compaction of soil - seriousness.</u>	"
42	V086	Q-3-3-c. <u>Organic or inorganic pollution - seriousness.</u>	"
43	V087	Q-3-4-c. <u>Inadequate cover of vegetation - seriousness.</u>	"
44	V088	Q-3-5-c. <u>Loss of soil nutrients - seriousness.</u>	"
45	V089	Q-3-6-c. <u>Increased concentration of salts - seriousness.</u>	"
46	V090	Q-3-7-1c. <u>Other - seriousness.</u> (first mention - rank)	" (see note on page two)
47	V091	Q-3-7-2c. <u>Other - seriousness.</u> (second mention - rank)	"
48-49	V092	Q-3-7a. <u>Other critical resource problem - soil.</u> (first mention).	See page two for coding scheme. 00. NOT APPLICABLE 99. MISSING

DECK 2 Column Number	Variable Number	Question	Response
50-51	V093	Q-3-7b. <u>Other critical resource problem - soil. (second mention)</u>	"
52-53	V094	Q-3a. <u>Soil - first comment.</u>	Consult coding sheet for appropriate code 99 MISSING
54-55	V095	Q-3b. <u>Soil - second comment.</u>	"
56-57	V096	Q-3c. <u>Soil - third comment.</u>	"
<u>VEGETATION</u>			
58	V097	Q-4. <u>Are there critical resource problems related to vegetation in the park?</u>	1. YES CODE 1 in cols. 59-70; 0 in cols. 71-72 and cols. 6-37 (card 3)----- 2. NO CODE 4 in cols. 59-70; 0 in cols. 71-72 and cols. 6-37 (card 3)----- 3. DON'T KNOW CODE 9 in cols. 59-72 and cols. 6-37 (card 3)----- 9. MISSING
59	V098	Q-4-1-a. <u>Loss of vegetation - current status.</u>	1. ABSENT CODE 0 for parts two and three. 2. SUSPECTED 3. DOCUMENTED 4. UNKNOWN 9. MISSING
60	V099	Q-4-2-a. <u>Inadequate supply of water - current status.</u>	"
61	V100	Q-4-3-a. <u>Fire - current status.</u>	"
62	V101	Q-4-4-a. <u>Fire suppression - current status.</u>	"
63	V102	Q-4-5-a. <u>Flooding - current status.</u>	"
64	V103	Q-4-6-a. <u>Trampling - current status.</u>	"
65	V104	Q-4-7-a. <u>Chemical pollution - current status.</u>	"
66	V105	Q-4-8-a. <u>Plants which are not native to the park - current status.</u>	"



<u>DECK 2 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
67	V106	Q-4-9-a.	<u>Illegal removal of vegetation - current status.</u> "
68	V107	Q-4-10-a.	<u>Animals which are not native to the park - current status.</u> "
69	V108	Q-4-11-a.	<u>Disease - current status.</u> "
70	V109	Q-4-12-a.	<u>Insect pests - current status.</u> "
71	V110	Q-4-13-1a.	<u>Other - current status.</u> " (first mention - rank) (see note on page two) 0. NOT APPLICABLE
72	V111	Q-4-13-2a.	<u>Other - current status.</u> " (second mention - rank)

DECK 3 Column Number	Variable Number	Question	Response
1-4	V001	<u>NPS Unit</u>	Consult coding sheet for appropriate code 9999. MISSING
5	V002	<u>Card No.</u>	Code <u>3</u>
6	V112	Q-4-1-b. <u>Loss of vegetation - origin.</u>  To be coded 1,2,3, or 4 <u>only if</u> Part One is suspected or documented (see variable V098)	1. INSIDE PARK 2. OUTSIDE PARK 3. BOTH 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
7	V113	Q-4-2-b. <u>Inadequate supply of vegetation - origin.</u>	"
8	V114	Q-4-3-b. <u>Fire - origin.</u>	"
9	V115	Q-4-4-b. <u>Fire suppression - origin.</u>	"
10	V116	Q-4-5-b. <u>Flooding - origin.</u>	"
11	V117	Q-4-6-b. <u>Tramplng - origin.</u>	"
12	V118	Q-4-7-b. <u>Chemical pollution - origin.</u>	"
13	V119	Q-4-8-b. <u>Plants which are not native to the park - origin.</u>	"
14	V120	Q-4-9-b <u>Illegal removal of vegetation - origin.</u>	"
15	V121	Q-4-10-b. <u>Animals which are not native to the park - origin.</u>	"
16	V122	Q-4-11-b. <u>Disease - origin.</u>	"
17	V123	Q-4-12-b. <u>Insect pests - origin.</u>	"
18	V124	Q-4-13-1b. <u>Other - origin.</u> (first mention - rank)	" (see note on page two).
19	V125	Q-4-13-2b. <u>Other - origin.</u> (second mention - rank)	"

<u>DECK 3</u> <u>Column</u> <u>Number</u>	<u>Variable</u> <u>Number</u>	<u>Question</u>	<u>Response</u>
20	V126	Q-4-1-c. <u>Loss of vegetation -</u> <u>seriousness.</u>  To be coded 1,2,3 or 4 <u>only if</u> Part One is suspected or documented (see variable V098).	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHTLY SERIOUS 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
21	V127	Q-4-2-c. <u>Inadequate supply of</u> <u>water - seriousness</u>	"
22	V128	Q-4-3-c. <u>Fire - seriousness.</u>	"
23	V129	Q-4-4-c. <u>Fire suppression -</u> <u>seriousness.</u>	"
24	V130	Q-4-5-c. <u>Flooding - seriousness.</u>	"
25	V131	Q-4-6-c. <u>Trampling - seriousness.</u>	"
26	V132	Q-4-7-c. <u>Chemical pollution -</u> <u>seriousness.</u>	"
27	V133	Q-4-8-c. <u>Plants which are not native</u> <u>to the park - seriousness.</u>	"
28	V134	Q-4-9-c. <u>Illegal removal of vegeta-</u> <u>tion - seriousness.</u>	"
29	V135	Q-4-10-c. <u>Animals which are not native</u> <u>to the park - seriousness.</u>	"
30	V136	Q-4-11-c. <u>Disease - seriousness.</u>	"
31	V137	Q-4-12-c. <u>Insect pests - seriousness.</u>	"
32	V138	Q-4-13-1c. <u>Other - seriousness.</u> (first mention - rank)	" (see note on page two)
33	V139	Q-4-13-2a. <u>Other - seriousness.</u> (second mention - rank)	"
34-35	V140	Q-4-13a. <u>Other critical resource</u> <u>problem - vegetation.</u> (first mention)	See page two for coding scheme. 00. NOT APPLICABLE 99. MISSING
36-37	V141	Q-4-13b. <u>Other critical resource.</u> <u>problem - vegetation.</u> (second mention)	"

DECK 3 Column Number	Variable Number	Question	Response
38-39	V142	Q-4a. <u>Vegetation - first comment</u>	Consult coding sheet for appropriate code 99. MISSING
40-41	V143	Q-4b. <u>Vegetation - second comment.</u>	"
42-43	V144	Q-4c. <u>Vegetation - third comment.</u>	"
		<u>ANIMAL LIFE</u>	
44	V145	Q-5. <u>Are there critical resource problems related to animal life in the park?</u>	1. YES
		CODE 1 in cols. 45-59; 0 in cols. 60-78 and cols. 6-26 (card 4) -----	2. NO
		CODE 4 in cols. 45-59; 0 in cols. 60-78 and cols. 6-26 (card 4) -----	3. DON'T KNOW
		CODE 9 in cols. 45-78 and 6-26 (card 4)	9. MISSING
45	V146	Q-5-1-a. <u>Loss of habitat - current status.</u>	1. ABSENT
		Code 0 for Parts Two and Three.	2. SUSPECTED
			3. DOCUMENTED
			4. UNKNOWN
			9. MISSING
46	V147	Q-5-2-a. <u>Legal removal - current status.</u>	"
47	V148	Q-5-3-a. <u>Illegal removal - current status.</u>	"
48	V149	Q-5-4-a. <u>Inadequate supply of water - current status.</u>	"
49	V150	Q-5-5-a. <u>Impacts of animals which are not native to the park - current status.</u>	"
50	V151	Q-5-6-a. <u>Fire - current status.</u>	"
51	V152	Q-5-7-a. <u>Disease - current status.</u>	"
52	V153	Q-5-8-a. <u>Inadequate supply of food - current status.</u>	"
53	V154	Q-5-9-a. <u>Overpopulation of a species - current status</u>	"

DECK 3 Column Number	Variable Number	Question	Response
54	V155	Q-5-10-a. <u>Underpopulation of a specific species - current status.</u>	"
55	V156	Q-5-11-a. <u>Blocking of migratory routes - current status</u>	"
56	V157	Q-5-12-a. <u>Flooding - current status</u>	"
57	V158	Q-5-13-a. <u>Habitat change - current status.</u>	"
58	V159	Q-5-14-a. <u>Chemical pollution of habitat - current status.</u>	"
59	V160	Q-5-15-a. <u>Human harassment - current status.</u>	"
60	V161	Q-5-16-1a. <u>Other - current status. (first mention - rank)</u>	(see note page 2) 0. NOT APPLICABLE
61	V162	Q-5-16-2a. <u>Other - current status. (second mention - rank)</u>	"
62	V163	Q-5-1-b. <u>Loss of habitat - origin.</u>	1. INSIDE PARK 2. OUTSIDE PARK 3. BOTH 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
		To be coded 1,2,3 or 4 <u>only if</u> Part One is suspected or documented (see variable V146)	
63	V164	Q-5-2-b. <u>Legal removal - origin.</u>	"
64	V165	Q-5-3-b. <u>Illegal removal - origin.</u>	"
65	V166	Q-5-4-b. <u>Inadequate supply of water - origin.</u>	"
66	V167	Q-5-5-b. <u>Impacts of animals which are no native to the part - origin.</u>	"
67	V168	Q-5-6-b. <u>Fire - origin.</u>	"
68	V169	Q-5-7-b. <u>Disease - origin.</u>	"
69	V170	Q-5-8-b. <u>Inadequate supply of food - origin.</u>	"

<u>DECK 3 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
70	V171	Q-5-9-b. <u>Overpopulation of a specific species - origin.</u>	"
71	V172	Q-5-10-b. <u>Underpopulation of a specific species - origin.</u>	"
72	V173	Q-5-11-b. <u>Blocking of migratory routes - origin.</u>	"
73	V174	Q-5-12-b. <u>Flooding - origin.</u>	"
74	V175	Q-5-13-b. <u>Habitat change - origin.</u>	"
75	V176	Q-5-14-b. <u>Chemical pollution of habitat - origin.</u>	"
76	V177	Q-5-15-b. <u>Human harassment - origin.</u>	"
77	V178	Q-5-16-1b. <u>Other - origin.</u> (first mention - rank)	" (see note on page 2)
78	V179	Q-15-16-2b. <u>Other - origin.</u> (second mention - rank)	"

DECK 4

DECK 4 Column Number	Variable Number	Question	Response
1-4	V001	<u>NPS Unit</u>	Consult coding sheet for appropriate code 9999. MISSING
5	V002	<u>Card No.</u>	Code <u>4</u>
6	V180	Q-5-1-c. <u>Loss of habitat - seriuosness.</u>	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHTLY SERIOUS 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
7	V181	Q-5-2-c. <u>Legal removal - seriousness.</u>	"
8	V182	Q-5-3-c. <u>Illegal removal - seriousness.</u>	"
9	V183	Q-5-4-c. <u>Inadequate supply of water - seriousness.</u>	"
10	V184	Q-5-5-c. <u>Impacts of animals which are not native to the park - seriousness.</u>	"
11	V185	Q-5-6-c. <u>Fire - seriousness.</u>	"
12	V186	Q-5-7-c. <u>Disease - seriousness.</u>	"
13	V187	Q-5-8-c. <u>Inadequate supply of food - seriousness.</u>	"
14	V188	Q-5-9-c. <u>Overpopulation of a specific species - seriousness.</u>	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHTLY SERIOUS 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
		To be coded 1, 2, 3, or 4 <u>only if</u> Part One is suspected or documented.	
15	V189	Q-5-10-c. <u>Underpopulation of a specific species - seriousness.</u>	"
16	V190	Q-5-11-c. <u>Blocking of migratory routes - seriousness.</u>	"

<u>DECK 4 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
17	V191	Q-5-12-c. <u>Flooding - seriousness.</u>	"
18	V192	Q-5-13-c. <u>Habitat change - seriousness.</u>	"
19	V193	Q-5-14-c. <u>Chemical pollution of habitat - seriousness.</u>	"
20	V194	Q-5-15-c. <u>Human harassment - seriousness.</u>	"
21	V195	Q-5-16-1c. <u>Other - seriousness.</u> (first mention - rank)	" (see note on page two).
22	V196	Q-5-16-2c. <u>Other - seriousness.</u> (second mention - rank)	"
23-24	V197	Q-5-16a. <u>Other critical resource problem - animal life.</u> (first mention)	See page two for coding scheme. 00. NOT APPLICABLE 99. MISSING
25-26	V198	Q-5-16b. <u>Other critical resource problem - animal life.</u> (second mention)	"
27-28	V199	Q-5a. <u>Animal life - first comment.</u>	Consult coding sheet for appropriate code 99. MISSING
29-30	V200	Q-5b. <u>Animal Life - second comment.</u>	"
31-32	V201	Q-5c. <u>Animal Life - third comment.</u>	"



<u>DECK 4</u> <u>Column</u> <u>Number</u>	<u>Variable</u> <u>Number</u>	<u>Question</u>	<u>Response</u>
<u>CULTURAL RESOURCES</u>			
NOTE: THERE ARE THREE PAGES IN THE QUESTIONNAIRE FOR THIS SECTION.			
33	V202	Q-6. <u>Are there critical resource problems related to cultural resources in the park?</u>	1. YES  CODE 1 in cols. 34-43, (card 4) and cols. 12-24, 67-75 (card 5); 0 in cols. 44-73 (card 4); and cols. 25-60, 76-77 (card 5); and cols 6-31 (card 6) ----- 2. NO CODE 4 in cols. 34-43, (card 4) and cols. 12-24, 67-75 (card 5); 0 in cols. 44-73, (card 4); and cols. 25-60, 76-77 (card 5); and cols. 6-31 (card 6) ----- 3. DON'T KNOW CODE 9 in cols. 34-73 (card 4); cols. 12-60, 67-77 (card 5); and 6-31 (card 6) ----- 9. MISSING
34	V203	Q-6a-1-a. <u>Inadequate documentation - current status.</u>	1. ABSENT 2. SUSPECTED 3. DOCUMENTED 4. UNKNOWN 9. MISSING  CODE 0 for Parts Two and Three
35	V204	Q-6a-2-a. <u>Deterioration through inadequate maintenance - current status.</u>	
36	V205	Q-6a-3-a. <u>Climate - current status.</u>	"
37	V206	Q-6a-4-a. <u>Damage by plants - current status.</u>	"
38	V207	Q-6a-5-a. <u>Damage by animals - current status.</u>	"
39	V208	Q-6a-6-a. <u>Malicious destruction or defacement - current status.</u>	"
40	V209	Q-6a-7-a. <u>Damage by toxic substances - current status.</u>	"
41	V210	Q-6a-8-a. <u>Fire - current status.</u>	"
42	V211	Q-6a-9-a. <u>Inadequate security - current status.</u>	"

<u>DECK 4 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
43	V212	Q-6a-10-a. <u>Flooding - current status.</u>	"
44	V213	Q-6a-11-1a. <u>Other - current status.</u> (first mention - rank)	(see note page 2) " 0. NOT APPLICABLE
45	V214	Q-6a-11-2a. <u>Other - current status.</u> (second mention - rank)	"
46	V215	Q-6a-1-b. <u>Inadequate documentation - origin.</u>  To be coded 1, 2, 3, or 4 <u>only if</u> Part One is suspected or documented (see variable V203).	1. INSIDE PARK 2. OUTSIDE PARK 3. BOTH 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
47	V216	Q-6a-2-b. <u>Deterioration through inadequate maintenance - origin.</u>	"
48	V217	Q-6a-3-b. <u>Climate - origin.</u>	"
49	V218	Q-6a-4-b. <u>Damage by plants - origin.</u>	"
50	V219	Q-6a-5-b. <u>Damage by animals - origin.</u>	"
51	V220	Q-6a-6-b. <u>Malicious destruction or defacement - origin.</u>	"
52	V221	Q-6a-7-b. <u>Damage by toxic substances - origin.</u>	"
53	V222	Q-6a-8-b. <u>Fire - origin.</u>	"
54	V223	Q-6a-9-b. <u>Inadequate security - origin.</u>	"
55	V224	Q-6a-10-a. <u>Flooding - origin.</u>	"
56	V225	Q-6a-11-1b. <u>Other - origin.</u> (first mention - rank)	" (See note on page two)
57	V226	Q-6a-11-2b. <u>Other - origin.</u> (second mention - rank)	"

DECK 4 Column Number	Variable Number	Question	Response
58	V227	Q-6a-1-c. <u>Inadequate documentation - seriousness.</u>  To be coded 1, 2, 3, or 4 <u>only if</u> Part One is suspected or documented (see variable V203)	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHTLY SERIOUS 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
59	V228	Q-6a-2-c. <u>Deterioration through inadequate maintenance - seriousness.</u>	"
60	V229	Q-6a-3-c. <u>Climate - seriousness.</u>	"
61	V230	Q-6a-4-c. <u>Damage by plants - seriousness.</u>	"
62	V231	Q-6a-5-c. <u>Damage by animals - seriousness.</u>	"
63	V232	Q-6a-6-c. <u>Malicious destruction or defacement - seriousness.</u>	"
64	V233	Q-6a-7-c. <u>Damage by toxic substances - seriousness.</u>	"
65	V234	Q-6a-8-c. <u>Fire - seriousness.</u>	"
66	V235	Q-6a-9-c. <u>Inadequate security - seriousness.</u>	"
67	V236	Q-6a-10-c. <u>Flooding - seriousness.</u>	"
68	V237	Q-6a-11-1c. <u>Other - seriousness</u> (first mention - rank)	"
69	V238	Q-6a-11-2c. <u>Other - seriousness</u> (second mention - rank)	"
70-71	V239	Q-6a-11a. <u>Other critical resource problem - cultural resources (structures and buildings).</u> (first mention)	See page two for coding scheme. 00. NOT APPLICABLE 99. MISSING
72-73	V240	Q-6a-11b. <u>Other critical resource problem - cultural resources (structures and buildings).</u> (second mention)	"

DECK 5

DECK 5 Column Number	Variable Number	Question	Response
1-4	V001	<u>NPS Unit</u>	Consult coding sheet for appropriate code 9999. MISSING
5	V002	<u>Card No.</u>	Code <u>5</u>
6-7	V241	Q-6a-1. <u>Cultural Resources (structures and buildings) - first comment.</u>	Consult coding sheet for appropriate code
8-9	V242	Q-6a-2 <u>Cultural Resources (structures and buildings) - second comment.</u>	"
10-11	V243	Q-6a-3 <u>Cultural Resources (structures and buildings) - third comment.</u>	"
12	V244	Q-6b-1-a. <u>Inadequate documentation - current status.</u>	1. ABSENT 2. SUSPECTED 3. DOCUMENTED 4. UNKNOWN 9. MISSING
		Code 0 for Parts Two and Three.	
13	V245	Q-6b-2-a. <u>Malicious destruction or defacement - current status.</u>	"
14	V246	Q-6b-3-a. <u>Damage by plants - current status.</u>	"
15	V247	Q-6b-4-a. <u>Damage by animals - current status.</u>	"
16	V248	Q-6b-5-a. <u>Illegal collecting/ theft of artifacts - current status.</u>	"
17	V249	Q-6b-6-a. <u>Flooding - current status.</u>	"
18	V250	Q-6b-7-a. <u>Soil erosion - current status.</u>	"
19	V251	Q-6b-8-a. <u>Fire - current status.</u>	"

DECK 5 Column Number	Variable Number	Question	Response
20	V252	Q-6b-9-a. <u>Inadequate archaeological clearance prior to construction - current status.</u>	"
21	V253	Q-6b-10-a. <u>Inadequate maintenance - current status.</u>	"
22	V254	Q-6b-11-a. <u>Inadequate security current status.</u>	"
23	V255	Q-6b-12-a. <u>Plant succession - current status</u>	"
24	V256	Q-6b-13-a. <u>Flooding - current status.</u>	"
25	V257	Q-6b-14-1a. <u>Other - current status.</u> (first mention - rank)	"
26	V258	Q-6b-14-2a. <u>Other - current status.</u> (second mention - rank)	"
27	V259	Q-6b-1-b. <u>Inadequate documentation - origin.</u>  To be coded 1, 2, 3, or 4 <u>only if</u> Part One is suspected or documented (see variable V244).	1. INSIDE PARK 2. OUTSIDE PARK 3. BOTH 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
28	V260	Q-6b-2-b. <u>Malicious destruction or defacement - origin.</u>	"
29	V261	Q-6b-3-b. <u>Damage by plants - origin.</u>	"
30	V262	Q-6b-4-b. <u>Damage by animals - origin.</u>	"
31	V263	Q-6b-5-b. <u>Illegal collecting/ theft of artificats - origin.</u>	"
32	V264	Q-6b-6-b. <u>Flooding - origin.</u>	"
33	V265	Q-6b-7-b. <u>Soil erosion - origin.</u>	"
34	V266	Q-6b-8-b. <u>Fire - origin.</u>	"
35	V267	Q-6b-9-b. <u>Inadequate archaeological clearance prior to construction - origin.</u>	"

<u>DECK 5 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
36	V268	Q-6b-10-b. <u>Inadequate maintenance - origin.</u>	"
37	V269	Q-6b-11-b. <u>Inadequate security - origin.</u>	"
38	V270	Q-6b-12-b. <u>Plant succession - origin.</u>	"
39	V271	Q-6b-13-b. <u>Flooding - origin.</u>	"
40	V272	Q-6b-14-1b. <u>Other - origin.</u> (first mention - rank)	"
41	V273	Q-6b-14-2b. <u>Other - origin.</u> (second mention - rank)	"
42	V274	Q-6b-1-c. <u>Inadequate documentation - seriousness.</u>	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHTLY SERIOUS 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
43	V275	Q-6b-2-c. <u>Malicious destruction or defacement - seriousness.</u>	"
44	V276	Q-6b-3-c. <u>Damage by plants - seriousness.</u>	"
45	V277	Q-6b-4-c. <u>Damage by animals - seriousness.</u>	"
46	V278	Q-6b-5-c. <u>Illegal collecting/ theft of artifacts - seriousness.</u>	"
47	V279	Q-6b-6-c. <u>Flooding - seriousness.</u>	"
48	V280	Q-6b-7-c. <u>Soil erosion - seriousness.</u>	"
49	V281	Q-6b-8-c. <u>Fire - seriousness.</u>	"
50	V282	Q-6b-9-c. <u>Inadequate archaeological clearance prior to construction - seriousness.</u>	"
51	V283	Q-6b-10-c. <u>Inadequate maintenance - seriousness.</u>	"

DECK 5 Column Number	Variable Number	Question	Response
52	V284	Q-6b-11-c. <u>Inadequate security - seriousness.</u>	"
53	V285	Q-6b-12-c. <u>Plant succession - seriousness.</u>	"
54	V286	Q-6b-13-c. <u>Flooding - seriousness.</u>	"
55	V287	Q-6b-14-1c. <u>Other - seriousness.</u> (first mention - rank)	" (see note on page two)
56	V288	Q-6b-14-1c. <u>Other - seriousness.</u> (second mention - rank)	"
57-58	V289	Q-6b-14a. <u>Other critical resource problem - cultural resources (Sites).</u> (first mention).	See page two for coding scheme. 00. NOT APPLICABLE 99. MISSING
59-60	V290	Q-6b-14b. <u>Other critical resource problem - cultural resources (Sites).</u> (second mention).	"
61-62	V291	Q-6b-1. <u>Cultural Resources (Sites) - first comment.</u>	Consult coding sheet for appropriate code 99. MISSING
63-64	V292	Q-6b-2. <u>Cultural Resources (Sites) second comment.</u>	"
65-66	V293	Q-6b-3. <u>Cultural Resources (Sites) third comment.</u>	"
67	V294	Q-6c-1-a. <u>Inadequate documentation - current status.</u>	
		Code 0 for Parts Two and Three	1. ABSENT 2. SUSPECTED 3. DOCUMENTED 4. UNKNOWN 9. MISSING
68	V295	Q-6c-2-a. <u>Inadequate storage space - current status.</u>	"
69	V296	Q-6c-3-a. <u>Damage by insects, animals or mold - current status.</u>	"

<u>DECK 5 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
70	V297	Q-6c-4-a. <u>Damage by toxic substances - current status.</u>	"
71	V298	Q-6c-5-a. <u>Flooding - current status.</u>	"
72	V299	Q-6c-6-a. <u>Fire - current status.</u>	"
73	V300	Q-6c-7-a. <u>Inadequate exhibit maintenance - current status.</u>	"
74	V301	Q-6c-8-a. <u>Conflicting uses of collection - current status.</u>	"
75	V302	Q-6c-9-a. <u>Inadequate security - current status.</u>	"
76	V303	Q-6c-10-1a. <u>Other - current status.</u> (first mention - rank).	" (see note on page two) 0. NOT APPLICABLE
77	V304	Q-6c-10-2a. <u>Other - current status.</u> (second mention - rank)	"



<u>DECK 6 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
1-4	V001	<u>NPS Unit</u>	Consult coding sheet for appropriate code 9999. MISSING
5	V002	<u>Card No.</u>	Code <u>6</u>
6	V305	Q-6c-1-b. <u>Inadequate documentation - origin.</u>  To be coded 1, 2, 3, or 4 <u>only if</u> Part One is suspected or documented (see variable V294).	1. INSIDE PARK 2. OUTSIDE PARK 3. BOTH 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
7	V306	Q-6c-2-b. <u>Inadequate storage space - origin.</u>	"
8	V307	Q-6c-3-b. <u>Damage by insects animals or mold - origin.</u>	"
9	V308	Q-6c-4-b. <u>Damage by toxic substances - origin.</u>	"
10	V309	Q-6c-5-b. <u>Flooding - origin.</u>	"
11	V310	Q-6c-6-b. <u>Fire - origin.</u>	"
12	V311	Q-6c-7-b. <u>Inadequate exhibit maintenance - origin.</u>	"
13	V312	Q-6c-8-b. <u>Conflicting uses of collection - origin.</u>	"
14	V313	Q-6c-9-b. <u>Inadequate security - origin.</u>	"
15	V314	Q-6c-10-1b. <u>Other - origin</u> (first mention - rank)	" (see note page two)
16	V315	Q-6c-10-2b. <u>Other - origin.</u> (second mention - rank)	"

<u>DECK 6 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
17	V316	Q-6c-1-c. <u>Inadequate documentatin - seriousness.</u>  To be coded 1, 2, 3, or 4 <u>Only if Part One is</u> <u>suspected or documented</u> (see variable V294)	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHTLY SERIOUS 4. UNKNOWN 0. MISSING
18	V317	Q-6c-2-c. <u>Inadequate storage space - seriousness.</u>	"
19	V318	Q-6c-3-c. <u>Damage by insects, animals or mold - seriousness.</u>	"
20	V319	Q-6c-4-c. <u>Damage by toxic substances - seriousness</u>	"
21	V320	Q-6c-5-c. <u>Flooding - seriousness.</u>	"
22	V321	Q-6c-6-c. <u>Fire - seriousness.</u>	"
23	V322	Q-6c-7-c. <u>Inadequate exhibit maintenance - seriousness.</u>	"
24	V323	Q-6c-8-c. <u>Conflicting uses of collection - seriousness.</u>	"
25	V324	Q-6c-9-c. <u>Inadequate security - seriousness.</u>	"
26	V325	Q-6c-10-1c. <u>Other - seriousness.</u> (first mention - rank)	"
27	V326	Q-6c-10-2c. <u>Other - seriousness.</u> (second mention - rank)	"
28-29	V327	Q-6c-10a. <u>Other critical resource problem - cultural resources (objects).</u> (first mention).	See page two for coding shceme. 00. NOT APPLICABLE 99. MISSING
30-31	V328	Q-6c-10b. <u>Other critical resource problem - cultural resources (objects).</u> (second mention).	"
32-33	V329	Q-6c-1. <u>Cultural Resources (objects) first comment.</u>	Consult coding sheet for appropriate code 99. MISSING

DECK 6 Column Number	Variable Number	Question	Response
34-35	V330	Q-6c-2. <u>Cultural Resources</u> <u>(objects) second comment.</u>	"
36-37	V331	Q-6c-3. <u>Cultural Resources (objects) -</u> <u>third comment.</u>	"
<u>MANAGEMENT AND ADMINISTRATION</u>			
38	V332	Q-7. <u>Are there critical resource</u> <u>problems related to management</u> <u>and administration in the park?</u>	1. YES
		CODE 1 in cols 39-53; 0 in cols. 54-72 and cols 6-26 (card 7).-----	2. NO
		CODE 4 in cols. 39-53; 0 in cols 54-72 and cols. 6-26 (card 7).-----	3. DON'T KNOW
		CODE 9 in cols 39-72 and cols 6-26 (card 7).-----	9. MISSING
39	V333	Q-7-1-a. <u>Lack of clearly defined</u> <u>boundaries -</u> <u>current status.</u>	1. ABSENT
		Code 0 for Parts Two and Three	2. SUSPECTED
			3. DOCUMENTED
			4. UNKNOWN
			9. MISSING
40	V334	Q-7-2-a. <u>Not enough personnel -</u> <u>current status.</u>	"
41	V335	Q-7-3-a. <u>Too many visitors -</u> <u>current status.</u>	"
42	V336	Q-7-4-a. <u>Unlawful visitor</u> <u>behavior -</u> <u>current status.</u>	"
43	V337	Q-7-5-a. <u>Inadequate fire/</u> <u>security systems -</u> <u>current status.</u>	"
44	V338	Q-7-6-a. <u>Unsafe conditions for</u> <u>visitors and staff -</u> <u>current status.</u>	"
45	V339	Q-7-7-a. <u>Public attitudes -</u> <u>current status.</u>	"
46	V340	Q-7-8-a. <u>Too much building</u> <u>development -</u> <u>current status.</u>	"

DECK 6 Column Number	Variable Number	Question	Response
47	V341	Q-7-9-a. <u>Conflicting resources uses - current status.</u>	"
48	V342	Q-7-10-a. <u>Inadequate maintenance facilities - current status.</u>	"
49	V343	Q-7-11-a. <u>Insufficient visitor use facilities - current status.</u>	"
50	V344	Q-7-12-a. <u>Inadequate transportation system - current status.</u>	"
51	V345	Q-7-13-a. <u>Lack of enforcement authority - current status</u>	"
52	V346	Q-7-14-a. <u>Lack of research infor- mation - current status.</u>	"
53	V347	Q-7-15-a. <u>Inadequate training - current status.</u>	"
54	V348	Q-7-16-1a. <u>Other - current status (first mention - rank)</u>	" (see note page two) 0. NOT APPLICABLE
55	V349	Q-7-16-2a. <u>Other - current status. (second mention - rank)</u>	"
56	V350	Q-7-1-b. <u>Lack of clearly defined park boundaries - origin.</u>  To be coded 1, 2, 3, or 4 <u>only if</u> Part One is suspected or documented (see variable V333)	1. INSIDE PARK 2. OUTSIDE PARK 3. BOTH 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
57	V351	Q-7-2-b. <u>Not enough personnel - origin.</u>	"
58	V352	Q-7-3-b. <u>Too many visitors - origin.</u>	"
59	V353	Q-7-4-b. <u>Unlawful visitor behavior - origin.</u>	"
60	V354	Q-7-5-b. <u>Inadequate fire / security systems - origin.</u>	"

<u>DECK 6 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
61	V355	Q-7-6-b. <u>Unsafe conditions for Visitors and staff - origin.</u>	"
62	V356	Q-7-7-b. <u>Public attitudes - origin.</u>	"
63	V357	Q-7-8-b. <u>Too much building development - origin.</u>	"
64	V358	Q-7-9-b. <u>Conflicting resource uses - origin.</u>	"
65	V359	Q-7-10-b. <u>Inadequate maintenance facilities - origin.</u>	"
66	V360	Q-7-11-b. <u>Insufficient visitor use facilities - origin.</u>	"
67	V361	Q-7-12-b. <u>Inadequate transportation system - origin.</u>	"
68	V362	Q-7-13-b. <u>Lack of enforcement authority - origin.</u>	"
69	V363	Q-7-14-b. <u>Lack of research information - origin.</u>	"
70	V364	Q-7-15-b. <u>Inadequate training - origin.</u>	"
71	V365	Q-7-16-1b. <u>Other - origin.</u> (first mention - rank)	" (see note page two)
72	V366	Q-7-16-2b. <u>Other - origin.</u> (second mention - rank)	"

<u>DECK 7 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
1-4	V001	<u>NPS Unit</u>	Consult coding sheet for appropriate code 9999. MISSING
5	V002	<u>Card No.</u>	Code <u>7</u>
6	V367	Q-7-1-c. <u>Lack of clearly defined park boundaries - seriousness.</u>  To be coded 1, 2, 3, or 4 <u>only if</u> Part One is suspected or documented (see variable V333)	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHTLY SERIOUS 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
7	V368	Q-7-2-c. <u>Not enough personnel - seriousness.</u>	"
8	V369	Q-7-3-c. <u>Too many visitors - seriousness.</u>	"
9	V370	Q-7-4-c. <u>Unlawful visitor behavior - seriousness.</u>	"
10	V371	Q-7-5-c. <u>Inadequate fire/security systems - seriousness.</u>	"
11	V372	Q-7-6-c. <u>Unsafe conditions for visitors and staff - seriousness.</u>	"
12	V373	Q-7-7-c. <u>Public attitudes - seriousness.</u>	"
13	V374	Q-7-8-c. <u>Too much building development - seriousness.</u>	"
14	V375	Q-7-9-c. <u>Conflicting resource uses - seriousness.</u>	"
15	V376	Q-7-10-c. <u>Inadequate maintenance facilities - seriousness.</u>	"
16	V377	Q-7-11-c. <u>Insufficient visitor use facilities - seriousness.</u>	"

<u>DECK 7 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
17	V378	Q-7-12-c. <u>Inadequate transportation system - seriousness.</u>	"
18	V379	Q-7-13-c. <u>Lack of enforcement authority - seriousness.</u>	"
19	V380	Q-7-14-c. <u>Lack of research information - seriousness.</u>	"
20	V381	Q-7-15-c. <u>Inadequate training - seriousness.</u>	"
21	V382	Q-7-16-1c. <u>Other - seriousness.</u> (first mention - rank)	" (see note page two)
22	V383	Q-7-16-2c. <u>Other - seriousness.</u> (second mention - rank)	"
23-24	V384	Q-7-16a. <u>Other - critical resource problem - management and administration.</u> (first mention).	See page two for coding scheme. 00. NOT APPLICABLE 99. MISSING
25-26	V385	Q-7-16b. <u>Other critical resource problem - management and administration.</u> (second mention).	"
27-28	V386	Q-7a. <u>Management and Admin. - first comment.</u>	Consult coding sheet for appropriate code 99. MISSING
29-30	V387	Q-7b. <u>Management and Admin. - second comment.</u>	"
31-32	V388	Q-7c. <u>Management and Admin. - third comment.</u>	"
		<u>OTHER</u>	
33	V389	Q-8-1-a. <u>Litter - current status.</u>  CODE 0 for Parts Two and Three	1. ABSENT 2. SUSPECTED 3. DOCUMENTED 4. UNKNOWN 9. MISSING
34	V390	Q-8-2-a. <u>Noise pollution - current status.</u>	"

DECK 7 Column Number	Variable Number	Question	Response
35	V391	Q-8-3-a. <u>Degradation of scenic or historical views - current status.</u>	"
36	V392	Q-8-4-a. <u>Mineral exploration or production - current status</u>	"
37	V393	Q-8-5-a. <u>Degradation of geological features - current status.</u>	"
38	V394	Q-8-6-a. <u>Grazing - current status.</u>	"
39	V395	Q-8-7-a. <u>Logging - current status.</u>	"
40	V396	Q-8-8-a. <u>Residential or industrial encroachment - current status.</u>	"
41	V397	Q-8-9-1a. <u>Other - current status.</u> (first mention - rank)	" (see note page two) 0. NOT APPLICABLE
42	V398	Q-8-9-2a. <u>Other - current status.</u> (second mention - rank)	"
43	V399	Q-8-9-3a. <u>Other - current status.</u> (third mention - rank)	"
44	V400	Q-8-9-4a. <u>Other - current status.</u> (fourth mention - rank)	"
45	V401	Q-8-1-b. <u>Litter - origin.</u>  To be coded 1, 2, 3, or 4 <u>only if</u> Part One is suspected or documented (see variable 389).	1. INSIDE PARK 2. OUTSIDE PARK 3. BOTH 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
46	V402	Q-8-2-b. <u>Noise pollution - origin.</u>	"
47	V403	Q-8-3-b. <u>Degradation of scenic or historical views - origin.</u>	"
48	V404	Q-8-4-b. <u>Mineral exploration or production - origin.</u>	"
49	V405	Q-8-5-b. <u>Degradation of geological features - origin.</u>	"



DECK 7 Column Number	Variable Number	Question	Response
50	V406	Q-8-6-b. <u>Grazing - origin.</u>	"
51	V407	Q-8-7-b. <u>Logging - origin.</u>	"
52	V408	Q-8-8-b. <u>Residential or industrial encroachment - origin.</u>	"
53	V409	Q-8-9-1b. <u>Other - origin.</u> (first mention - rank)	" (see note page two)
54	V410	Q-8-9-2b. <u>Other - origin.</u> (second mention - rank)	"
55	V411	Q-8-9-3b. <u>Other - origin.</u> (third mention - rank)	"
56	V412	Q-8-9-4b. <u>Other - origin.</u> (fourth mention - rank)	"
57	V413	Q-8-1-c. <u>Litter - seriousness.</u>  To be coded 1, 2, 3, or 4 <u>only if</u> Part One is suspected or documented (see variable V389).	1. VERY SERIOUS 2. MODERATELY SERIOUS 3. SLIGHTLY SERIOUS 4. UNKNOWN 0. NOT APPLICABLE 9. MISSING
58	V414	Q-8-2-c. <u>Noise pollution - seriousness.</u>	"
59	V415	Q-8-3-c. <u>Degradation of scenic or historical views - seriousness.</u>	"
60	V416	Q-8-4-c. <u>Mineral exploration or production - seriousness.</u>	"
61	V417	Q-8-5-c. <u>Degradation of geological features - seriousness.</u>	"
62	V418	Q-8-6-c. <u>Grazing - seriousness.</u>	"
63	V419	Q-8-7-c. <u>Logging - seriousness.</u>	"
64	V420	Q-8-8-c. <u>Residential or industrial encroachment - seriousness.</u>	"
65	V421	Q-8-9-1c. <u>Other - seriousness.</u> (first mention - rank)	(see note page two)

DECK 7 Column Number	Variable Number	Question	Response
66	V422	Q-8-9-2c.	<u>Other - seriousness.</u> (second mention- rank) "
67	V423	Q-8-9-3c.	<u>Other - seriousness.</u> (third mention - rank) "
68	V424	Q-8-9-4c.	<u>Other - seriousness.</u> (fourth mention - rank) "
69-70	V425	Q-8-9-a.	<u>Other critical resource</u> <u>problem - other.</u> (first mention) See page two for coding scheme. 00. NOT APPLICABLE 99. MISSING
71-72	V426	Q-8-9-b.	<u>Other critical resource</u> <u>problem - other.</u> (second mention) "
73-74	V427	Q-8-9-c.	<u>Other critical resource</u> <u>problem - other.</u> (third mention) "
75-76	V428	Q-8-9-d.	<u>Other critical resource</u> <u>problem - other.</u> (fourth mention) "

## DECK 8

<u>DECK 8 Column Number</u>	<u>Variable Number</u>	<u>Question</u>	<u>Response</u>
1-4	V001	<u>NPS Unit</u>	Consult coding sheet for appropriate code 9999. MISSING
5	V002	<u>Card. No.</u>	Code <u>8</u>
6-7	V429	Q-8a. <u>Other - first comment.</u>	Consult coding sheet for appropriate code
8-9	V430	Q-8b. <u>Other - second comment.</u>	"
10-11	V431	Q-8c. <u>Other - third comment.</u>	"
12	V432	Q-9. <u>Are there critical resource problems not currently affecting your park that are likely to in the next five years?</u>	
		CODE 0 in cols. 13-22 --- 1. NO 2. YES	
		CODE 9 in cols. 13-22 --- 9. MISSING	
13-14	V433	Q-9a. <u>Potential problem. (first mention - list)</u>	Consult "Serious Potential Problem Code Sheet" for appropriate code. 00. NOT APPLICABLE 99. MISSING
15-16	V434	Q-9-b. <u>Potential problem. (second mention - list)</u>	"
17-18	V435	Q-9-c. <u>Potential problem. (third mention - list)</u>	"
19-20	V436	Q-9-d. <u>Potential problem. (fourth mention - list)</u>	"
21-22	V437	Q-9-e. <u>Potential problem. (fifth mention - list)</u>	"
23-24	V438	Q-9a. <u>Potential problem - first comment.</u>	Consult coding sheet for appropriate code 99. MISSING
25-26	V439	Q-9b. <u>Potential problem - second comment.</u>	"
27-28	V440	Q-9c. <u>Potential problem third comment.</u>	"

DECK 8 Column Number	Variable Number	Question		Response
29-30	V441	Q-10.	<u>How many people participated in completing this questionnaire?</u>	As is 99. MISSING
31-32	V442	Q-11-1.	<u>Job Title - #1.</u>	Consult coding sheet for appropriate code 99. MISSING
33-34	V443	Q-11-2.	<u>Job Title - #2.</u>	"
35-36	V444	Q-11-2.	<u>Job Title - #3.</u>	"
37-38	V445	Q-11-4.	<u>Job Title - #4.</u>	"
39-40	V446	Q-11-5.	<u>Job Title - #5.</u>	"
41-42	V447	Q-11-6.	<u>Job Title - #6.</u>	"
43-44	V448	Q-11-7.	<u>Job Title - #7.</u>	"
45-46	V449	Q-11-8.	<u>Job Title - #8.</u>	"
47-48	V450	Q-11-9.	<u>Job Title - #9.</u>	"
49-50	V451	Q-11-10.	<u>Job Title - #10.</u>	"
51-52	V452	Q-12-1.	<u>Years at Park - #1.</u>	As is 99. MISSING
53-54	V453	Q-12-2.	<u>Years at Park - #2.</u>	"
55-56	V454	Q-12-3.	<u>Years at Park - #3.</u>	"
57-58	V455	Q-12-4.	<u>Years at Park - #4.</u>	"
59-60	V456	Q-12-5.	<u>Years at Park - #5.</u>	"
61-62	V457	Q-12-6.	<u>Years at Park - #6.</u>	"
63-64	V458	Q-12-7.	<u>Years at Park - #7.</u>	"
65-66	V459	Q-12-8.	<u>Years at Park - #8.</u>	"
67-68	V460	Q-12-9.	<u>Years at Park - #9.</u>	"
69-70	V461	Q-12-10.	<u>Years at Park - #10.</u>	"

DECK 9  
Column  
NumberVariable  
Number

## Question

## Response

1-4	V001	<u>NPS Unit</u>	Consult coding sheet for appropriate code 9999. MISSING	
5	V002	<u>Card No.</u>	Code <u>9</u>	
6-7	V462	Q-13-1.	<u>Years Park Experience #1.</u>	As is 99. MISSING
8-9	V463	Q-13-2.	<u>Years Park Experience - #2.</u>	"
10-11	V464	Q-13-3.	<u>Years Park Experience - #3.</u>	"
12-13	V465	Q-13-4.	<u>Years Park Experience - #4.</u>	"
14-15	V466	Q-13-5.	<u>Years Park Experience - #5.</u>	"
16-17	V467	Q-13-6.	<u>Years Park Experience - #6.</u>	"
18-19	V468	Q-13-7.	<u>Years Park Experience - #7.</u>	"
20-21	V469	Q-13-8.	<u>Years Park Experience - #8.</u>	"
22-23	V470	Q-13-9.	<u>Years Park Experience - #9.</u>	"
24-25	V471	Q-13-10.	<u>Years Park Experience - #10.</u>	"
26	V472	Q-14-1.	<u>Have you completed any University work - #1?</u>	1. NO 2. YES 9. MISSING
27	V473	Q-14-2.	<u>Have you completed any University work - #2?</u>	"
28	V474	Q-14-3.	<u>Have you completed any University work - #3?</u>	"
29	V475	Q-14-4.	<u>Have you completed any University work - #4?</u>	"
30	V476	Q-14-5.	<u>Have you completed any University work - #5?</u>	"
31	V477	Q-14-6.	<u>Have you completed any University work - #6?</u>	"
32	V478	Q-14-7.	<u>Have you completed any University work - #7?.</u>	"

DECK 9 Column Number	Variable Number	Question	Response
33	V479	Q-14-8.	<u>Have you completed any University work - #8?</u> "
34	V480	Q-14-9.	<u>Have you completed any University work - #9?.</u> "
35	V481	Q-14-10.	<u>Have you completed any University work - #10.?</u> "
36-37	V482	Q-15-1.	<u>Major field of study- #1?.</u> Consult coding sheet for appropriate code 99. MISSING
38-39	V483	Q-15-2.	<u>Major field of study - #2.?</u> "
40-41	V484	Q-15-3.	<u>Major field of study - #3.?</u> "
42-43	V485	Q-15-4.	<u>Major field of study - #4.?</u> "
44-45	V486	Q-15-5.	<u>Major field of study - #5.?</u> "
46-47	V487	Q-15-6.	<u>Major field of study - #6.?</u> "
48-49	V488	Q-15-7.	<u>Major field of study - #7.?</u> "
50-51	V489	Q-15-8.	<u>Major field of study - #8.?</u> "
52-53	V490	Q-15-9.	<u>Major field of study - #9.?</u> "
54-55	V491	Q-15-10.	<u>Major field of study - #10.?</u> "
56-57	V492	Q-16-1.	<u>Degree - #1.</u> "
58-59	V493	Q-16-2.	<u>Degree - #2.</u> "
60-61	V494	Q-16-3.	<u>Degree - #3.</u> "
62-63	V495	Q-16-4.	<u>Degree - #4.</u> "
64-65	V496	Q-16-5.	<u>Degree - #5.</u> "
66-67	V497	Q-16-6.	<u>Degree - #6.</u> "
68-69	V498	Q-16-7.	<u>Degree - #7.</u> "
70-71	V499	Q-16-8.	<u>Degree - #8.</u> "
72-73	V500	Q-16-9.	<u>Degree - #9.</u> "
74-75	V501	Q-16-10.	<u>Degree - #10.</u> "

## RECOMMENDATIONS

This section reviews a series of recommendations for implementing and administering a State of the Parks Survey and outlines potential research projects which would help improve such an effort.

### Implementation

1. The questionnaire developed by this study is the recommended instrument for any future National Park Service survey of the state of the parks. If the Service chooses to conduct a survey of perceptions of the state of the parks, it is recommended that this questionnaire be used because of the thoroughness of development and testing of its design. In addition, by using the same survey instrument at regular intervals, such as every three to five years, it will be possible for the National Park Service to develop valuable baseline and trends data that will provide direction for future research, monitoring, and mitigation programs.
2. The questionnaire should be distributed from WASO. The greatest credibility for the survey can be achieved by having the questionnaire distributed from the Washington Office of the National Park Service. Each questionnaire should be accompanied by a letter from the Director urging its completion and outlining the goals, importance, and purpose of the survey. The inside cover of the questionnaire has been left blank for the inclusion of such a letter.
3. Analysis and interpretation of the questionnaire data should be conducted by a single office that reports directly to the responsible Washington Office official. A single, non-management office reporting directly

to the responsible Washington Office official should be responsible for preparing a comprehensive draft State of the Parks Report which would summarize data for each category in the questionnaire for the entire National Park System as well as for specific kinds of units. For subsequent surveys, this office also would be responsible for analyzing trends and for suggesting more detailed followup research or monitoring activities.

4. One questionnaire should be sent to each park. Previous pretests suggest that the most accurate interpretation of critical resource problems in parks may be achieved if the questionnaire is filled out jointly by a committee representative of all major park functions. This approach may improve reliability, and results for each park may reflect a consensus view of staff, rather than an individual's response. Additional pretesting will be required (see Research Recommendation 2, below).

5. The administration of the questionnaire should be timed so that results would be available for evaluating significant resource problems as an integral, initial part of the annual budget cycle.

### Research

1. Research should be conducted to test the validity of the survey in reporting actual resource problems. The limitation that this is a survey of managers' perceptions was discussed earlier. Detailed case studies and spot checks of responses could help evaluate the validity of the survey data in reporting actual threats, by comparing survey responses to available evidence from other sources (reports, monographs, and so forth). Where the survey reports problems and corroborative evidence does not exist, ecological studies may need to be performed to see if managers' perceptions are accurate.



2. Research should be conducted on the reliability of the survey focusing on different techniques for completing the questionnaire. Like validity, the reliability problem has been discussed earlier. Controlled experiments, using different administrative techniques, should help evaluate and suggest ways to improve the reliability of the instrument.

3. The development of more specialized surveys should be considered. The State of the Parks Survey is a general instrument designed for use at all NPS areas. Specialized surveys of pristine areas, natural areas, and so forth would allow more detailed questions regarding park subsystems of special interest. More detailed surveys could be made of specific types of threats, as well. Care should be taken in preparing such special surveys, so that the data is compatible with the general survey.

4. The utility of the data for the NPS Science Program should be evaluated. The results could provide a profile of which park subsystems are perceived by managers as having the most critical resource problems, and the specific nature of those problems. In cases where such a profile could be developed, the profile should be used to help guide the setting of research priorities, development of data bases and so forth.

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