

# THE TROUBLE-SHOOTER'S GUIDE TO EIS IN THE NPS --

## 62 PROBLEMS AND HOW TO SOLVE THEM

• AS AMENDED •

DES 75 - 13	Office of the Secretary [INT DES 75-10]	DES 75 - 2
FES 75 - 44	FIRE ISLAND NATIONAL SEASHORE MASTER PLAN	FES 75 - 23
FES 75 - 33	Availability of Draft Environmental Statement	DES 75 - 84
DES 75 - 25	Pursuant to section 102(2)(C) of the National Environmental Policy Act 1969, the Department of the Interior prepared a draft environmental statement for a proposed Master Plan for Fire Island National Seashore.	DES 75 - 63
DES 75 - 72	The environmental statement considers the extent needed to reach levels of protection without severe evaluations development able effects other environmental master plan adjustments types and and the protection	DES 75 - 31
FES 75 - 24	National Park Service [INT DES 75-11]	DES 75 - 12
FES 75 - 11	DIG BEND NATIONAL PARK, TEX.	
DES 75 - 52	Availability of Final Environmental Statement	
	Pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969, the Department of the Interior has prepared a final environmental statement for the proposed wilderness recommendation for Dig Bend National Park, Texas.	
	The environmental statement con- sidered the designation of 535,000 acres of the Park as wilderness within the Na- tional Wilderness Preservation System and an additional 25,700 acres as po- tential wilderness. The state- ment discusses social, scientific, cultural and economic aspects of the action. Copies are available from or for in- spection at the following locations:	
	Office of the Secretary [INT DES 75-12]	
	KA-LOKO, HONO-KOHIAU NATIONAL CULTURAL PARK, HAWAII	
	Availability of Draft Environmental Statement	
	Pursuant to section 102(2)(C) of the National Environmental Policy Act, the Department of the Interior has prepared a draft environmental statement for the	
	01771	
	REGISTER, VOL. 40, NO. 53--THURSDAY, MARCH	
	Southwest National Office National Park Service Old Santa Fe Trail Office Box 123 New Mexico 87501 Special Agent Special Director	

OFFICE OF ENVIRONMENTAL QUALITY  
WASHINGTON, D.C.

JUNE 1975

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## Frequently Encountered Deficiencies in NPS Environmental Statements

### GENERAL FORMAT

Pages missing, upside down, in wrong locations, duplicated, not printed clearly, etc.

All statements must be checked for such deficiencies before being made available for formal review.

Cover sheet dated by Regional Office.

The cover sheet is dated by the Department's Office of Environmental Project Review at the time a number is affixed. It must not be dated in advance by the Regional Office.

Cover sheet printed without Regional Director's signature.

Cover sheets for draft statements are always printed with the Regional Director's signature. Failure to do so causes unnecessary delays in processing statements which can easily be avoided.

Inconsistencies in lists of reviewers.

The list of Federal agencies as well as State and local agencies requested to review the draft statement must be the same on the summary sheet as in the Consultation and Coordination section of the statement. Agreement of the two lists must be checked for every statement.

Final statement submitted without responses from all DOI agencies.

It is the general policy of the Department's Office of Environmental Project Review not to clear a FES unless comments from all Departmental agencies requested to review the statement have been received. Regional Offices should check with the reviewing DOI agencies if no comments have been received near the end of the 45-day DES review period to determine when such comments can be expected. If an agency has no comment, it must be requested to submit a memorandum to that effect.

Statement does not employ appropriate hierarchical outline format.

Use of hierarchical outline format is desirable for the Service's EIS's. The form of the outline may be alphanumeric or simply numeric, but material should normally be arranged in this way.

Oversized graphics bound into text.

Graphics substantially larger than the standard 8 x 10½ inch text are often bound into environmental statements. These graphics are difficult for the reader to use and are frequently torn. Large graphics should be folded and placed in a packet at the rear of the statement so that they may be easily removed from the text and kept available for ready reference. Figure citations should indicate location of the graphic in the rear packet.

## Alphanumeric Format

### I. HEADINGS IN CAPS

- A. Headings in Initial Caps
  - 1. First word capitalized
    - a. First word capitalized
      - (1) First word capitalized
- B. etc.

Pagination may be consecutive throughout or by section (I-1, I-2, I-3, etc.). Table and figure numbers may likewise be consecutive throughout or by section (Table I-1, II-2, III-5, etc.). The section approach is preferred because it saves time in repagination and renumbering tables and figures for the whole text if the material in a particular section is changed.

## Numeric Format

### 1. HEADINGS IN CAPS

- 1.1. Headings in Initial Caps
  - 1.1.1. First word capitalized
    - 1.1.1.1. First word capitalized
      - 1.1.1.1.1. First word capitalized
        - etc.
- 1.2. etc.

Similarly, pagination and numbering of figures and tables may be consecutive throughout or by section (p. 1-1, 3-5, 8-22, etc.; Figure 1-2, 2-5, 3-1, etc.).

### Table of Contents not sufficiently comprehensive.

The Table of Contents allows the reader to locate all important information quickly and includes all important subject headings. Outlines usually are not adequate if they only cover the first or second level in the hierarchy (i.e., sections of the EIS and first order topical headings). In general, the appropriate level for the Table of Contents for an EIS on a major plan is:

DESCRIPTION OF THE PROPOSAL:	3rd or 4th level
ENVIRONMENT:	3rd, 4th, or rarely 5th level
IMPACTS:	normally 3rd level
MITIGATION:	normally 2nd, 3rd level
UNAVOIDABLE IMPACTS:	2nd or rarely 3rd level
SHORT-TERM VS. LONG-TERM IMPACTS:	1st or 2nd level
IRREVERSIBLE/IRRETRIEVABLE IMPACTS:	1st or 2nd level
ALTERNATIVES:	3rd or 4th level
CONSULTATION/COORDINATION:	3rd level

### List of tables and figures not provided.

DSC editors should catch this.



### Legends of figures and tables inadequate.

Legends for figures and tables frequently do not adequately describe their subject matter. Legends must always stand on their own to make the purpose of this material obvious to the reader. Although always referenced by number in the text, the material must be easily understandable without reference to the text. The basic legend is always brief, usually only a few words in length. Supplemental material, such as necessary explanations and the source reference, may supplement the basic legend as appropriate. Authors should work with the editors to be sure legends are as clear and succinct as possible.

### Figures and tables separated from pertinent text.

Figures and tables sometimes are located a considerable distance from the text material that is relevant to them. As a general rule, figures and tables should be placed on the same page or the next page with respect to their first reference in the text. Subsequent references to them later in the text should include both number and page citation.

### Figure numbers and legends not located on figures themselves.

Figure numbers and legends are sometimes found on opposite-facing pages. This approach increases the length of the text unnecessarily and interrupts its continuity. Wherever possible, figure numbers and legends should be placed directly on the figures (in the case of photographs, they are placed above or below the photo).

### Federal Register notice not submitted with EIS transmittal to WASO.

Infrequent problem, but easy to resolve in Regions.

### Use of old DSC guidelines.

In 1973, guidelines were prepared in the Denver Service Center to facilitate preparation of environmental statements on planning projects. Separate guidelines were issued for EIS's on master plans and development concept plans; the documents had wide distribution in DSC and a more limited distribution in the Regional Offices. Although useful in their day, these guidelines contain material on format and content which is inappropriate in light of present standards. Occasionally, a statement is prepared using these guidelines; its rejection during inhouse review is thus assured from the start. Existing copies of these guidelines should either be discarded or placed in permanently inactive files.

EIS's currently in preparation should adhere closely to existing "NPS Guidelines for the Preparation and Review of Environmental Assessments and Statements," dated July 29, 1974. These guidelines are presently available as an inhouse document, but will soon be officially published in the Federal Register.

## I. DESCRIPTION OF THE PROPOSAL.

### Proposals not quantified.

This is one of the most common deficiencies, which is often traceable to inadequacies in the plan itself. Even at the master plan level, proposals must be quantified to the greatest possible degree. Often, this will involve presenting a range of values, as "a 20-25 foot-wide road between A and B approximately 0.5 to 0.8 miles long, depending upon the precise alignment eventually selected" or a "picnic site with about 20 tables to be constructed between 1980 and 1985." If quantification cannot be provided, the writer must indicate what factors will determine these specifics. The acreage in land use zones must be approximated by map planimetry or other means. With respect to each proposal, the author should try to determine "how, when, where, and to what degree." Even on highly conceptual plans, the EIS writer must attempt to quantify the plan's proposals even though the information may not be present in the plan itself.

### Lengthy or inappropriate material in preamble.

Normally, the preamble in Section I contains the following: location of park within region, within-park location map (not hand-drawn), public law citation and date for enabling act, park purpose as specified in enabling act.

### Unnecessary detail in describing the type of action and the need for it.

This discussion is brief, usually no more than a paragraph in length, and describes the kind of plan or project, its approximate time duration (if appropriate), and why it is being done. Authors should not digress into discussion of proposals, the park environment, or impacts.

### Proposals described in tentative terms.

The Proposal section indicates what we will do, not what we "can, should, might, may, could, would, or ought to" do. In unusual cases, where there is genuine doubt as to whether we will implement a proposal or when there are extenuating circumstances, these conditional and subjunctive verbs are appropriate. Authors of both plans and statements should pay particular attention to avoid these words, which convey a lack of conviction and suggest incomplete planning.

### Proposals not supported by appropriate graphics.

Deficiencies related to graphics, or the lack of them, are legion. For readers not fully acquainted with a park, good graphics can make the difference between interesting reading and total bewilderment. In preparing graphics for an EIS, one or two appropriate scales should be selected for the base maps. At the general management plan level, there will usually be a need for a parkwide scale and an area-specific scale for showing developments and other plan components. Every general management plan should contain a fold-out topographic map of the park and its immediate vicinity. The Department strongly favors using USGC quads as the basis for preparing graphics

and has even suggested including such quads as part of the statement (in a packet at the rear). While this approach has merit, maps must be tailored to the specific presentation requirements. Graphics must make a point, and preferably only one of them. That is, they should not be cluttered with superfluous information that is not germane to the subject of the graphical presentation.

As a general rule, every geographic place name mentioned in the text should be labelled on an appropriate graphic and the graphic referenced as necessary to help the reader locate key places quickly. Exceptions would include certain places outside the park that do not figure strongly in the plan or its impacts, and very minor places within the park that can easily be located from other information presented in the text.

Most master plan EIS's for large parks will contain maps showing the various actions to be taken. The use of transparent overlays on a common base is encouraged (either a USGS quad, a modification of it, or an aerial photograph is typically used); the overlay assemblage often is best placed in a packet at the end of the statement so that the reader can retrieve maps easily and compare them. The master plan maps or overlays may include, but are not limited to, an access and circulation plan, general development plan, zoning plan (may be integrated with development plan in some cases), resource management graphics (fire management zones, habitat management zones, watershed management zones, etc.), boundary adjustments and land acquisition.

For other plans ("action plans") and master plans for small areas, a smaller number of graphics may be needed to describe the proposal. Appropriate scale, simplicity, professional labelling, and a suitable base are required.

Each graphic is given a figure number and legend, preferably on the graphic itself rather than a facing page. Map scale (metric and English), north arrow, and necessary keys and legends are provided. Freehand, "conceptualized" graphics generally are not acceptable.

#### Lack of succinctness and tight organization.

A largely editorial, but common deficiency. Don't say in two pages what can be said in one. Telegraphic style is often useful in presenting proposals. In complex plans, proposals must be grouped according to appropriate subject headings, such as:

- Management Objectives
- Zoning
- Development
- Concessions
- Visitor use
- Interpretation
- Access and circulation
- Resource management
- Land acquisition and boundary changes
- Cooperative planning

Topics should be discussed in a logical order (e.g., zoning before development, resource management before cooperative planning, etc.). To the maximal degree possible, the Proposal section and Alternatives section should agree in terms of their outline format. That is, it is desirable to discuss "Proposals Pertaining to Zoning" and "Alternatives Pertaining to Zoning" at the same relative locations in the outlines of the two sections.

#### Failure to identify administrative and legislative actions.

Many plans, particularly master plans, call for both legislative and administrative actions. These should be identified clearly in the proposal section. This may be done conveniently by summarizing all legislative needs in a separate section using telegraphic style, or, alternatively, using a tabular presentation. Plans calling for legislation must be considered both legislative and administrative actions on the summary sheet for the EIS.

#### Impacts or justifying statements in the proposal section.

Another tendency on the part of many authors is to provide information on why we plan to take a particular action and what its environmental benefits will (or may) be. In most instances, this information tends to justify the proposal, to present it in the best possible light. The objectivity of the environmental statement is, therefore, suspect from the start; the reader wonders whether the analysis of impacts and alternatives that follow are similarly colored for the purpose of gaining the reader's support or encouraging his disfavor. It is essential that the proposal be presented without value judgments and describe only what we plan to do. Consider the differences between the below two presentations:

"The plan recommends construction of a 48-site walk-in campground on 32 wooded acres above the 100-year floodplain of Byrne Creek, about 0.5 miles west of Patten Peak, and 0.2 miles south of the Freeman Bend ranger station (see Figure 4)."

"The plan recommends that a 48-site walk-in campground be constructed to provide additional camping opportunities in a scenic area near Byrne Creek that is particularly well suited to this activity. The campground will be nestled in the woods above the 100-year floodplain to ensure the integrity of the facilities, promote the safety of visitors, minimize aesthetic intrusion on the stream corridor, and reduce the likelihood of water pollution. Campers will be within easy sight distance of the snowcapped Patten Peak, which provides the context for a high quality visitor experience. Interaction between visitors and rangers will be encouraged by the proximity of the Freeman Bend ranger station, just 0.2 miles to the south. Figure 4 shows the location of the proposed campground."

The first proposal is objective and does not fritter away the adverse impacts which will be discussed later on (e.g., loss of 5 acres of mature forest, including 3 giant redwoods, disturbance of the habitat of 2 threatened species of snails, the aroma of the stables at Freeman Bend, and the severe erodibility of the area's soils).

### Environmental description in the proposal section.

The required format for environmental statements places the description of the environment after the description of the proposal. This somewhat arbitrary organization requires the writer to describe proposals before they have been placed in their environmental context. However, the organization has the advantage of allowing us to focus on the actions to be taken, placing them subsequently in their environmental context which provides the basis for the impact analysis. The ordering is the reverse of the traditional requirement in planning documents that the environment be described first to provide essential background information for the plan. The validity of either approach embroils us in a chicken-and-egg argument, which is inevitably unproductive.

In order to circumvent the EIS organization, authors are often tempted to include background information on the environment when presenting proposals. This may lengthen the text unnecessarily, detracts from the proposals themselves, and increases the amount of redundant information (since the material presumably is also contained in the environment section). However, environmental information that is essential to describing the proposal should be included. For example, a fire management program indicates management strategies for several vegetation types within the park. Vegetation types and a few of their characteristics may be indicated in describing the proposals. For example, a proposal might read "prescribed burns will be carried out in the 500-acre area bounded by X, Y, and Z in order to reduce unnatural accumulations of litter in the chaparral vegetation." The vegetation and the unnatural accumulation of litter are mentioned, but the information is essential to describing the proposal. However, additional information on species composition, plant succession, and other factors would be inappropriate unless this information is a part of, rather than supplemental to, the proposal.

### Mitigating measures in the proposal section.

The appropriate location for mitigating measures within the statement is often hard to determine. Departmental guidelines require these proposed actions to be placed in Section IV after the impact analysis, but make no reference to the appropriateness of including them in Section I (proposal section). Our own guidelines likewise are not helpful in this area. In addition, neither set of guidelines deals with what specifically constitutes a mitigating measure. As a result, various kinds of actions turn up in Section I, Section IV, or both. The lack of guidance on this subject has resulted in a corresponding lack of consistency in the authors' approach as well as problems for reviewers, who themselves are not always sure of what constitutes a mitigating measure and where it belongs in the statement.

Mitigating measures fall into two general categories which we will term direct and feedback measures. A direct mitigating measure is an integral part of the proposal which will be accomplished when the proposal is implemented or before it is implemented. Its effect is to make the proposal more environmentally compatible from the start and is a part of its implementation strategy. Examples include designing a building so that it blends in well with the environment, using road construction techniques that minimize erosion,



and establishing fire breaks to be sure a prescribed burn is contained within the designated area. Designing a facility to conform to certain statutory regulations or standards likewise ensures that impacts will be minimized from the start. The magnitude of the impacts from a proposal, including direct mitigating measures, is usually predictable and often quantifiable.

Feedback measures are typically relatively long-term actions that will be taken in tandem with the proposal or after the proposal is implemented. Their results are not predictable, although we are reasonably certain that they will reduce the adverse impacts of the proposal by causing it to be modified in environmentally beneficial ways at some time in the future. Feedback measures are particularly applicable to long-term programs and projects. Research, monitoring, and cooperative planning are good examples. These measures in themselves usually have few or no impacts, yet they provide information which may show how programs and projects may be modified to reduce the environmental impacts we recognized when they were originally developed. They act as feedbacks to the proposal itself, causing it to be modified to the benefit of the environment.

Direct mitigating measures must be included in the proposal section. They are an integral part of the proposal and must be considered along with the proposal when its impacts are being assessed. For example, if a proposed visitor center will be constructed using a particular architectural style to make it harmonize with the aesthetic environment, it makes no sense to assess the impacts of the building without considering its architectural style. In other words, the impact analysis in Section III is based on the proposal and its mitigating measure; the impacts cannot be assessed without the mitigating measure. The measure then is a part of the proposal and has environmental benefits; it is not a filter through which only unavoidable adverse impacts can pass. Implementing the measure will not result in further modification of the proposal--we know what we will do and what its effects are. Although all direct mitigating measures are discussed in Section I, only the most important need to be summarized in Section IV as well.

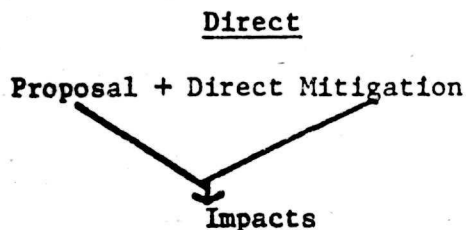
A feedback measure, on the other hand, is always placed in the mitigating measures section and almost never in the proposal section. The measure has no direct environmental benefits and is a separate action from the proposal itself. It is a filter through which the adverse impacts in Section III are passed to yield the unavoidable adverse impacts in Section V. For example, we plan to undertake a research program to help us find ways to reduce the adverse impacts of a proposed wildlife management program. The impacts of the program without the mitigating measures are assessed in Section III, the possible feedback from the research findings to the program are evaluated in Section IV, and the unavoidable adverse impacts are presented in Section V.

As a general rule, if a mitigating measure has already been taken before the plan was prepared, it is not appropriate to mention it under mitigating measures. For example, if we have already consulted with a particular interest (say, the State Historic Preservation Officer) and if the results of that consultation have already influenced the proposal as discussed in the Proposal Section and if we do not intend to

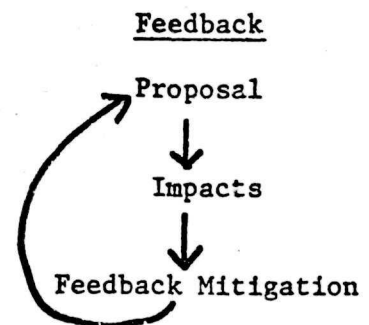
have a continuing dialogue with the particular interest as the proposal is implemented, then to discuss the results of a fait accompli as a mitigating measure is pointless. The consultation and the results of it will be indicated in the consultation and coordination section and nowhere else. Similarly, if we have not yet made this consultation but intend to do so before the final plan and environmental statement are prepared, it is appropriate to list the consultation as intended and pending, but not as a mitigating measure, in the DES. In the FES, the consultation along with its results would be indicated under Consultation and Coordination and the proposal and impact analyses amended as appropriate.

Another question which often arises is what to do if a mitigating measure itself has impacts. In the example of the research program above, let us assume that the proposed research involves significant impacts, say through proposals for immobilizing and sacrificing animals. In this case, the research must be mentioned twice--once as a proposal with impacts in its own right, and again as a mitigating measure intended to reduce the adverse impacts of the proposal by the feedback mechanism.

#### TYPES OF MITIGATION



(improves proposal and reduces impacts directly)



(improves proposal by causing it to be reevaluated and amended in the future)

#### Inadequate description of project interrelationships.

A very common deficiency. The discussion of how the projects and plans of outside interests affect the proposed NPS action, and how the proposed NPS action affects these projects and plans, is often given short shrift. This is an extremely important section and must indicate the nature of all important interrelationships. It is a discussion of reciprocal impacts, feedbacks, and other interactions between our plans and those of others. It is unacceptable to simply state that an interrelationship exists without evaluating it in some detail.

#### Failure to list all appropriate elements of the proposal.

This deficiency is two-pronged. First, there is the failure to list every element of the proposal that is the subject of impact analysis later in the

statement. Often, as the reader delves past the proposal section of the statement into the impact analyses, he finds reference to elements not mentioned in the proposal section or specific details not covered in the proposal section. These "surprises" should not occur and every statement must be thoroughly reviewed to ensure that they are not present. Except for feedback types of mitigating measures, the reader should be able to find all relevant material on the proposal in the proposal section of the statement.

A second and related deficiency is the tendency to discuss all elements of a proposal in the proposal section. This usually is unnecessary and entails a lot of extra work. Fundamentally, the proposal section contains those elements of the proposed action which individually or collectively result in significant or controversial environmental impacts. Minor elements which themselves have little or no impacts and which do not contribute substantially to the cumulative impacts of the proposal should not be discussed. Interpretive techniques, minor maintenance actions, and similar elements often do not have to be mentioned. In particular, actions not requiring an environmental assessment to be implemented do not normally have to be mentioned in an EIS associated with a proposal that includes recommendations for such actions.

On carry-over projects, failure to evaluate only unimplemented actions.

Plans and their EIS's are documents which chart and evaluate a strategy for future action. They should not be used retroactively for actions which have already been implemented. When preparing an EIS on an old plan, the plan must be scrutinized to determine what remains to be done. If major portions of the plan have been implemented, the plan should be revised accordingly. The EIS is written on the unimplemented proposals.



## II. DESCRIPTION OF THE ENVIRONMENT

### Excessive detail.

This deficiency applies to most NPS statements, particularly on major plans. The author attempts to include the complete record, presenting a lengthy compendium of text, charts, and tables which were developed during the planning effort. The section becomes pedantic and uninteresting, particularly where large amounts of technical information are provided. Although superficially comprehensive, such discussions usually communicate poorly.

Presentation of detailed environmental information without first determining its relevancy to the planning effort is an author's cop-out, which is almost impossible to correct editorially after the EIS is completed. The author provides lengthy quotes or paraphrased material from other sources as well as excerpted tables, figures, and charts, without trying to interpret them with respect to the requirements of the particular planning effort. Since interpretation of information takes considerable time, often involving consultation with appropriate experts, the writing task is made easier if only the "raw data" are presented. Unfortunately, planners typically find "raw data" difficult to use, and a voluminous Environment section of this type may actually indicate an inadequate informational base for the planning effort.

Examples of superfluous or inappropriate information are legion. Climatological data are presented when a summary indicating how climatological conditions influence park use and resource management is needed. A soil type map is included when maps showing constraints due to soils are required (i.e., poorly drained areas, unstable soils, areas of low nutrient availability, etc., as appropriate). Tables and graphs are prepared from the Census Bureau figures without showing how these are relevant to the particular planning effort. Descriptions of historic resources unaffected by the proposed action are provided at the expense of an adequate treatment of affected resources.

The content and complexity of this section depend on the requirements of the particular planning effort. Considerable detail may be included provided it is necessary for understanding the plan and its impacts. Sometimes, a high level of outside interest in a particular subject warrants a more indepth and technical discussion than would normally be provided. However, wherever possible, the section should contain only summaries and interpretations of information relevant to and used in planning. The use of overlays and other graphical techniques for presenting environmental information, as well as photographs, is encouraged.

The amount of material in the environment section depends on how it is viewed with respect to the impacts section to follow. Traditionally, relevant information is placed in the environment section and judiciously referenced to support analyses in the impacts section. Although this approach is acceptable, it often leaves the latter with the appearance of inadequacy

because the author has difficulty citing all relevant information that provides a basis for conclusions on impacts. A strong argument can be made for considering the environment section as an overview to orient the reader to the park environment and then providing in the impacts section detailed environmental information that directly relates to analyses of impacts. Either way, the total amount and diversity of environmental information presented in the statement is the same.

#### Inadequate organization.

Failure to present environmental information according to a logical outline is an occasional problem. A typical environment section has four basic components--park development, the natural environment, the socio-economic environment, and cultural resources. The order of these sections reflects general importance in the planning effort. For example, cultural resources generally would be discussed first in an EIS on an historical resources management plan and last in an EIS on a master plan for a large natural area. Information is presented within each section so that one subsection paves the way for the next. For example, since climate and soils are major determinants of vegetation, it makes more sense to discuss them first. Similarly, the regional socio-economic environment provides the framework for the use of the park and probably should be discussed before visitation trends, visitor characteristics, and the visitor experience.

Each section or subsection stands on its own as the statement on a particular subject. For example, important information on soils should not be woven throughout discussions on climate, hydrology, vegetation, and wildlife. It must be recognized that compartmentalization of information does not impair consideration of factor interactions, which are discussed in the context of the controlling subject. That is, if climatological variation, soil type, and type of visitor use influence the abundance of a rare plant species, the influence of these factors is discussed under "Flora" or "Vegetation," the controlling subject.

#### Insufficient use of the appendix for supportive environmental information.

The use of the appendix to improve readability and to reduce the bulk of the EIS text deserves more frequent consideration. Charts, lists, tables, maps, and detailed text that are relevant to the planning effort are occasionally best placed in the appendix. When included in the body of the statement, these materials, particularly if highly technical or voluminous, may disrupt its readability for most readers and are of interest to only a few. However, if the materials provide a basis for the plan and its impact analyses, they should not be deleted. Rather, their significance should be mentioned in the statement, and the materials placed in the appendix and cited at appropriate locations in the text.

#### Information which often belongs in an appendix includes:

- Climatological data resumes
- Species lists and detailed characteristics of plants and animal communities
- Environmental quality data (air, water, noise, etc.)
- Excerpts from research reports and other publications

- Geologic history and similar descriptive text (if not essential to understanding plan or its impacts).
- Legislation and regulations
- Summaries and analyses of socio-economic data (text would contain interpretation of the data).

Omission of required information.

The environment section usually contains at least some information that is required by statute or regulation. Failure to include this information, when appropriate, may cause rejection of the statement during review and adverse comments if the document is made available to outside interests. Some of the most common informational deficiencies are listed below:

- Floodplain boundaries, flood frequency, and other information on flooding when development is planned in flood-prone area. (Executive Order 11296)
- State standards for air, water, or noise when plans affect these areas of environmental quality. State stream classifications are particularly important and often overlooked. (Executive Order 11752)
- Reference to State coastal zone management plan when plans affect land use in the coastal zone of a State having an approved plan. May be covered under a discussion of regional land use in environment section or as an interacting project in proposal section. (Coastal Zone Management Act of 1972)
- Locations of designated marine sanctuaries affecting or affected by the plan, as well as nature of effects. May be discussed under regional land use or as an interacting project. (Marine Protection, Research, and Sanctuaries Act of 1972)
- Endangered species present in area, plus information on habitat requirements, in-park habitat locations, locations of critical habitat, existing beneficial and adverse influences on population within park and region, status of populations. For animals, consult "United States List of Endangered Fauna," U.S. Department of the Interior, Fish and Wildlife Service, May 1974. Where appropriate, contact USFWS, National Marine Fisheries Service (marine wildlife), and State agencies. For plants, consult "Report on Endangered and Threatened Plant Species of the United States," Smithsonian Institution, Serial No. 94-A, 1975.
- Description of resources listed on or eligible for the National Register of Historic Places, including information on significance, condition, beneficial and adverse influences (including management practices). (National Historic Preservation Act of 1966, Executive Order 11593)
- Reference to any population and growth assumptions used to justify the project or to evaluate its impacts. Consideration should be given to using the rates of regional growth compiled for the Water Resources Council by the Bureau of Economic Analysis (Dept. Commerce) and the Economic Research Service (Dept. Agriculture)--the "OBERS" projection. See CEQ Guidelines, Section 1500.8.(a)(1), August 1, 1973.

Omission of information required to facilitate reader's understanding of park's environment or to evaluate impacts of the proposal

A good "Environment" section contains a summary of all information needed to provide the reader with a general understanding of the park's resources and their use, as well as to provide an objective basis for evaluating environmental impacts. Many authors fail to include relevant existing information on the environment simply because it did not occur to them to do so. A checklist of topics that frequently need to be addressed in EIS's is provided below as an aid to authors and reviewers. It is not all inclusive, but is intended to help ensure that the most common informational deficiencies are corrected early in the planning/EIS process.

## II. DESCRIPTION OF THE ENVIRONMENT

### A. Park Development

--map, preferably on an aerial photographic or topo map base, showing the locations of all park development discussed in the text (required).

--description of development, arranged according to type of development, such as administrative facilities, maintenance facilities, recreational facilities, etc. Capacity of facilities should be mentioned, along with nature of inadequacy (if any) in meeting public demand or in fulfilling intended use.

### B. Natural Environment

#### 1. Geology and topography

--brief discussion of major geological features and geological history if important to the significance of the area or in the assessment of impacts - sedimentary, igneous and metamorphic features, paleontological resources, landforms.

--topography: general description of the park's topography. Relationship between slope and plan's proposal.

--geological hazards: nature, locations (map), probability of occurrence, history of damage. Include, as appropriate, earthquakes, tidal waves, unstable slopes, landslides, rockfall areas, avalanches, volcanic disturbances, thermal features, sinkholes, quicksand zones, etc.

--geological processes: erosion and sedimentation problems, and information on their causes and likely effects; other processes, such as subsidence or weathering, glacial movement, if relevant to plan. Sea level changes.

--mineral deposits: locations (map) and significance of known mineral and oil/gas deposits in area affected by the plan. Include information on value, history of exploitation, claims, potential for meeting Nation's demand (if known), possibility of exploitation (in many parks, prospecting and mining is legislatively precluded), feasibility of exploitation with existing and likely future technology.

--lengthy discussion of geological history typically is unnecessary unless specifically relevant, as might be the case for an interpretive plan.

## 2. Climate

--climatic parameters affecting the visitor use of the park or implementation of the plan's proposals. Emphasis is on extremes of climate, their frequency, duration, and effects. Hurricanes, tornadoes and waterspouts, thunderstorms; severe lightning; prolonged rainy periods, hailstorms, sleet and freezing rain, heavy snowfalls (especially if they are apt to result in seasonal closure of part of the park), high winds, duststorms, unusually hot and/or dry climates, severe drought, prolonged or unusual cold, fog, humidity, ultraviolet radiation, comfort index (chill factor), and unusual or prolonged thermal inversions. Discussion must emphasize relationship between climate and visitor use, management, and development in the park.

--climatic variation. Indicate how climatic variation within the park affects use, management, and development, as appropriate. Mention microclimatic effects around lakes, streams, ocean, and in canyons, basins dense vegetation, etc., if relevant to the plan's proposals.

Avoid the use of lengthy tables unless specifically needed to assess the impacts of the plan.

## 3. Air Quality

--existing pollution sources in the park: locations, pollutants produced, quantification (diurnal measure, seasonality, absolute quantities emitted).

--known or possible effects on ecological communities, human health, or abiotic resources.

--effects of pollutants generated outside park on park resources.

--applicable Federal, State, and local air quality standards. Statement on park compliance with these standards.

## 4. Hydrology

--hydrological features such as dams, lakes, streams, waterfalls, rapids, sinking streams (karst areas), washes, springs, etc. (if important to understanding the plan and its impacts).

--groundwater: sources of supply, yield, existing consumption, dependability.

--State stream classification for streams affected by the plan, identification of constraints imposed by classification category.

--floodplain boundaries, if development or use is planned in flood plain areas. Discuss frequency and severity of flooding, history of flooding effects, existing effects on use.

## 5. Water Quality

--existing pollution sources in the park: locations, pollutants produced, quantification (seasonality, absolute quantities emitted, concentrations in receiving bodies of water).

--known or possible effects on ecological communities or human health.

--effects of activities outside the park on water quality in the park.

--State pollution abatement requirements. Statement on park's compliance with these requirements.

## 6. Soils

--physical properties (permafrost, frost heaving, compaction, shrink/swell potential, erodibility, bearing strength, permeability, drainage, pH, solifluction areas, depth to bedrock, etc.)

--fertility

## 7. Vegetation and Flora

--vegetation types in area affected by the plan (map)

--effects of existing or past land use on vegetation (grazing, mining, agriculture, logging, etc.)

--effects of activities outside the park on park vegetation.

--successional stages.

--susceptibility to fire: frequency, intensity, relationship to climatic conditions.

--diseases and infestations: locations, severity, trends, existing control methods, prognosis.



--locations of rare or endangered species, as well as critical habitat. Information on abundance and status of such species.

--exotics: locations of populations, effects on native species, size of populations, history in the park, existing and past control measures.

--toxic plants: effects on human health.

## 8. Fauna

--general description of fauna in affected area

--locations of habitats for endangered or threatened species with emphasis on designated critical habitats or other important habitats. Status of such species (numbers in park, population trends, interactions with other species).

--locations of significant migration routes, wintering areas, feeding areas, breeding areas, nursery areas, etc.

--effects of existing park use on wildlife behavior and abundance.

--effects of activities outside the park on park wildlife (hunting, commercial exploitation, land use practices such as grazing and development, pollution, etc.)

--exotic animals: locations of habitats, history in the park, size of populations, effects on native species, existing and past control measures.

--soil biota: general description, effects of park management.

## 9. Aesthetics

--locations of outstanding aesthetic features.

--hazardous or architecturally/aesthetically incompatible developments, objects, or activities. Locations of eyesores.

## 10. Noise

--sources of noise (aircraft, automobiles, motorized equipment, concentrations of visitors, etc.), levels, duration, time of maximum intensity.

--effects of existing sources of noise pollution on visitor activities and park resources.

--noise abatement efforts: general description of program and its effectiveness.

--Federal, State and local noise abatement requirements, statement on park's compliance with these requirements.

#### C. Socioeconomic Environment

--regional land use patterns near the park (agricultural, commercial, park, forest, residential, etc.): historical trends, effects of changes on park.

--regional socioeconomic characteristics (economic base, income levels, population density, long-term versus short-term residents, racial composition, etc.)

--regional socioeconomic problems (economically depressed areas, provincialism, other conditions that may favor or inhibit implementation of the proposal).

--regional recreational activities: types, locations, levels, relation to demand.

--visitor characteristics: interests, expectations, age, education, income, ethnic characteristics, group composition, etc.

--visitation trends: total number of visitors per year, peak use days and periods during day, seasonal variation, changes (particularly in recent years), trends for various areas of the park and for participation in various recreational activities.

--characteristics of park visits: duration, point of origin, points of destination, cost to visitor, repeat or first-time visits, day use or overnight visits, types of activities, etc.

--taxes paid to local governments by owners of lands proposed for acquisition by NPS.

#### D. Cultural Resources

--brief discussion of the area's human history.

--cultural resources in park and its vicinity listed on the National Register of Historic Places. Brief indication of significance.



--cultural resources in park and its vicinity potentially eligible for listing on the Register; status of nomination. Brief indication of significance where known.

--results of surveys of historic, archeological, or architectural resources conducted in the area affected by the proposed action.

--status of proposed surveys to determine locations and significance of resources.

--historical/archeological/architectural significance of the park.

### Failure to cite sources of information.

Many environmental statements contain a lengthy bibliography but do not indicate sources of information at appropriate locations in the text. It is, therefore, impossible to determine whether the cited references were actually used in preparation of the document or merely serve as padding. Failure to reference information often makes it nearly impossible to locate relevant literature sources when questions on the content of the EIS arise during review.

When the statement contains relatively few citations, they may be indicated in parentheses by author and date (i.e., Patten, Byrne, and Gregg, 1975). If there are numerous citations, use of this method impairs the readability of the text and should be dropped in favor of numerical citation by which references are cited by numbers which are keyed to a bibliography. The author, in consultation with an editor, should determine which method is suitable in a particular case.

### Omission of "Probable Future Environment Without the Proposal."

Departmental guidelines (516 DM 2.6.C.(2)) require a discussion of the probable future environment without the proposal. By convention, this is a separate and brief subsection at the end of the environment section. It is an extension of previous discussions of existing environmental conditions and summarizes trends which are likely to occur in the area potentially affected by the proposal. Its emphasis, therefore, is futuristic, while the rest of the section emphasizes the present. Unlike the "No Action Alternative," the section does not include a detailed discussion of the impacts of aspects of the ongoing park management programs. The environmental trends, which may be influenced by ongoing management programs, provide the context for those programs but are not synonymous with their impacts. For example, deteriorating air quality in the park's region is a quantifiable trend which might be discussed in this section. The contribution of the ongoing park management programs to this deterioration is an impact of the programs and is more properly discussed under the "No Action" alternative.

An argument can be made for abolishing this subsection and including its material in discussions of particular environmental parameters (air quality, visitor experience, etc.). This organization would improve the completeness of the individual discussions, but would impair the usefulness of the section as a synthetic overview of environmental trends. At this writing, the Department prefers to retain this subsection as a separate entity.

### III. THE ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

#### Inadequate quantification of impacts.

Probably the most common deficiency of the impacts section is lack of quantification. The problem may stem from lack of detail in the planning proposals, lack of adequate environmental information, or an inadequate impact analysis. The deficiency causes more rejections during review than any other.

When preparing an impact analysis, the author should keep the following in mind:

- Avoid the use of pseudo-quantifiers, such as "some," "a few," "many," "several," and the like.
- Use a value range if precise quantification is not possible (i.e., 15-20 acres, 10,000-15,000 visitors per day, etc.)
- If the information does not exist, say so.
- Indicate duration of impacts where appropriate.
- Failure to mention an impact consideration for lack of information is unacceptable.

#### Organization by causes of impacts.

In most early NPS statements, impacts were presented according to the causes of the impacts--that is, the actions having an impact on the environment. While this approach allows for presentation of both the direct and interactive impacts of individual proposals, it does not lend itself readily to presenting cumulative impacts of all proposals on a particular component of the environment. Because proposals were considered separately, many authors tended to use the impact analysis as a justification statement, presenting impacts in ways that tended to support the proposed action (by emphasizing beneficial impacts in one area and short-changing adverse effects in another, etc.). Some statements, particularly those prepared according to early DSC guidelines, utilized the cost/benefit approach in which the impact discussion for each proposed action was blocked into an environmental cost and benefit subsection. This approach often had the appearance of a balancing procedure in which the scales usually tipped strongly in the direction of the benefits to be derived from the proposal. The justificatory appearance of the method brought it into rapid disfavor with upper-level reviewers (perhaps unjustifiably so) and its use is frowned upon today.

Wherever possible, impact sections in NPS statements should be organized according to components of the environment affected. The order of topics usually parallels that of the environment section to facilitate cross-referencing. That is, if the major topics in the environment section are natural environment, socio-economic environment, and cultural resources, each with its own specific subtopics, the impacts on these components of the total environment would be presented in the same order.

Unless a statement is otherwise of superior quality, organization of the impact section according to causes rather than affected environmental components is a sufficient basis for rejecting a statement in the review process.

Failure to indicate probability of impacts.

Every impact has a probability level associated with it. Failure to indicate whether less-than-certain impacts are probable, possible, or merely plausible can result in misinterpretation of the impact analysis. The significance of a particular impact may be inflated or deflated depending on how the reader views the level of probability. Therefore, authors should attempt to indicate probability level whenever significant impacts are less than certain. To say that an impact "might" occur is less definitive than indicating that it is "plausible" rather than "possible" or "probable."

It is often desirable to discuss impacts on a given environmental parameter in order of decreasing probability. This organization, if consistent, orients the reader to the significance of impacts and should reduce the number of misinterpretations.

Basis for conclusions on impacts not apparent.

Presentation of inadequately supported impacts is a common problem in many NPS statements. Conclusions on impact must be based on a systematic analysis of relevant information. Frequently, the necessary information may be found in the environment section, but, presumably to avoid redundancy, the author sometimes chooses not to use it in his analysis.

There are two ways to correct this problem. First, supporting information in the environment section may be referenced and summarized in the impact analysis. It is, of course, impossible to eliminate redundancy by this method. Alternatively, the environment section may be used as a brief overview of the park environment and more specific environmental information presented in the impacts section. This approach substantially reduces redundancy and has the added benefit of placing relevant environmental information where it counts most--in the impact analyses. This alternative has the support of the Department so long as the information presented in the impacts section is directly relevant to the particular analysis of impact.

In summary, it is not necessary to place all environmental information in the environment section. If the information has an obvious bearing on an impact analysis, it may be placed in the impact section. General descriptive information, of course, is always placed in the environment section and may be referenced or used again in support of an impact analysis.

Failure to use impact display techniques when appropriate.

Only a few attempts have been made to use charts, diagrams, tables, and similar techniques for displaying or referencing environmental impacts in our statements.

The National Park Service lags far behind many other agencies (AEC, U.S. Army Corps of Engineers, HUD, etc.) in experimenting with these techniques.

While there is no substitute for a well written text, impact displays have potentially great value for communication and as aids in decisionmaking. The appropriate technique depends on the particular project and its impacts. One of the simplest forms of display is a cause/effect matrix in which proposed actions are arrayed on one axis of the chart and effects (impacts or impacted components of the environment) on the other. The squares in the matrix may be color coded to indicate the significance of the impact (red = high, yellow = medium, green = low, no color = no impact).

Such a display provides an overview of the significance of the impacts of various actions but provides no information on the nature of the impacts (i.e., a direct effect, part of a chain reaction, impacts due to interplay among two or more actions, etc.), the cumulative impacts of many actions, the quantitative value of the impacts, the probability of the impacts occurring, and so forth.

As a general rule, display techniques involving numerical weighting of impacts according to a subjective value system should be avoided. Such displays have no advantage over more qualitative displays and many disadvantages, not the least of which is the tendency to manipulate the value ratings mathematically and to draw inappropriate conclusions from the results.

The impacts of plans for long, generally linear parks--such as parkways, national seashores, and national riverways--are particularly amenable to a graphical display that relates impacts to geographic areas of the park. A good example of this type of display may be found in:

EDAW, Inc. 1974. Alberta-California pipeline environmental impact statement graphic summary. Prepared for Pacific Gas and Electric Company & Pacific Gas Transmission Company for submittal to the Federal Power Commission. Available from EDAW, Inc., 145 Mission St., San Francisco, California 94105.

Authors should consider using graphical or tabular impact displays whenever a plan's impacts are varied enough so that it is difficult for the reader to conceptualize the "big picture" after combing through the impact analysis text.

#### Inadequate discussion of impacts on areas outside the park.

The effects of park development, resource management practices, and visitor use programs on conditions outside the park may be substantial. Early NPS statements tended to emphasize within-park effects, downplaying or ignoring the externalities. This problem has become less widespread in the statements of all agencies as the appropriate content of EIS's has been expanded, largely as an after-effect of court decisions in NEPA litigations.

External effects often involve resources which are continuous between the park and its regional environment--air, water, aesthetics, biotic communities, roads and trails, and occasionally development are examples. A change within the park has a direct effect outside the park since the park boundary cannot completely confine the change to the enclosed area. Other external effects do not involve continuous entities and are focused at locations outside the park. Examples include loss of tax revenue to a local municipality after acquisition of land by NPS, increased use of facilities outside the park following use restrictions within it, and changes in regional land use patterns as a result of NPS actions. Both kinds of external impacts must be evaluated at a level of detail appropriate to their significance.

#### Failure to identify permanence and timeframe of impacts.

Section VI of the EIS is a discussion of trade-offs between short-term and long-term environmental impacts. Section VII provides for enumeration of impacts which are irreversible and/or irretrievable. Both sections are prepared directly from material in the impact section. They contain no new material, and merely emphasize or give additional perspective to the original impact analysis.

It is, therefore, important to identify the timeframe and degree of permanence associated with impacts when they are first presented. This approach makes preparation of the later sections largely an editorial matter.

#### Failure to indicate absence of impact on important environmental components.

Writers typically concentrate on presenting an analysis of the beneficial and adverse impacts of proposed actions on various components of the environment, but often fail to mention determinations of no effect. These determinations are made frequently during the planning process and the basis for them is often well founded. However, they are sometimes not recorded or, if recorded, are ignored when the statement is being prepared. Such omissions sometimes constitute serious defects, particularly when they relate to components of the environment that have some degree of legal protection, such as historic and archeological resources, endangered and threatened species and their critical habitats, air quality, and water quality. Authors should keep in mind that determinations of no effect are just as important as determinations of effect. As a general rule, if an environmental component is important enough to mention in the Environment section, there usually should be a conclusion regarding the impacts of the proposal on this component in the Impacts section. This conclusion indicates either beneficial effect, adverse effect, no effect, or some combination of these possibilities. As an example of the latter case, a plan may have beneficial effects on archeological resources in one area of the park, adverse effects in another, and no effect in the rest. A complete analysis discusses the full range of impacts, as appropriate.



#### IV. MITIGATING MEASURES INCLUDED IN THE PROPOSED ACTION

##### Mitigating measures not part of the proposal

Early NPS statements frequently contained lists of mitigating measures not specifically recommended in the plan itself. These measures were often after-thoughts--things it would be nice to do if we got the funds and manpower. There was virtually no commitment to implement them.

Inclusion of "straw men" measures still occurs infrequently, particularly on carry-over EIS projects where the plan did not recognize mitigating measures which obviously should be taken. In these cases, the plan should be amended to include these measures as evidence of the Service's intention to implement them.

##### Consultations listed as mitigation

Consultations with other agencies, State Historic Preservation Officers, and other interested parties during the preparation of the plan and its EIS are described in the Consultation and Coordination Section. They are not listed as mitigating measures.

Many of the Service's draft EIS's list pending consultations as mitigating measures. Reference to these pending consultations often is retained in the final statement, even though the consultation has been completed. The problem is most often encountered with respect to the Advisory Council on Historic Preservation, which typically is consulted after completion of the draft plan and EIS. This consultation, while not itself mitigation, may sometimes result in an agreement on ways to mitigate adverse impacts on cultural resources. The consultation paves the way for incorporating mitigating measures into the final plan and its EIS. Because of the strong relation between this consultation and a possible agreement on a mitigation strategy, the consultation itself has frequently been construed to represent mitigation. In reality, it is the agreed upon actions resulting from the consultation that constitute the mitigating measures, not the consultations themselves. Use of this section to describe the consultations themselves therefore is inappropriate.

##### Routine management actions listed as mitigation

The Mitigating Measures should focus on those substantial actions we plan to take to reduce the adverse impacts of the plan. Routine management actions, even if indicated in the plan, are not normally mentioned. The National Park Service is expected to paint its buildings, repair pot-holes in roads, and keep its septic systems running efficiently.

The impacts of the plan are evaluated assuming that such routine actions will be taken; they need not be discussed in either the Proposal or Mitigating Measures Sections of the EIS.

##### Proposals with environmental benefits listed as mitigation

Proposals with environmental benefits are often listed inappropriately

as mitigating measures. For example, a proposed management program for managing alligators reduces the likelihood of 'gator/visitor interactions. The reduction in these adverse interactions is a benefit of the action. The action does not mitigate the adverse effects of any proposal, but rather helps eliminate a management problem. To include such actions as mitigating measures is a misuse of this section.

Mitigating measures typically have negligible environmental impacts, either beneficial or adverse. Where they do--as where conducting research or monitoring disturbs ecological communities--they must be listed in the Proposal Section and their impacts evaluated, in addition to their inclusion in the Mitigation Section.

#### Failure to indicate a strategy for implementing mitigation

Wherever possible, it is desirable to indicate how, when and by whom mitigating measures will be implemented. If the action is programmed for implementation, the Service's commitment should be indicated. This information may not always be available, or may be available only in rough form. "Say as much as you can" is a good rule of thumb. Planners have a responsibility to ensure that mitigation is taken seriously and does not develop as an after-thought during the planning process.

Failure to provide information on the mitigation strategy suggests lack of a solid commitment to implement the recommended measures. This is particularly true of the feedback type of mitigation (see p.8-9), which usually must be programmed and/or implemented separately from the action to be mitigated.

#### Failure to identify direct and feedback mitigation

Mitigating measures are included in the plan to reduce or eliminate the adverse impacts of recommended actions. The measures may be of the direct or feedback variety (see also p.7ff). The former are integral components of a proposed action, which are implemented as part of the action (design features, etc.) or as prerequisites to the action (archeological surveys, etc.). The latter are separate actions which may cause an action to be modified at some future time (i.e., information from research, monitoring, cooperative planning, etc. ).

It is desirable in the presentation, although not necessary, to separate direct and feedback forms of mitigation to the extent possible. Feedback mitigation typically has less chance of being implemented because it often requires a major commitment of funds and manpower as well as separate programming. Grouping the feedback types of mitigation together in one place facilitates information retrieval by decision-makers and programmers who must arrange for implementation.



## V. ADVERSE IMPACTS WHICH CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED

This section merely summarizes adverse impacts documented in the Impacts Section that are unmitigated or not completely mitigated as a result of feedback mitigation identified in the Mitigation Section (the impacts identified in the Impact Section are for proposals along with their direct mitigation; hence direct mitigation does not have to be applied to the impacts to determine which are unavoidable. See p. 7-8).

In general, this section is developed by editing, summarizing and focusing on material in the Impacts Section. Previously unidentified impacts therefore cannot be included. As a rule, if the impact analyses are inadequate, this section will reflect the inadequacy. Lack of quantification for the unavoidable adverse impacts typically is the major problem.

It is desirable to keep this section as brief as possible, using telegraphic style or tables to focus on the unavoidable impacts. Wherever possible, the magnitude of these impacts should be indicated in quantitative terms. The relative significance of the unavoidable impacts should be indicated. This may be done by listing the impacts in order of decreasing significance, or by indicating relative significance qualitatively, (e.g., high, moderate, low) in the text or in a table.

## VI. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

According to our latest guidelines (July 1974), this section contains "a brief overview of ...trade-offs between short-term environmental gains and long-term losses, or between short-term environmental losses and long-term gains." For example, a fire management plan involves short-term impairment of aesthetics--an environmental loss--and long-term improvement in ecological diversity and stability--an environmental benefit. Alternatively, a plan recommending a campground in a scenic valley has great short-term benefits to the visitor's experience at the expense of potential long-term degradation of the natural resource. It is obvious from these examples that "short-term" and "long-term" are relative expressions and do not denote a particular time period. Quantification of the duration of the effects is difficult in most cases, but rough approximations should be provided wherever possible. Charts and tables may be useful in outlining the significant trade-offs particularly for complex proposals with many different kinds of short- and long-term impacts. The information for the trade-offs analysis is found in the Impacts Section; no new information is provided. The section is an overall assessment of the plan's beneficial and adverse environmental implications in the short run, and the long run. It should always present summary conclusions based on the analysis of trade-offs.

### Problems with existing NPS guidelines

#### (1). Possible redundancy with Irreversible/Irretrievable Commitments Section.

Our EIS guidelines for the Short-term/Long-term Use discussion obligate us to "indicate how the proposed action will preclude future options for using and deriving benefit from man's environment" (underlining supplied). With respect to the Irreversible/Irretrievable Resource Commitments discussion, the guidelines require a reiteration of "those impacts...that impair the resources' integrity or the options for their future use" (underlining supplied). The difference between the two requirements is not articulated clearly, and it appears that the same material belongs in both sections. The problem stems from the August 1, 1973 CEQ guidelines which required a discussion under Short-term/Long-term of "the extent to which the proposed action forecloses future options". This discussion was not required by the previous issue of CEQ guidelines (May 2, 1973). The CEQ guidelines for the Irreversible/Irretrievable Commitments discussion have always required an analysis of "the extent to which the action irreversibly curtails the range of potential uses of the environment."

The Office of Environmental Quality will consult with CEQ and the Department to resolve this apparent redundancy. In the meantime, the preclusion of future uses as a result of a proposal should be considered as an irreversible or irretrievable resource commitment, as appropriate, and discussed in that section. The Short-term/Long-term Use discussion should be used solely to summarize trade-offs.

(2). Unclear sentence.

The NPS guidelines require that "the immediate and cumulative impact caused by implementation of the proposed action, as well as the cumulative impact of similar actions both proposed and implemented, must be evaluated with respect to the long-term productivity of the environment" (underlining supplied). It is not clear whether the underlined phrase refers to other actions in the same plan, actions in other NPS plans, or interacting actions by outside interests. In addition, the statement appears to call for an impact analysis of already completed actions--no small task in many parks.

This sentence will be revised or deleted when the guidelines are reworked to bring them into conformity with the Planning Handbook, now in preparation. In the meantime, the instruction should be ignored.

VII. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Failure to distinguish between irreversible and irretrievable resource commitments.

Many authors still use the terms "irreversible" and "irretrievable" interchangeably. They do not mean the same thing when applied to resource commitments (i.e., impacts). An irreversible commitment is very long-term or permanent, and normally involves loss of a non-renewable resource. Examples include destruction of critical habitat for an endangered species, changes in soil properties following stripping of a tropical rainforest, demolition of an historic resource, loss of the cultural traditions in a human society, and removal of minerals from the earth. An irretrievable commitment, a lost opportunity or renewable resource, is temporary, or conceivably so, within a human time frame--say a century or two. Examples include commitments of land to particular uses (thereby irretrievably precluding other uses until the commitment is changed), loss of tax revenue to local governments after the Federal Government acquires land (lost for as long as the land is owned by the Federal Government), or erosion of soil following a prescribed burn (it may take a century or two for natural processes to restore original conditions).

Separate identification of irreversible and irretrievable commitments is desirable. Irreversible commitments normally should be listed first. Because of their generally greater importance, the reader's attention should be focused on them at the start of the discussion.

New material presented in the discussion

Irreversible and irretrievable commitments are adverse impacts. All of them are included in the Impacts Section and most of them in the Unavoidable Adverse Impacts Section. The discussion merely places new emphasis on already presented material; its preparation is largely an editorial matter. There should be no "surprises" in this section.

Wherever possible, use telegraphic style in listing these impacts. Quantification is particularly desirable because the impacts often are the most significant ones.

## VIII. ALTERNATIVES TO THE PROPOSED ACTION

In many respects, this is the most important part of an EIS and the one most likely to be deficient. It is supposed to contain a thorough documentation of reasonable alternatives to the proposed action along with a full analysis of their impacts. Its coverage is typically limited to alternatives with significant environmental impacts that are substantially different from the proposal. It is the main vehicle for providing information to the general public, and to outside agencies and organizations, on the environmental effects of alternatives to the proposal. It allows the reader to see at a glance what alternatives were considered during the planning process and what environmental effects were documented and made available for evaluation by the decision-maker. The Alternatives section evolves during the planning process when alternatives are continually being formulated, analyzed, evaluated, and culled. For this reason, it is almost impossible to prepare a good Alternatives section on a carry-over project where the alternatives analyses must be reconstructed ex post facto. As a general rule, the Alternatives section is the best indicator of an objective, systematic and well-documented planning process--or the lack of it.

### Inappropriate description of the no action alternative

The no action alternative has long been a major source of problems in NPS statements. Authors have apparently not had a clear understanding of what is to be evaluated under "no action". To many, no action means simply non-implementation of the plan. In these cases, the impact analysis for no action typically indicates that the environmental benefits and adversities associated with the proposal will not be realized. To a few, no action signifies not only failure to implement the recommended plan but also cessation of all on-going projects and programs related to it. This form of the "no action" alternative is almost always neither prudent nor feasible and hence has no place in an EIS.

Both of the above approaches are negative because they do not evaluate a definitive alternative. When the no action alternative is viewed in a positive light, the importance of analyzing its impacts is readily apparent. Under this approach, the alternative is considered to be the continuation of all on-going programs and projects which are directly relevant to the proposed action. For example, if the proposed action is to establish and manage a wilderness area, the no action alternative describes the management strategy which would otherwise be implemented in the same area. An impact analysis then is conducted on this strategy. Considered in this light, the no action alternative provides a reference point against which to evaluate the proposal itself. Although never tried in an NPS statement, a tabular or graphical display of the impacts of the no action alternative alongside the proposed action would be a valuable aid in communicating information to outside interests and in making in-house decisions.

### Lack of supporting graphics

Alternatives are often short-changed when it comes to graphics. Most, if not all, of our graphical efforts are spent in presenting the proposal, with obvious salesmanship benefits. The only NPS statements that usually have good graphics for alternatives are the wilderness statements where the graphics are often prepared as a part of the capability/desirability analysis.

Authors must ask themselves "if the alternative were selected as the proposal, would it be appropriate to illustrate it with a map, figure, photograph, or other appropriate graphics?" If the answer is yes, then suitable graphics describing the alternative should be prepared. Frequently, several alternatives can be described using the same graphic, as in the case of alternative boundary adjustments. Overlays relating alternatives to each other or to the proposal are often useful for comparative purposes. The potential usefulness of graphics and their specific content must be determined with respect to each alternative.

### Run-on discussion of many topics in a single text

In many EIS's, alternatives are presented without blocking the text into separate subject headings, as is done for the proposal. The result often is a run-on series of paragraph containing information on the proposal, the environment, impacts, and mitigation. New information on the various topics keeps cropping up, which makes for a disjointed, hard-to-follow presentation. In addition, it is nearly impossible for the reader to cross-reference with other sections of the statement.

The discussion of each alternative contains two basic outline subheadings--proposal and impacts. Other subheadings--such as environmental description and mitigating measures--are included, as appropriate.

It is helpful if the presentation of material parallels the order and topics discussed in the preceding sections of the text. For example, if proposals pertaining to resource management, interpretation and development are presented in a particular order, the alternatives pertaining to those same topics are presented in the same order. Similarly, if the environmental description for the proposal is presented with Development first, then Natural Environment, then Socioeconomic Environment, and finally Cultural Resources, information presented under a particular alternative discussion follows the same order. The same procedure applies to sub-topics, as appropriate.

### Inadequate analysis of impacts

The same deficiencies that characterize the Impacts Section also pertain to impact analyses in the Alternatives Section. The impacts of each alternative are analyzed in sufficient detail to facilitate full and



objective consideration of environmental values in decision-making. Some alternatives require very detailed analyses if they have many complex impacts; others need only a brief analysis where the number of impacts is small or where a few impacts have overriding significance in evaluating the alternative.

#### Lack of objectivity

Use of the Alternatives section to fritter away alternatives, thereby providing justification for the proposal, is becoming a less serious problem in NPS statements than in the past. Early EIS's frequently provided a weak impact analysis for the alternatives, followed by a self-serving statement on the rationale for their rejection. In other words, the reader was not given the opportunity to evaluate each alternative on his own based on an objective presentation of its impacts.

Properly used, the Alternatives section presents an analysis of alternatives, but does not evaluate them or rank them in any way. Evaluation and selection is the job of the decision-maker and should be based on facts and sound professional judgments. The rationale for selection or rejection of alternatives is provided in the Environmental Review, not in the EIS. Authors must continually monitor their work to be sure that personal bias and justificatory language are not inadvertently introduced into the analysis.

#### Lack of displays for impacts of alternatives

NPS statements rarely (if ever) employ tables, charts, or graphics to display the environmental impacts of alternatives. Although not required by existing guidelines, such displays are useful for showing what environmental effects were considered in the evaluation of alternatives, culling of alternatives, and the selection of a proposed action. Experimentation with methods of display tailored to the particular planning effort is encouraged.

In displaying the impacts of alternatives, the author must be certain that the alternatives are at the same level of conceptualization and address the same problem. In other words, the impacts of establishing a campground in a particular location are arrayed against the impacts of establishing the campground someplace else, rather than the impacts of an alternative development plan for the area encompassing both locations. In a typical display, the various alternatives might be arrayed along one axis of a chart and the impacts or impact areas (soils, vegetation, visitor experience, etc.) on the other. The boxes in the chart's matrix might be color coded according to the relative significance of the impacts (red = high, yellow = moderate, green = low, clear = no impact); and also may contain quantifications of impacts in suitable units, if appropriate. Often, it may be appropriate to array the relevant proposal, the no action alternative, and one or more alternative proposals in the same chart. The display of information is always kept as simple as possible--if there are more than 5 or 6 alternatives on a given display, the communicative value of the display is diminished.

Displays are summaries and therefore are best placed following discussions on alternative solutions to the same planning problem.

#### Failure to identify reasonable alternatives outside NPS jurisdiction

NPS statements rarely contain analyses of alternatives outside NPS jurisdiction. However, Departmental, CEQ, and NPS guidelines all require discussion of alternatives outside the agency's existing authority. The discussions are to be "brief" (DOI guidelines) and prepared only "if appropriate" (NPS guidelines). As a rule, it is appropriate to discuss an alternative action by an outside interest if that action would significantly reduce the adverse impacts, or enhance the benefits, of the NPS proposal. For example, if we plan to introduce canoeing as a river use, the flow in the river is a critical factor in the public enjoyment to be derived from that use. If another agency manages a reservoir upstream that controls water flow, it is appropriate to suggest alternative strategies for reservoir management to enhance the recreational value of the NPS area. A brief impact analysis would be provided to outline the general impact areas, but a detailed analysis would not be conducted. The purpose of these discussions is simply to call attention to potential projects or programs which, if pursued, would improve environmental quality within or in the vicinity of NPS areas.



## IX. CONSULTATION AND COORDINATION WITH OTHERS

### Details of consultation and coordination not provided

Early NPS statements merely provided a list of agencies and other interests which were consulted during the preparation of the plan and its draft environmental statement. These consultations were often only contacts--phone calls to request information, incidental contacts at meetings, and so forth. Rarely were the nature and results of the dialogue indicated.

This section provides a summary of all interactions with outside interests that were relevant to development of the plan up to the DES stage. The discussion contains the information on the following topics, as appropriate:

(1). Consultation with other agencies. The dates, types, and content of all substantive consultations with Federal, State, and local agencies of government should be identified. Where many consultations have occurred, chronological listing by agency is suggested, the most recent consultations first. Often, it is desirable to list Federal, State, and local agencies separately in that order. Types of consultations include informal dialogues between planners and agency officials, workshops, and formal meetings. The content of consultations, particularly with respect to environmental impacts, mitigating measures, alternative actions, and unresolved conflicts in resource use should be discussed. Consultations made in compliance with statutory requirements (see compliance section of Planning Handbook, in preparation) must be indicated.

(2). Coordination mechanisms. Regional planning commissions, advisory boards, and other vehicles for coordinating the involvement of many agencies and interests in the planning project should be identified, along with their membership, objectives, and involvement in the planning effort. Formal coordination mechanisms typically are used only for major and potentially controversial plans; this section therefore is not necessary in most statements.

(3). Consultation with the public. The dates, types, and content of substantive consultations with the public should be identified. The discussion includes:

- technical or scientific studies prepared for NPS by outside interests, such as universities and consulting firms. Purpose of the studies should be identified.
- questionnaires circulated to the public. Purposes should be identified.
- workshops. Dates, purpose, and subjects discussed should be identified.
- public meetings. Dates, purpose, and subjects discussed should be identified.

--outside experts. Names, locations, and field of expertise should be identified.

Quantitative analyses of public comments in letters, conversations, workshops, and meetings are not included in this section, although they may be useful for inhouse planning and decision-making purposes. This restriction is required because such quantification often takes on the appearance of a voting contest. In addition, quantitative summaries typically involve interpretation of public comment, thereby generating a risk of controversy from those who disagree with the agency's interpretation of their comments. Also, some comments received during the planning effort are unofficial and may be unrepresentative; public interests may not appreciate seeing off-the-cuff comments as inclusions in the formal discussions and analyses of an environmental statement. Therefore, the EIS should indicate only topics discussed, rather than the nature of the dialogue.

An acceptable format for presenting information on topics discussed in both other-agency and public consultations may be found in the EIS on the master plan for Fire Island National Seashore (DES 75-18, page 335). The presentation utilizes a chart that displays a list of topics on one axis and interested parties that were consulted on the other. Topics discussed are indicated by filling in the appropriate squares in the chart.

#### Private interests requested to provide formal review of the draft statement

The section on "Coordination in the Review of the Draft Environmental Statement" contains a list of agencies, organizations, and individuals who will be sent a copy of the statement for review. The list is divided into two parts: (1) those Federal and State agencies from whom formal review is requested by virtue of their expertise or jurisdiction, and (2) other parties to whom an informational copy of the DES will be sent. An agency on the first list normally forwards a memorandum to the Service detailing their comments or indicating that the agency has no comment. Where relevant comments are received, the Service responds in writing using the traditional comment/response format. Parties on the second list frequently submit written comments on the statement voluntarily, but--unlike the agencies--they have no obligation to do so.

Substantive comments from these parties and other parties not on the list may be addressed using the comment/response format or, alternatively, similar comments from various reviewers may be summarized and the principal point addressed. Emotional comments, clearly misinformed comments, or unsubstantiated criticisms normally are not addressed, although occasionally attention to them is desirable, particularly if the views appear to be widely held.

NPS statements sometimes do not include separate listings, thereby implying that formal review is being requested from non-governmental reviewers.

Inadequate or inappropriate responses to reviewers' comments on the DES

Substantive comments and NPS responses are arrayed in a comment-response format and appended to the draft statement. The draft is amended, as required, in light of the comments and released in final form.

Inadequate or inappropriate responses to reviewers' comments are the primary cause of FES rejections. Comments should always be addressed objectively and thoroughly. There is no excuse for an abrupt or argumentative response even if the comment is derogatory, not pertinent, or indicates a misunderstanding of the plan or its impacts. If the statement contains information which adequately addresses the comment, a citation by page and paragraph is made. If changes are made in response to the comment, the changed portions of the statement are referenced by page and paragraph. If there are unresolved conflicts between NPS and the commenting interest, they should be identified.

## BIBLIOGRAPHY

Every statement should contain a bibliography of those references used in preparing the plan and its environmental statement. As a general rule, most (and often all) references in the bibliography are cited somewhere in the text, either by the author-date method or by numbers keyed to entries in the bibliography. Exceptions include general reference material which, although used in preparing these documents, is not specifically cited in the text. Previous plans, natural history brochures, atlases, and similar material are in this category.

## APPENDIX

### Insufficient use of the appendix

The appendix should be used as a repository for all material not critical to presenting the proposal, the alternatives, and their respective impacts. The appendix supports the statement, but is not essential to understanding it. Content, which varies greatly depending on the statement's specific requirements, may include, but is not limited to, one or more of the following:

- park-specific legislation
- legislative history of the park
- regulations, agreements, memoranda of understanding
- management objectives
- summaries and analyses of environmental data
- relevant State and Federal environmental quality standards
- technical information in support of capability/desirability analyses, impact analysis, assessment of alternatives, etc.

Authors should consider relocating material to the appendix if this action would improve the statement's readability.

### Failure to indicate NPS personnel involved in preparing plans and their EIS's

For all plans where the planning document and the EIS were prepared concurrently, NPS personnel involved in preparing the two documents should be listed in the first section of the Appendix. This information is also provided in the plan itself.

For plans where the EIS was prepared separately (i.e., carryover projects) or where the EIS was prepared by an outside consultant, the NPS personnel most familiar with the documents should be identified as the key contacts. In the first instance, the key contacts normally would be the statement's authors; in the latter, usually the contract administrator.

SAMPLE OUTLINE FOR AN ENVIRONMENTAL STATEMENT FOR A GENERAL MANAGEMENT  
PLAN IN A LARGE COMPLEX PARK

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

SUMMARY (content indicated in Departmental Manual, Part 516 DM 2)

I. DESCRIPTION OF THE PROPOSAL

A. Nature of the Action

3 or 4 paragraphs of orientation to the park and the scope of the action, purpose of the park, legislative authorization, location (with topographic/location map), type of project, time frame of project, important facts regarding NEPA compliance such as subsequent actions to be covered in future EIS's.

1. \*[Major areas of particular concern listed separately with brief orientation provided]

B. Land Classification

General description of system used for arriving at the management zone map

1. [Description of individual zoning categories listed by category.] (Include discussion of acreage, purpose of category, etc.)

C. Resource Management

1. [Portions of the environment managed--i.e., vegetation, wildlife, streams, cultural resources, etc.] Topics may be subdivided into more specific areas of management. Include information on nature of action, its magnitude and timing.

D. Recreational Development and Use

1. [Recreational uses either proposed or existing and to be continued--i.e., bathing, hiking swimming, etc., or location of enabling development--i.e., Freeman Landing, Byrne Butte, Patten Bluff, etc.] Be sure to include a graphic relating existing and proposed uses to geographic areas. Carrying capacities of facilities and geographic areas should be discussed, as appropriate.

E. Interpretation

1. [Interpretive themes.] Proposed facilities should be discussed.

\*material within brackets describes nature of outline headings.

F. Management and Concessioner Facilities  
(map or overlay if appropriate)

1. [Types of facilities--e.g., administrative headquarters, ranger stations, maintenance facilities, concessioner facilities and services.].

G. Utilities  
(map or overlay, if appropriate)

1. [Types of facilities--e.g., telephone, electricity, water supply, wastewater treatment]

H. Access and Circulation  
(map or overlay, if appropriate)

1. [Modes of transportation--i.e., ferries, buses, bicycles, foot travel, etc.] Discuss capacities where appropriate.

I. Proposed Acquisitions of Land or Interest in Land  
(map or overlay showing locations, ownerships, acreages involved)

1. [Type of acquisition--i.e., requiring or not requiring legislation.]
  - a. Specific acquisitions listed and discussed by geographic area. Include discussion of any potential for condemnation.

J. Cooperative Planning and Management

1. [Proposals presented according to type of cooperation--i.e., cooperative agreements, joint agency projects, etc.]
  - a. [Cooperating interests.]

K. Interactions with Other Projects

1. [Proposals presented according to interacting party--i.e., Federal agency, state agency, regional planning commission, special interest group, etc.]. Particular attention should be given to relationship with regional or local plans for development, land use, zoning, etc.

L. Research

1. [Proposals presented according to topics being studied.]  
Indicate whether studies are programmed, their scope, who will perform, completion dates, etc.



## II. DESCRIPTION OF THE ENVIRONMENT

### A. Park Development

1. [Existing development described by type of development--  
i.e., administrative facilities, maintenance facilities,  
recreational facilities, etc.].

### B. Natural Environment

1. Geology
2. Climate
3. Air Quality
4. Hydrology
5. Water Quality
6. Soils
7. Vegetation and flora
8. Fauna
9. Aesthetics
10. Noise
11. Other topics, as appropriate

### C. Socioeconomic Environment

1. Regional trends (land use, social conditions, economic base, etc)
2. Recreational opportunities in the park
3. Visitor profile
4. Visitation trends
5. Other topics, as appropriate

### D. Cultural Resources

1. Brief history of the area
2. Historic sites of documented significance in and near the park
3. Other historic sites
4. Archeological sites of documented significance
5. Other archeological sites
6. Needed studies (program of specific studies to be done)

### E. Probable Future Environment without the Proposal

1. Trends in the natural environment
2. Trends in the socioeconomic environment
3. Trends in the cultural environment

### III. IMPACTS OF THE PROPOSED ACTION

- A. Impacts on the Natural Environment
  - same relative order of subtopics as in Environment Section
  - 1. Impacts on air quality
  - 2. Impacts on water quality
  - 3. Impacts on soils
  - 4. Impacts on vegetation and flora
  - 5. Impacts on fauna
  - 6. Impacts on aesthetics
  - 7. Impacts on noise levels
  - 8. Other topics, as appropriate
- B. Impacts on the Socioeconomic Environment
  - same relative order of subtopics as in Environment Section
- C. Impacts on the Cultural Environment
  - 1. Impacts on Historic Resources
  - 2. Impacts on Archeological Resources
- D. Impacts on Park Management
- E. Other topics, as appropriate

### IV. MITIGATING MEASURES INCLUDED IN THE PROPOSED ACTION

- A. Direct Measures (committed as part of the plan, see p. 20 of Trouble-shooter's guide)
  - 1. Design of facilities
    - a. [major mitigating actions to be taken]
  - 2. Regulations
    - a. [major mitigating actions to be taken]
  - 3. Other environmental controls planned, by appropriate topic.
- B. Feedback Measures (committed as part of the plan, see p. 20 of Trouble-shooter's guide)
  - 1. Research
    - a. [Subjects to be researched]

2. Cooperative Planning (in-progress or committed in the future for purpose of mitigation)
  - a. [Cooperating interests]
3. Surveys
  - a. [resources to be surveyed]
4. Other topics, if appropriate.

V. ANY ADVERSE IMPACTS WHICH CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED

Organization same as for Impacts Section. Use applicable subject headings. Extract key facts from impact analyses and draw conclusions on cumulative unavoidable adverse effects.

VI. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

A conclusionary analysis of trade-offs among the various short-term and long-term impacts of the proposal. Prepared following completion of a comprehensive Impacts Section.

VII. ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

May be treated as a single discussion or organized according to component of the environment affected. In either case, affected components of the environment must be clearly identified.

VIII. ALTERNATIVES TO THE PROPOSED ACTION

- A. No Action
  1. Description of the alternative (detailed)
  2. Impacts. (subsections arrayed in same order as in Impacts Section)
- B. Alternative to the Plan (list major upper-level alternatives by brief descriptions)
  1. Description of the alternative (detailed)
  2. Impacts (subsections arrayed in same order as in Impacts Section)

- C. Alternatives Pertaining to Land Classification
  - 1. Description of the alternative (detailed)
  - 2. Impacts (subsections arrayed in same order as in Impacts Section)
- D. Alternatives Pertaining to.....(topics listed in same order as in Proposal Section--i.e., Resource Management and Use, Interpretation, etc.).

## IX. CONSULTATION AND COORDINATION WITH OTHERS

### A. Consultation and Coordination in the Development of the Proposal and in the Preparation of the Draft Environmental Statement.

#### 1. Governmental agencies

Brief discussion of forms of interaction (workshops, commissions, etc.)

- a. Federal (list by agency, discussion nature of interagency relationship and consultation).
- b. State (" " " " " " )
- c. Local (" " " " " " )

#### 2. The public

Brief discussion of forms of interaction (workshops, hearings, keyman contacts, etc.)

- a. Organizations (list by organization, discuss nature of consultation)
- b. Professional consultants, if appropriate.
- c. Individuals, if appropriate.
- d. Etc.

### B. Coordination in the Review of the Draft Environmental Statement

- 1. Copies of the draft environmental statement will be sent to the following for review:

(list of agencies, including State Clearinghouses, if appropriate).

- 2. Informational copies will be sent to the following:

(list of others who will receive copy but who will not be requested to provide formal review. Arrange by type of interest--i.e., organizations, individuals, local agencies).

## BIBLIOGRAPHY

Author-specific alphabetical listing of references used in preparing plan and statement. References may be numbered so that can be keyed easily to the text.

## APPENDIX

### **I. National Park Service Personnel Who May be Contacted for Information on the Plan and Its Draft Environmental Statement**

Where the plan and the environmental statement are prepared concurrently, include the list of planning team members as provided in the plan itself. Names, positions, and locations should be included.

Where the environmental statement was prepared separately from the plan, list the NPS individual(s) most familiar with the statement's content, usually the author.

Where the environmental statement was prepared by an outside consultant, list the NPS individual(s) most familiar with the statement's content, usually the contract coordinator.

### **II. Legislation**

(Park's enabling act, other legislation affecting the plan)

### **III. Management Objectives**

### **IV. Other Topics, as appropriate (including special studies, maps and diagrams, technical data, state or local zoning plans, etc.)**

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