

VISITOR SERVICES PROJECT REPORT 2
MAPPING INTERPRETIVE SERVICES:
IDENTIFYING BARRIERS TO ADOPTION AND
DIFFUSION OF THE METHOD

BY
MARK E. VAN EVERY
AND
GARY E. MACHLIS
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Summary

- The report describes a 1983 survey of NPS interpretive managers and planners. The purpose of this survey was to identify potential barriers to the adoption of the interpretive services mapping technique. The technique was developed as part of an ongoing visitor services project at the CPSU.
- There is considerable literature on the adoption and diffusion of innovations. Several factors influence the diffusion of innovations, including the relative advantage, compatibility, complexity and trialability of an innovation.
- A report describing the mapping and the results for Grand Teton National Park was mailed, along with a short questionnaire, to a selected sample of 38 NPS employees involved in the planning and management of interpretive services. Response rate was 79 percent.
- Results indicate that all four attributes (relative advantage, complexity, compatibility and trialability) of the method are likely to contribute to its adoption.
- Specific suggestions for improvement and for problems anticipated in implementation of the mapping method are described.
- Recommendations are made for improving the mapping method and for increasing the likelihood of its adoption.

INTRODUCTION

A wide variety of interpretive services are offered at National Park Service areas, yet there is little systematic information available on who provides these services, where and when they are available, and the topics they cover. Information on concessioner services is especially lacking, and what little is known is often scattered among the different concessioners operating in an area. Thus, there is a need to describe the diversity and distribution of public and private sector interpretive services.

As part of a multi-year Visitor Services Project, a method was developed to inventory interpretive services and was pilot tested at Grand Teton National Park (Machlis et al. 1983). The results of this pilot test indicated that the mapping method could provide a way to gather a relatively large and useful amount of information on interpretive services. In spite of this, the method may not be adopted by interpretive planners and managers within the NPS.

Two questions guided this study. First, *what are the barriers to adoption and diffusion of the interpretive mapping method?* Second, *how can the adoptability of the method be improved?*

Review of the Literature

Numerous studies have been conducted on the adoption and diffusion of innovations. The most abundant literature is on the diffusion of agricultural innovations (for example, Ryan and Gross 1950; Beal et al. 1957; Wilkening 1953; Dasgupta 1965). Studies in other areas include the adoption of fluoridation (Crain 1966), the outcomes and consequences of cross-cultural diffusion (Goss 1979), physicians' acceptance of a new drug (Coleman et al. 1957) and the diffusion of Planned Parenthood affiliates (Brown and

Philliber 1977). In addition, there are also several general treatments of innovation diffusion (Lionberger 1960; Rogers and Shoemaker 1971; Brown 1981; Rogers 1983).

In his text, *Diffusion of Innovations*, Rogers defined an innovation as:

. . . an idea, practice or object perceived as new by an individual or other unit of adoption (1983:11).

He described the adoption of an innovation as "the decision to make full use of an idea as the best course of action available" (1971:26).

There are several approaches to examining the adoption process. This process is a series of steps which adopters go through in their decision to adopt an innovation. In their report on the acceptance and diffusion of hybrid corn in Iowa, Ryan and Gross (1950) suggested there are two steps: the spread of 'knowledge' and the spread of conviction. Wilkening (1950) suggested an expanded process involving four stages. In this adoption sequence a person:

- 1) hears about the practice;
- 2) accepts the practice as a generally good idea;
- 3) accepts the practice on a trial basis, and;
- 4) adopts the practice completely.

(1950:4)

The Subcommittee for the Study of the Diffusion of Farm Practices (1955) theorized that the adoption sequence consisted of five stages--awareness, interest, evaluation, trial and adoption. Fazio and Gilbert (1981) described these stages as:

- 1) Awareness - first knowledge of the idea, product or practice.
- 2) Interest - an individual's curiosity is aroused; he/she wants to learn more.

- 3) Evaluation - weighing the pros and cons, deciding whether or not to try the innovation.
- 4) Trial - trying out the innovation on a small scale.
- 5) Adoption - decision whether to continue use of the innovation.

The amount of time it takes for a person or organization to go through the adoption process varies with the individual and the nature of the innovation. Some people require little time for evaluation or trial and adopt relatively quickly, while others feel more comfortable with a long evaluation or trial period. Several authors have suggested that the adoption of an innovation follows a bell-shaped curve [(Figure 1), Rogers and Beal 1958; Rogers 1962; Burch *et al.* 1983]. Only a few individuals adopt at first, then after a while the majority start to adopt and finally others begin to adopt the innovation. Rogers and Beal suggested five categories of adopters--innovators, early adopters, early majority, late majority and laggards.

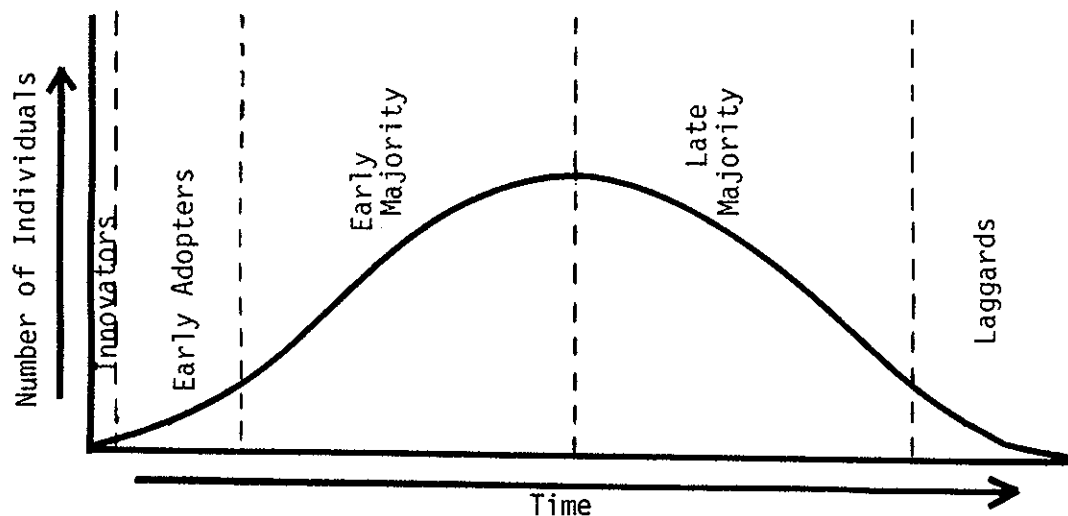


Figure 1. Adopter categorization on the basis of innovativeness (Source: Rogers and Beal 1958).

Members of these groups are described as having a number of characteristics. *Innovators* are described as the experimenters, willing to try new things. *Early adopters* are usually influential and respected. They are often looked to for advice. The *early majority* includes individuals who are described as deliberate and considered to have good judgment. The members of the *late majority* are followers; they wait to see how an innovation works before deciding to adopt. Finally, *laggards* are very traditional and resistant to change. They are often older, have little education, a low income and low social status (Rogers 1962).

Burch et al. (1983) broke the curve up into just two groups--earlier and later adopters. They compiled empirical evidence which indicates that early adopters have a more favorable attitude toward change and often are opinion leaders.

While the characteristics of an adopter may influence when adoption occurs, the literature indicates that the attributes of an innovation may affect the decision to adopt. Rogers (1962) described five different attributes of an innovation (relative advantage, compatibility, complexity, trialability and observability) and stated that the potential adopters' perceptions of these attributes affect the rate of adoption of an innovation.

Relative advantage is the increased advantage a new idea is perceived to have over what is currently being used. This increased advantage may be measured in terms of several factors such as economics, satisfaction, or convenience. For example, Ryan and Gross (1950) found that the relatively rapid adoption of hybrid corn was a result, in part, of the fact that the hybrid corn offered greater yields, was more profitable and had a stronger stalk.

Compatibility is the extent to which the innovation fits into the existing structure, procedure and needs of the potential adopter. For example, farmers objected to contour plowing and cropland terracing (as soil conservation measures) because they did not recognize a need for these practices and they were an inconvenience (Prudeanu and Zwerman 1958).

Complexity relates to how easy the innovation is to understand and use (often, complex innovations have a slower diffusion rate). In a study of farm practices, Fliegel and Kivlin (1962) found that more complex practices had a slower adoption rate.

Trialability is the degree to which an innovation may be broken down and tested on a smaller scale. Ryan and Gross (1950) found that the easy trialability of hybrid corn affected its rate of adoption.

Observability is the extent to which the effects and, hopefully, the benefits of an innovation can be seen. Hruschka (1961) found that farm innovations which were rated as more communicable diffused more rapidly.

Rogers states:

In general, innovations that are perceived by receivers as having greater relative advantage, compatibility, trialability, observability and less complexity will be adopted more rapidly than other innovations. These are not the only qualities that affect adoption rates, but past research indicates that they are the most important characteristics of innovations in explaining rate of adoption. (1983:16)

In a review of the literature, Burch et al. (1983) indicated that potential adopters' perceptions of the relative advantage, compatibility, complexity and trialability of an innovation are related to an innovation's rate of diffusion. Table 1 shows that there is empirical support indicating the rate of adoption is positively related to potential adopters' perceptions

of the relative advantage, compatibility and trialability of an innovation, and negatively related to the complexity.

Table 1. Empirical Support for Association Between Perceived Attributes of an Innovation and the Rate of Adoption.

Attribute	Empirical Support for Association
<u>Perceived Advantage of Innovation</u> positively related to rate of adoption	67% of 43 studies
<u>Perceived Compatibility of Innovation</u> positively related to rate of adoption	67% of 27 studies
<u>Perceived Complexity of Innovation</u> negatively related to rate of adoption	56% of 16 studies
<u>Perceived 'Trialability' of Innovation</u> positively related to rate of adoption	69% of 13 studies

Source: Burch et al. 1983.

Application to the Interpretive Mapping Method

The adoption and diffusion of the mapping method may be influenced by all of the factors discussed above. At the development stage, however, those factors directly related to the innovation seem most important. Thus, potential adopters' perceptions of the attributes of the mapping method and interaction between the researcher and potential adopters may significantly influence the adoptability of the method.

An understanding of potential adopters' perceptions of the mapping method may aid in identifying areas in which the method can be modified to increase its adoptability. Rogers states:

The usefulness of research on the attributes of innovations is mainly to predict their future rate of adoption. (1983:212).

One approach is to investigate the acceptability of an innovation in its prediffusion stages, such as when it is being tested and evaluated in trials.

Using this approach for the mapping method, four attributes seem important: relative advantage, compatibility, complexity and trialability.

The *relative advantage* of the method is the degree to which it is perceived as being better than existing methods used to gather data on interpretive services. This degree of advantage can be measured in terms of several variables such as the amount of information the method provides, management efficiency, and others. For example, the mapping method may provide more information about interpretive services than the Annual Statement for Interpretation. Therefore, it would have a relative advantage over that method with respect to the amount of information it provides.

The method's *compatibility* is the extent to which it is perceived as consistent with the needs of interpretive planners and managers, and with the current criteria and information used in the planning and management of interpretive services. For instance, if the method provides information about interpretive services which is currently used in planning and management, it would be compatible with respect to that aspect.

Complexity relates to how easy potential adopters feel the mapping method would be to understand and use. The information provided by the method may be easy to understand, for example, yet collection of the data may be perceived as complex.

The degree to which potential adopters perceive the mapping method could be tested on a small scale basis is the *trialability* of the method. The ability to test the method at one or two parks in a region or one section of a large park are examples.

The literature indicates that potential adopters' perceptions of the attributes of an innovation may affect the adoption rate (Rogers 1983). Therefore, potential adopters' perceptions of the four attributes of the mapping method might be useful in determining how these attributes will affect the adoption rate of the method. For example, if potential adopters perceive the mapping method to have a high degree of relative advantage the predicted effect should be an increase in the adoption rate of the method.

An additional approach which may help to increase the adoptability of the method would be to have potential adopters identify problems with the method and provide specific suggestions for improvement. Combining the two approaches, it should be possible to anticipate many problems with the method and devise solutions prior to its diffusion.

Hence, the objectives of this study were to:

- 1) Determine potential adopters' perceptions of the mapping method's relative advantage, compatibility, complexity and trialability.
- 2) Identify potential problems involved in the implementation of the mapping method.
- 3) Identify specific ways in which the mapping method could be improved.

RESEARCH METHODS

A report describing the mapping method and the results for GRTE (Machlis et al. 1983) was mailed to a purposive sample of potential adopters. This sample consisted of 38 NPS employees identified by the NPS Chief of the Division of Interpretation and Visitor Services as opinion leaders in the planning and management of interpretive services. These people were felt to represent potential adopters of the method and potential users of the information it can provide.

A short questionnaire was sent along with the report. Sending the report and questionnaire together encouraged respondents to refer to the questionnaire while reading the report, and vice versa.

Questionnaire Design and Content

Design and construction of the questionnaire was in accordance with Dillman's (1978) Total Design Method. The questionnaire included questions in four different areas: potential adopter's perceptions of the attributes of the innovation, barriers to the implementation and use of the method, respondents' suggestions for improving the method, and demographic characteristics of the respondents. A copy of the questionnaire is included in Appendix A.

The first section of the questionnaire consisted of statements related to four attributes of the mapping method--relative advantage, compatibility, complexity and trialability. Respondents were asked to indicate how well each of the statements described their opinions about the mapping method. Table 2 lists the statements along with the attribute each statement represents.

Table 2. Listing of Statements and their Corresponding Attributes.

Statement	Attribute
The method will provide a greater amount of interpretive planning information than is currently available.	Relative Advantage
The information provided by the method may help the NPS to more efficiently allocate interpretive resources.	Relative Advantage
The information provided by the method will fit in well with the criteria currently used in the planning of interpretive services.	Compatibility
The method will provide information about interpretive services which is similar to the types of information currently used for interpretive planning.	Compatibility
The information provided by the method is easy to understand.	Complexity
The method will be easy to implement and use.	Complexity
Someone with a background in interpretation and a small amount of training could collect the needed information relatively easily.	Complexity
The method could feasibly be tested on a small scale, trial basis in your park.	Trialability

Through open-ended questions the respondents were asked to suggest ways in which the mapping method could be improved. In addition, they were asked to describe problems they envisioned in the implementation of the method. Questions on demographic characteristics such as age, education and job title were also included, in order to describe the characteristics of the sample.

The initial mailing—consisting of a cover letter, the report on the pilot study at GRTE and the questionnaire—was sent on March 30, 1983. A postcard reminder was sent one week later. Two weeks after the initial mailing a followup letter was mailed to all non-respondents. Finally, three weeks after the initial mailing, a telephone call followup was made to all the people in the sample who had not yet replied. Data provided by the completed questionnaires were coded and then analyzed (see Van Every 1983 for a detailed discussion of the data analysis techniques).

Study Limitations

This study has several limitations. First, because of the small size and purposive nature of the sample population, the results cannot be generalized to all other potential adopters of the mapping method. Second, the questionnaire and research methods were not pre-tested with a sample representative of the actual study sample. This may have caused problems, as some of the questions could have been confusing to the respondents. Third, the survey requested that the respondent carefully read the report prior to completing the questionnaire. Due to time constraints, some respondents may have completed the questionnaire without reading the report carefully. Finally, there is no way of knowing whether or not the intended respondent was the one who actually filled out the questionnaire. In one case, for example, it is known that the intended respondent was out of the country and the questionnaire was filled out by one of his assistants. This may have occurred in other instances as well. Therefore, the results may have been altered by responses from people other than the intended respondents. Yet the results do provide a glimpse of what a relevant population of adopters think about the interpretative mapping method.

RESULTS

Thirty of the 38 questionnaires were completed and returned for a response rate of 79 percent. Of the eight questionnaires which were not returned, two were undeliverable, one respondent had gone to Europe for two months, and two other respondents wrote and said they did not have time to review the report and complete the questionnaire.

Demographic Profile

As Table 3 shows, a majority of the respondents were between 31-40 years old, all had a college degree and about half had one or two years of graduate education. Most were at the GS-11 to GS-13 level and almost half had worked for the NPS 16 years or more. Seventy percent of the respondents had worked in the area of interpretation for at least 11 years, and almost three-quarters held the title Chief of Interpretation.

Table 3. Demographic Data on Respondents.

Category	n	%
Age		
26-30 years	1	3.3
31-35 years	6	20.0
36-40 years	11	36.7
41-45 years	5	16.7
46-50 years	3	10.0
51-55 years	4	13.3
Education		
16 years	16	53.3
17 years	6	20.0
18 years	8	26.7
GS-level		
GS-5	1	3.3
GS-6	1	3.3
GS-7	0	0.0
GS-9	3	10.0
GS-11	5	16.7
GS-12	14	46.7
GS-13	6	20.0

Table 3.—*Continued.*

Category	n	%
Number of years worked for the NPS		
1-5 years	3	10.0
6-10 years	5	16.7
11-15 years	8	26.7
16-20 years	7	23.3
21-25 years	5	16.7
26-30 years	1	3.3
31-35 years	1	3.3
Number of years worked in the area of interpretation		
1-5 years	4	13.3
6-10 years	5	16.7
11-15 years	13	43.3
16-20 years	3	10.0
21-25 years	4	13.3
26-30 years	1	3.3
Job Title		
Chief of Interpretation	22	73.3
Regional Chief of Interpretation	2	6.7
Superintendent	1	3.3
Interpretive Planner	1	3.3
Supervisory Park Ranger	1	3.3
Park Ranger	1	3.3
Park Manager	1	3.3
Park Technician	1	3.3

Opinions

In the first part of the survey, respondents were asked to indicate their level of agreement with eight statements about the mapping method. These statements relate to four attributes of the mapping method. Table 4 shows that at least half of the respondents agreed with all of the statements except, "The method will be easy to implement and use." Over three-quarters of the respondents agreed or strongly agreed that the information provided by the method is easy to understand and may help the NPS to more efficiently

Table 4. Frequency Responses by Statement.

Statement	Strongly Agree 1		Agree 2		Neither Agree Nor Disagree 3		Disagree 4		Strongly Disagree 5		No Response 6		Average Score 7	Variance 8
	n	%	n	%	n	%	n	%	n	%	n	%		
The information provided by the method may help the NPS to more efficiently allocate interpretive services.	4	(13)	19	(63)	3	(10)	3	(10)	1	(3)	0	(0)	2.3	.89
The method will provide a greater amount of interpretive planning information than is currently available.	2	(7)	15	(50)	6	(20)	7	(23)	0	(0)	0	(0)	2.6	.87
The method will provide information about interpretive services which is similar to the types of information currently being used for interpretive planning.	1	(3)	19	(63)	8	(27)	2	(7)	0	(0)	0	(0)	2.4	.45
The information provided by the method will fit in well with the criteria currently used in the planning of interpretive services.	1	(3)	18	(60)	9	(30)	2	(7)	0	(0)	0	(0)	2.4	.46
The information provided by the method is easy to understand.	2	(7)	21	(70)	1	(3)	6	(20)	0	(0)	0	(0)	2.4	.79
Someone with a background in interpretation and a small amount of training could collect the needed information relatively easily.	3	(10)	22	(73)	0	(0)	5	(17)	0	(0)	0	(0)	2.2	.71
The method will be easy to implement and use.	1	(3)	8	(27)	8	(27)	12	(40)	0	(0)	1	(3)	3.0	.85
The method could feasibly be tested on a small scale, trail basis in your park.	0	(0)	18	(60)	6	(20)	5	(17)	1	(3)	0	(0)	2.6	.79

allocate its interpretive resources (statements 1 and 7). Eighty percent agreed or strongly agreed that the information could be collected relatively easily by someone with a background in interpretation and a small amount of training (statement 6).

The individual statements were used to compute scale values for three of the attributes: relative advantage, compatibility, and complexity. For a discussion of the scales, see note 1.

Table 5 shows the frequency distribution, percentages, mean and variance for each of the scales. At least 70 percent of the respondents agreed or strongly agreed that the method had relative advantage, and was compatible. Sixty percent agreed or strongly agreed that the method was not complex. The mean values also indicate the respondents agreed to a moderate degree that the method had relative advantage and compatibility, and was not complex.

Figure 2 shows the predicted effect of each attribute on the adoption rate of the mapping method. The results indicate that all four attributes are likely to slightly promote adoption of the interpretive mapping method.

Table 5. Frequency Distribution of Responses by Scale.

Scale	Strongly Agree 1		Agree 2		Neither Agree Nor Disagree 3		Disagree 4		Strongly Disagree 5		Average Score 6	Variance 7
	n	%	n	%	n	%	n	%	n	%		
Relative Advantage	5	(17)	16	(53)	5	(17)	4	(13)	0	(0)	2.8	.82
Compatibility	1	(3)	22	(73)	6	(20)	1	(3)	0	(0)	2.2	.32
Complexity	2	(7)	16	(53)	8	(27)	4	(13)	0	(0)	2.5	.67

Attribute	strongly agree 1	agree 2	neither agree nor disagree 3	disagree 4	strongly disagree 5
<u>Scale</u>					
Relative Advantage		X			
Compatibility		X			
Complexity		X			
<u>Item</u>					
Trialability		X			
<u>Predicted Effect on Adoption Rate</u>					
X = average response for the scale or item	likely to promote adoption		likely to have a neutral effect on adoption		likely to decrease adoption

Figure 2. Effect of Attributes on the Mapping Method's Rate of Adoption.

Service Characteristics

Respondents were given a list of variables used in the mapping method and asked to indicate which were *not* useful for interpretive planning. Most of the respondents felt that all of the variables were useful, though two felt that cost was not useful and one felt that specific service type was not.

Respondents were then asked to list any additional variables—not included in the mapping method—which they felt would provide useful information about interpretive services (Table 6). Relevancy to park interpretive goals and objectives, and audience characteristics were listed as important additions by six respondents each.

Table 6. Additional Variables by Number of Respondents who felt the Variable Should be Included in the Mapping Method.

Variable	Number of Respondents
Audience characteristics	6
Relevancy to park interpretive goals and objectives	6
Quality of the interpretive service	1
Weather	1
Duration of service	1
Sponsor's cost per participant	1
Intended results	1
Participant reactions	1
Correlate length of activity with length or visitor stay	1
Season	1
Weakness of the service	1
Scheduling data should be more specific	1
Services provided by visitor centers	1

Additional Comments

The respondents were asked for specific suggestions on improving the mapping method; these are listed in Table 7. Six respondents listed a need to look at visitor characteristics and attendance, three cited a need to find a better way to display and present the data, and three suggested a comparison between services and park themes and management problems.

Table 7. Specific Suggestions for Improving the Mapping Method by Number of Respondents Making the Suggestions.

Suggestion	Number of Respondents
Need to look at visitor characteristics, attendance and expectations	6
Need to find a better way to display and present the data	3
Services should be carefully compared with a detailed listing of park themes and management problems	2
Need to better assess the effectiveness of interpretation	1
Location criteria should be more specific	1
Find a valid method for recording detailed information on visitor centers	1
The distinction between conducted and self-guided services isn't clear. Perhaps two evaluations are needed	1

Respondents were also asked to describe any problems they anticipated in implementation and use of the mapping method. Some of the more common problems mentioned were personnel limitations, cost constraints, and time restrictions (Table 8).

Table 8. Problems with Implementation of the Mapping Method by the Number of Respondents Identifying the Problem.

Problem	Number of Respondents
Personnel limitations	6
Time restrictions	5
Cost constraints	4
Recruitment or training of knowledgeable data collection people	3
The technique should be incorporated into an existing data collection system	3
Need to improve the display and presentation of the data	2
Computer availability	1

General comments on the mapping method are summarized in Table 9. The most common comment was the need to examine how this method could be applied at other types of areas. In addition, six respondents indicated the information provided by the method was useful, while six others stated that managers are already aware of the information this method provides.

Overall, the results of this survey indicate that the mapping method may be a useful tool for interpretive planners and managers, and the attributes of the method may slightly promote its adoption. The responses

also indicate that the method can be improved to make it more adoptable. Suggestions and comments provided by the respondents may provide a starting point for this improvement.

Table 9. Summary of Common General Comments by Number of Respondents Making the Comment.

Comment	Number of Respondents
There should be a closer examination of how this method could be applied at other types of areas.	8
Most managers are already aware of the information this method provides	6
The information provided by the method is useful	6
The quality of services is an important factor	4
Need to look at visitor characteristics, attendance and expectations	4
The technique is complicated and confusing	3
Need to take into account the relevancy of services to major resources of an area, purpose of the park and management concerns	3
There are personnel, time and money restrictions	3

RECOMMENDATIONS

Knowledge gained from the overall study and suggestions provided by the respondents revealed several ways in which the mapping method could be improved. Recommendations based on these insights are listed below:

1) Pilot studies should be conducted at other types of NPS areas.

Several respondents indicated a need to examine how the method could be utilized at other types of NPS areas. While this study indicates the method could be a useful tool for a large park with diverse interpretive services, it is not known how it will work for other types of areas. Thus, pilot studies should be carried out at a cross-section of NPS areas, including:

- a. large and small areas;
- b. areas near and far away from large urban centers;
- c. areas set aside for different resource values (natural, cultural/historical and recreational areas);
- d. areas in different regions of the country, and;
- e. areas with a broad spectrum of both NPS and concessioner interpretive services, as well as those with more limited interpretive programs.

2) Information on visitor characteristics, attendance and expectations should be collected and used in conjunction with mapping data.

By collecting information such as who park visitors are, where they go in the park, and what some of their expectations are, managers may be better able to predict the kind of interpretive services that are needed and how many. Comparing this information with the mapping data, the manager could then determine how to best allocate interpretive efforts to meet the needs and expectations of visitors.

- 3) The mapping method and existing data collection systems should be integrated into a unified data collection system.

Interpretive managers already are required to collect data for several reports, including the Statement for Interpretation, and the Annual Interpretation and Visitor Services Report. Combining the mapping method and existing systems into a unified data collection system would reduce duplication of efforts and eliminate the need to add another report to an already long list. In addition, such a cumulative system may provide an information base which is more useful than that provided by the individual systems.

- 4) Improved ways of displaying and presenting the data should be investigated.

Most of the data from this study were displayed in table form. Some of the respondents found this type of data presentation difficult to use and understand. Graphic presentations may make the information easier to understand and use, and should be explored.

- 5) A computer program(s), compatible with regional office computers, should be developed for analysis of the mapping data.

Computer programs developed for analysis of the GRTE data may not be compatible with existing regional office computers. Information should be gathered on the capabilities of these computers and a program which can be used on any of these systems, with little or no modifications, should be developed.

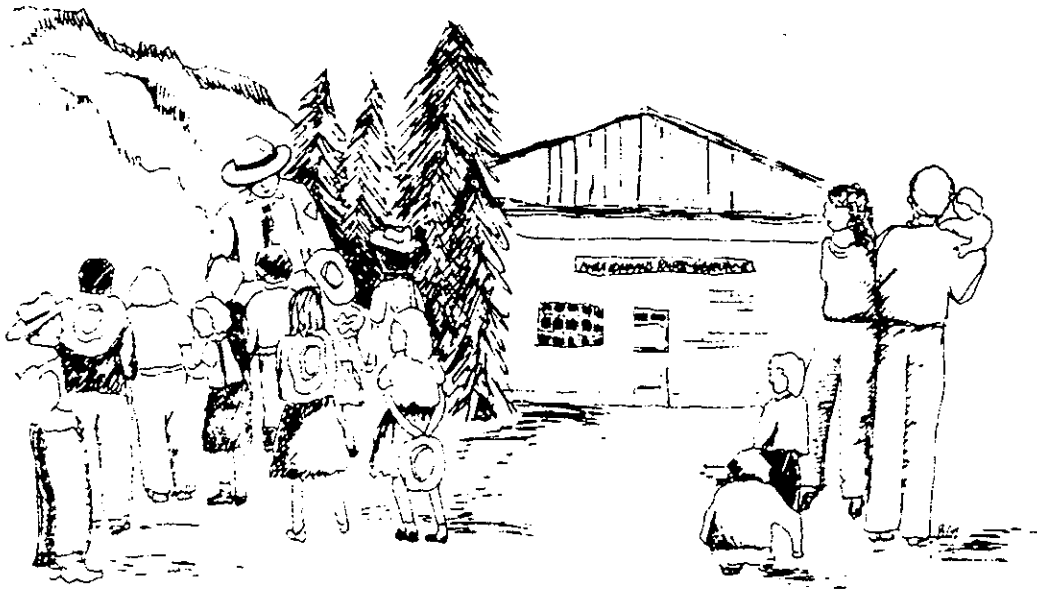
NOTE 1

Because there was only one statement related to reliability, it was not possible to compute scale values for this attribute. To determine the inter-item reliability of each scale a reliability coefficient, Cronbach's alpha, was computed. This coefficient can range from 0 to 1.0, with zero indicating the variance in reported score is due to measurement error, and one indicating no error of measurement. The scale was assumed to be "highly reliable" if it had an alpha greater than or equal to .60 and "moderately reliable" if it had an alpha between .50 and .60.

The relative advantage and compatibility scales appear to have had high reliability, with alphas of .776 and .666 respectively. One of the statements related to complexity, "The information provided by the method is easy to understand", was found to be an unreliable measure of complexity and was not used for further analysis. Based on the remaining two statements, the complexity scale appeared to have moderate reliability, with an alpha of .548.

APPENDIX A
QUESTIONNAIRE

Mapping Interpretive Services: Evaluating a Technique



Cooperative Park Studies Unit
National Park Service

 University of Idaho
College of Forestry,
Wildlife and Range Sciences
Moscow, Idaho 83843

Directions: Before filling out this questionnaire, please read the report entitled "Mapping Interpretive Services: A Pilot Study at Grand Teton National Park." Feel free to refer to this report when answering the questions.

- Q-1. We are interested in your opinions about the Interpretive Mapping Method described in the report. How well do each of the following statements describe your feelings about the method? (PLEASE CIRCLE THE ONE WORD WHICH MOST ACCURATELY REFLECTS YOUR OPINION).

How do you feel about each of the following statements?					
	STRONGLY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	STRONGLY DISAGREE
1. The information provided by the method is easy to understand.	STRONGLY	AGREE	NEITHER	DISAGREE	STRONGLY
2. The method will provide a greater amount of interpretation planning information than is currently available.	STRONGLY	AGREE	NEITHER	DISAGREE	STRONGLY
3. The information provided by the method will fit in well with the criteria currently used in the planning of interpretive services.	STRONGLY	AGREE	NEITHER	DISAGREE	STRONGLY
4. The method will be easy to implement and use.	STRONGLY	AGREE	NEITHER	DISAGREE	STRONGLY
5. The method could be feasibly tested on a small scale, trial basis in your park.	STRONGLY	AGREE	NEITHER	DISAGREE	STRONGLY
6. Someone with a background in interpretation and a small amount of training could collect the needed information relatively easily.	STRONGLY	AGREE	NEITHER	DISAGREE	STRONGLY
7. The information provided by the method may help the NPS to more efficiently allocate interpretive resources.	STRONGLY	AGREE	NEITHER	DISAGREE	STRONGLY
8. The method will provide information about interpretive services which is similar to the types of information currently being used for interpretive planning.	STRONGLY	AGREE	NEITHER	DISAGREE	STRONGLY

Q-2. The Interpretive Mapping Method collects the types of information listed below. Please circle the number(s) corresponding to those types of information which you feel are NOT useful for the planning and management of an interpretive program. (CIRCLE AS MANY AS APPLY).

- 1 SPONSOR
- 2 LOCATION
- 3 SCHEDULE
- 4 COST
- 5 GENERAL SERVICE TYPE
- 6 SPECIFIC SERVICE TYPE
- 7 MEDIA
- 8 TOPIC
- 9 THEME

Q-3. Please list any additional characteristics which are not listed above, but which you feel would provide useful information about interpretive services:

Q-4. What was your age on your last birthday?

_____ YEARS

Q-5. What is the highest year of schooling you have completed? (PLEASE CIRCLE THE NUMBER OF THE HIGHEST GRADE YOU HAVE COMPLETED).

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
(Elementary through High School)												(College)				(Graduate School)				

Q-6. What is your official job title? _____

Q-7. What is your present GS-level?

GS-

Q-8. How many years have you worked for the National Park Service?

_____ YEARS

Q-9. How many years have you worked in the area of interpretation?

_____ YEARS

Finally, we are interested in any additional comments you may have.

Q-10. Please describe any specific suggestions you may have for improving the mapping method.

Q-11. What problems do you foresee in the implementation and use of the mapping method? (PLEASE DESCRIBE)

Q-12. *Is there anything else you would like to tell us which would help us to improve the Interpretive Mapping Method?*

Your contribution to this effort is greatly appreciated. If you would like a summary of the results, please print your name and address on the back of the return envelope (not on this questionnaire) before you drop it in the mail. We will see that you receive a copy.

THANK YOU

APPENDIX B
COVER LETTER

APPENDIX C
POSTCARD REMINDER

Last week a questionnaire seeking your opinion about the Interpretive Mapping Method was mailed to you. If you have already completed and returned it to us, please accept our sincere thanks. If not, please do so today. Because the questionnaire has been sent to only a small number of NPS employees, it is extremely important that yours be included in the study if the results are to be useful.

If by some chance you did not receive the questionnaire, or it got misplaced, please write or call me (208/885-7911) and I will get another in the mail to you today.

Sincerely,

Mark E. Van Every
Mark E. Van Every
Research Assistant

APPENDIX D
FOLLOW-UP LETTER

Department of Wildland Recreation Management

TEACHING/RESEARCH/SERVICE

- Communication/ Interpretation
 - Management/ Administration
 - Planning/ Design
-



University of Idaho

College of Forestry.

Wildlife and Range Sciences

Moscow, Idaho 83843

(208) 885-7911

Dear

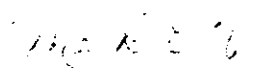
About two weeks ago I wrote to you seeking your opinion on a technique which was developed to inventory or "map" interpretive services. As of today we have not yet received your completed questionnaire.

We have undertaken this study because of the belief that communication between researchers and practitioners is important. In order to develop a method which is useful, we need your input.

I am writing to you again because of the significance each questionnaire has to the usefulness of this study. You were chosen as one of a small number of NPS employees. For the results of this study to be truly useful, it is essential that each person chosen return his/her questionnaire. Therefore, each individual is of vital importance.

In the event that your questionnaire has been misplaced, a replacement is enclosed. Your cooperation is greatly appreciated.

Cordially,


Mark E. Van Every
Research Assistant

MEV:jlk
Enc.

APPENDIX E
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REFERENCES CITED

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